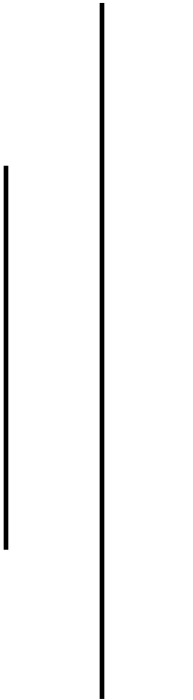




A Study on Basel III and Nepalese Banking
An Assessment of Capital Regulation in Nepal

(Consultative document for Basel III implementation)



October 2013

Nepal Rastra Bank
Banks and Financial Institutions Regulation Department
Policy and Planning Division

Abbreviations:

| | |
|-------|---|
| ABS | Asset Back Securities |
| ADBL | Agriculture Development Bank Ltd. |
| BANL | Bank of Asia Nepal Ltd. |
| BOK | Bank of Kathmandu Ltd. |
| CCBL | Century Commercial Bank Ltd. |
| CDO | Collateralized Debt Obligations |
| CDS | Credit Default Swap |
| CET1 | Common Equity Tier 1 |
| CTBN | Commerz and Trust Bank Nepal Ltd. |
| CBIL | Citizens Bank International Ltd. |
| CVL | Civil Bank Ltd. |
| GrBL | Grand Bank Ltd. |
| EBL | Everest Bank Ltd. |
| GIBL | Global IME Bank Ltd. |
| HBL | Himalayan Bank Ltd. |
| JBNL | Janata Bank Nepal Ltd. |
| KBL | Kumari Bank Ltd. |
| KIBL | Kist Bank Ltd. |
| LCR | Liquidity Coverage Ratio |
| LBL | Lumbini Bank Ltd. |
| LXBL | Laxmi Bank Ltd. |
| MBL | Machhapuchhre Bank Ltd. |
| MBS | Mortgaged Back Securities |
| MEBL | Mega Bank Nepal Ltd. |
| NABIL | Nabil Bank Ltd. |
| NBBL | Nepal Bangladesh Bank Ltd. |
| NBL | Nepal Bank Ltd. |
| NCCBL | Nepal Credit and Commerce Bank Ltd. |
| NIBL | Nepal Investment Bank Ltd. |
| NIC | Nepal Industrial and Commercial Bank Ltd. |
| NMB | NMB Bank Ltd. |
| NSBL | Nepal SBI Bank Ltd. |
| NSFR | Net Stable Funding Ratio |
| PCBL | Prime Commercial Bank Ltd. |
| RBBL | Rastriya Banijya Bank Ltd. |
| SABL | Sanima Bank Ltd. |
| SBL | Siddhartha Bank Ltd. |
| SCBNL | Standard Chartered Bank Nepal Ltd. |
| SIFI | Systemically Important Financial Institutions |
| SRBL | Sunrise Bank Ltd. |

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A study on Basel III and Nepalese Banking

An Assessment of Capital Regulation in Nepal

1.0 Background: *Capital Regulation in Nepal*

There are four types of Banks and Financial Institutions; Class A (Commercial Banks), Class B (Development Banks), Class C (Finance Company) and Class D (Micro-credit Financial Institutions) licensed by the Nepal Rastra Bank. Class A institutions (commercial banks) are reporting their capital adequacy requirement in accordance with the new capital adequacy framework under Basel II issued through Directive No.1 of the Unified Directives. Other institutions are still computing and reporting their capital adequacy according to Basel I framework. The new framework is under parallel run for the national level Development Banks (B class financial institutions) in Nepal.

Capital Adequacy Framework 2007 (updated 2012) issued for the first time in 2007. Implementation of Basel II initiated after one year of parallel run of Basel I and Basel II (simultaneously) in Commercial Banks. After the parallel run of one-year, Commercial Banks (A class) have been reporting their capital adequacy ratios in accordance with the new capital adequacy framework. It has been six years of successful implementation of Basel II in Nepalese Commercial Banks.

The new capital adequacy framework, also known as Basel II, includes three pillar approach; Minimum Capital Requirements, Supervisory Review and Disclosure. The first pillar includes the risk measurement approaches viz; Simplified Standardized Approach (SSA) for credit risk, Basic Indicator Approach (BIA) for operational risk and Net Open Position Approach (NOPA) for market risk. These approaches seem to be the simplest approaches for measurement of risks under Basel II although there are also other advanced approaches for risk measurement. We couldnot move beyond the Simplified Standardized Approach for credit risk because there was no credit rating agency in Nepal.

After the global financial crisis of 2007-09, there has been significant development and addition in the existing capital framework all over the world. Basel II enhancement, Basel 2.5 and Basel III are some of the recent developments towards capital regulation in banking. Most of the issues included in the new capital regulations were the issues observed during and after the global financial crisis. Additions made in the Basel II framework were especially the efforts to solve the problems faced during the global financial crisis.

2.0 Objectives of the study

This study is carried out as a part of annual program of Banks and Financial Institutions Regulation Department. This study has following objectives;

- To study and present regulatory provisions developed in the form of Basel III.
- To analyze and explain the various components of Basel III in the Nepalese context.
- To recommend the necessary measures for the formulation and effective implementation of Basel III in Nepal.

3.0 Limitations of the study

Limitations of this study are;

- The study covers a limited area of capital regulation, Basel III and its components in the Nepalese context.
- The study is based on the information available in the websites of BIS and other related institutions.
- Published information and offsite data are used to explain the status of banks that would appear after implementation of Basel III in Nepal.

4.0 Global Financial Crisis: Problems Observed

The global financial crisis was originated from the mortgage market in the United States in 2007. In the “*search for yield*”, banking sectors developed structured financial products like securitization and re-securitization based on sub-prime mortgage backed securities (MBS), collateralized debt obligations (CDOs) and CDO squared etc. At micro-level, major reasons behind the crisis were high exposure in sub-prime lending, growth of the securitization business, role of credit rating agencies in the rating of such toxic instruments, reliance of the banks on the short-term money market etc. Several banks were insolvent or unable to meet minimum capital requirements hence winded up or had to be acquired by other institutions. The government had no other choice than to intervene with liquidity and credit facilities. Major reasons for the global financial crisis were:

- Rapid market development and technological innovation
- Development of new products like; MBS, ABS, CDO, CDS and other complex types of financial instruments
- Increased off-balance sheet exposures, sub-prime mortgage products, securitization of assets and increasing trading portfolio of banks and FIs.
- The capital charge framework for market risk did not keep pace with new market developments and practices
- Banks continuously suffering heavy losses in their trading book
- Banks did not have adequate capital to cover the losses
- Heavy reliance on short term wholesale funding
- Unsustainable maturity mismatch
- Insufficient liquid assets to raise finance during stressed period
- High level of interconnectedness of financial institutions - both domestically and globally
- Deregulation, poor corporate governance and lack of transparency in banking system.

Capital framework under Basel I and the Basel II had not adequately assessed the risk arising from off-balance sheet activities and derivatives trading. In Basel II, risk weights that were assigned to real estate mortgages could potentially be reduced to 35 percent. Internal risk models of Basel II could not address the risk management of the complicated structured products and extensive origination and distribution of loans and securities. The capital framework allowed the financial institutions to create their assets in the off-balance sheet to

reduce risk-weighted exposures. Basel II capital framework is also considered to be pro-cyclical because it gave further momentum to the business cycle. Moreover, the banks were highly leveraged to put them into vulnerable position which resulted problems to quickly soar up in the financial market. In early days it was simply a liquidity problem, later on it spread in the form of global financial crisis. Investors that had bought CDOs did not receive their money. Situation moved towards the complete loss of confidence in the money market. Crisis began in the financial sector which spread to the real economy and cycled back to further weaken the financial sector whereby further weakening of the real economy producing a vicious circle.

In the wake of this incident, a need for improved regulation and supervision were felt necessary. Since Basel II framework was not sufficient to deal with some of the characteristics of the crisis. Therefore, some micro-prudential and macro-prudential measures were introduced to overcome the problems. Such measures were:

- To reduce leverage, capital ratios were increased;
- To increase liquidity, regulatory liquidity ratios were introduced,
- To dampen housing prices, loan-to-value ratios were decreased;
- To limit stock price increases, margin requirements were increased.

5.0 Emergence of Basel III: A Response to the crisis

There were challenges towards managing risk within the banking system as well as reducing the spillover risk from the financial sector to the real economy. To improve the banking sector's ability to absorb shocks arising from financial and economic stress, Basel Committee on Banking Supervision (BCBS) issued "**Basel III: A global regulatory framework for more resilient banks and banking systems**" in December 2010. Basel III has set its objectives to improve the shock absorbing capacity of each and every individual bank as the first order of defense. In addition to the measures, the efforts were directed to ensure that banking system as a whole does not weaken and its spillover impact on the real economy is minimized.

Table: A comparative Chart "Basel II and Basel III"

| Capital Requirements (% of RWA) | Basel II | Basel III* |
|--|-----------------|-------------------|
| • Minimum common equity capital ratio | 2.0% | 4.5% |
| • Capital conservation buffer | - | 2.5% |
| Common equity + capital conservation | 2.0% | 7.0% |
| • Minimum Tier I capital ratio | 4.0% | 6.0% |
| • Minimum total capital ratio | 8.0% | 8.0% |
| Total capital + capital conservation | 8.0% | 10.5% |
| • Leverage ratio (non-risk-based) | - | 3.0% |
| • Countercyclical capital buffer (nat. discretion) | - | 0 -2.5% |
| • SIFI capital buffer | - | Under Discussion |

Basel III has included some micro-prudential elements so that risk is managed in each individual institution and macro-prudential elements will take care of issues relating to the systemic risk.

A short introduction to the elements of Basel III capital requirements are presented below:

The micro-prudential elements of Basel III are;

- Definition of capital;
- Better risk Coverage;
- Leverage ratio; and
- International liquidity framework.

The macro-prudential elements of Basel III are;

- Leverage ratio;
- Capital conservation buffer;
- Counter cyclical capital buffer
- Forward looking and dynamic provisioning
- Addressing systemic risk and interconnectedness;
- Loan to value ratio, debt to income ratio and credit to GDP ratio

- Macroeconomic policy reform (including monetary and fiscal reform, institutional and structural reform)

Effective implementation of the Basel III was necessary to recover from the crisis and to develop the resilience to future shocks. Although, Basel III provision has some costly measures like addition in capital and liquidity requirements, but the implementation is necessary;

- To develop safe and sound financial system with reduced probability of banking crisis at affordable costs.
- To strengthen the financial system through micro-prudential as well as macro-prudential measures.
- To demonstrate the timely and effective implementation of international best practices.
- To maintain and develop public confidence in the banking system.
- To safeguard the interest of public.

Some of the components are explained as follows:

5.1 Definition of capital

Big banks encountered crisis due to insufficient level and quality of capital. Basel III has made a significant change in the definition of regulatory capital. To enhance the quality, consistency and transparency of regulatory capital, the new capital framework has prescribed that Tier 1 capital should consist of common equity and retained earnings. New capital framework is raising the quality of capital to ensure banks are better able to absorb losses and raising the level of the minimum capital requirements.

Total regulatory capital consists of the sum of the following elements:

1. Tier 1 Capital: Tier 1 Capital must be at least 6.0% of risk-weighted exposures at all times.
 - a. Common Equity Tier 1: Common Equity Tier 1 must be at least 4.5% of risk-weighted exposures at all times.
 - b. Additional Tier 1: 1.5 percent
2. Tier 2 Capital: Total Capital (Tier 1 Capital plus Tier 2 Capital) must be at least 8.0% of risk-weighted exposure at all times.

For each of the categories above there is a single set of criteria that instruments are required to meet before inclusion in the relevant category which has been displayed in annexure 2, 3 and 4.

There are relatively long transition periods intended to

- enable the banking sector to meet the higher capital standards through reasonable earnings retention and capital raising,

- still supporting lending to the economy.

National implementation by member countries of the BCBS will begin on January 1, 2013.

Transition period for the implementation of the capital requirements are given as;

| | Phase-in arrangements (%) | | | | | | | | |
|--|---------------------------|-------------------|-------------------|-------------------|---------------------|-------------------|------|-------|------|
| | 2011 ^{a,b} | 2012 ^b | 2013 ^c | 2014 ^c | 2015 ^{c,d} | 2016 ^c | 2017 | 2018 | 2019 |
| Minimum Common Equity Capital Ratio | | | 3.5 | 4.0 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Minimum Conservation Buffer | | | | | | 0.0625 | 1.25 | 1.875 | 2.5 |
| Minimum Total Capital plus Conservation Buffer | | | 8.0 | 8.0 | 8.0 | 8.625 | 9.25 | 9.875 | 10.5 |
| Minimum Countercyclical Buffer | | | | | | 0.0625 | 1.25 | 1.875 | 2.5 |
| Minimum Total Capital Plus Conservation & Countercyclical Buffer | | | | | | | | | 13 |
| Minimum Tier 1 Capital | | | 4.50 | 5.50 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |

Source: Basel Committee on Bank Supervision, Group of Governors and heads of Supervision announces higher global minimum standard, Sept 12, 2010

Notes:

- Liquidity coverage Ratio: operation period begins.
- Leverage Ratio: Supervisory monitoring
- Leverage Ratio: parallel run from January 1, 2013 –January 1, 2017
- Liquidity Coverage Ratio: introduction of minimum standard

Nepalese Context

According to the new capital adequacy framework 2007, Minimum capital requirements for Commercial Banks are;

Tier I capital = 6% of RWE

Total Capital= 10% of RWE

These ratios are already higher than the global standard for capital adequacy prescribed by Basel II. Under Basel III, minimum Tier I capital should be 6% of RWE and there will not be necessity of any change in total capital requirements.

There is no specific regulatory requirement for common equity tier 1 capital under Simplified Standardized Approach of Basel II. But banks are required to have minimum paid up capital (including proposed bonus share) of Rs 2 billion by mid July 2014. The following table presents the status of CAR of Commercial Banks as on Mid July 2013:

Table 1: Capital Ratios

*Rs. in
million*

Mid July 2013

| S.N. | Bank | Paid up Capital | Tier 1 Capital | Total Capital | Total RWE | *Paid up Capital to RWE % | Tier 1 Capital % | Total Capital % |
|------|--------|-----------------|----------------|---------------|-----------|---------------------------|------------------|-----------------|
| 1 | NBL | 3716 | -346 | -346 | 71150 | 5.22% | -0.49% | -0.49% |
| 2 | RBB | 8588 | 1115 | 1959 | 58891 | 14.58% | 1.89% | 3.33% |
| 3 | NABIL | 2436 | 7315 | 8338 | 63319 | 3.85% | 11.55% | 13.17% |
| 4 | NIBL | 3768 | 7852 | 8849 | 68106 | 5.53% | 11.53% | 12.99% |
| 5 | SCBL | 1853 | 5013 | 5574 | 38508 | 4.81% | 13.02% | 14.48% |
| 6 | HBL | 2760 | 5541 | 6774 | 55767 | 4.95% | 9.94% | 12.15% |
| 7 | NSBL | 2355 | 3960 | 5071 | 39440 | 5.97% | 10.04% | 12.86% |
| 8 | NBBL | 2009 | 2451 | 2672 | 22101 | 9.09% | 11.09% | 12.09% |
| 9 | EBL | 1761 | 5449 | 6587 | 49834 | 3.53% | 10.93% | 13.22% |
| 10 | BOK | 1684 | 2983 | 3944 | 31254 | 5.39% | 9.54% | 12.62% |
| 11 | NCCBL | 1470 | 2160 | 2328 | 19479 | 7.55% | 11.09% | 11.95% |
| 12 | NIC | 2311 | 4831 | 5173 | 35993 | 6.42% | 13.42% | 14.37% |
| 13 | LUBL | 1601 | 2180 | 2274 | 10545 | 15.18% | 20.67% | 21.57% |
| 14 | MBL | 2478 | 2775 | 3002 | 23711 | 10.45% | 11.70% | 12.66% |
| 15 | KBL | 1604 | 2657 | 2862 | 23404 | 6.85% | 11.35% | 12.23% |
| 16 | LXBL | 1694 | 2569 | 3297 | 26862 | 6.31% | 9.57% | 12.27% |
| 17 | SBL | 1619 | 2646 | 3685 | 30001 | 5.40% | 8.82% | 12.28% |
| 18 | ADBL | 9636 | 15298 | 18125 | 101324 | 9.51% | 15.10% | 17.89% |
| 19 | GBL | 2418 | 3532 | 4220 | 35101 | 6.89% | 10.06% | 12.02% |
| 20 | CTZBL | 2101 | 2662 | 2846 | 20955 | 10.03% | 12.70% | 13.58% |
| 21 | PCBL | 2340 | 3070 | 3283 | 23750 | 9.85% | 12.93% | 13.82% |
| 22 | SUBL | 2015 | 2437 | 2619 | 22031 | 9.15% | 11.06% | 11.89% |
| 23 | GrBL | 2000 | 2360 | 2502 | 17847 | 11.21% | 13.22% | 14.02% |
| 24 | NMB | 2000 | 2507 | 2689 | 21209 | 9.43% | 11.82% | 12.68% |
| 25 | KIST | 2000 | 2138 | 2297 | 19547 | 10.23% | 10.94% | 11.75% |
| 26 | JBNL | 2000 | 2256 | 2376 | 14882 | 13.44% | 15.16% | 15.97% |
| 27 | MEGA | 2330 | 2660 | 2776 | 14216 | 16.39% | 18.71% | 19.53% |
| 28 | CTBN | 2000 | 2096 | 2185 | 10869 | 18.40% | 19.28% | 20.11% |
| 29 | CIVIL | 2000 | 2153 | 2278 | 14563 | 13.73% | 14.78% | 15.64% |
| 30 | CCBL | 1080 | 1223 | 1314 | 10381 | 10.40% | 11.78% | 12.66% |
| 31 | SANIMA | 2016 | 2410 | 2575 | 17252 | 11.69% | 13.97% | 14.93% |

* Paid up capital to RWE is calculated to take it as an indicator of Common Equity Tier 1 Ratio.

Source: Offsite division, BSD, NRB

From the above table;

- Tier 1 capital ratio of the Nepalese banks is higher than the minimum capital prescribed by the Basel III except in case of NBL and RBB.
- Total capital ratio of the Nepalese banks is higher than the minimum capital prescribed by the Basel III except in case of NBL and RBB.
- Paid up capital to RWE, as a proxy for Common Equity Tier 1 (CET1) Capital to RWE of Basel III, is also more than the requirements under Basel III (i.e. 4.5 percent) except in case of two banks (Nabil & EBL). Under Basel III, the components of the common equity tier 1 includes retained earnings, general reserve and other components in addition to the paid up capital (detail is shown in the annex). Taking these components into consideration, the Common Equity Tier 1 Ratio of Nabil & EBL may be higher than the minimum requirements.

5.2 Better risk coverage

During the Global Financial Crisis the risks arising from off-balance sheet items and derivatives exposures were not properly covered for. There was an excessive exposure in the securitized assets. Basel III has proposed to strengthen the capital requirements for securitized/resecuritised exposures, derivative products, off balance sheet exposures and trading portfolio of banks. New capital framework requires more capital for derivatives traded over the counter than for those traded on exchanges. It is focused on credit counterparty risk that arises from exposure to derivatives and repo activities.

Nepalese Context:

Nepalese banks are not yet exposed to complex financial instruments, which were observed during the crisis in the global scenario. The banks have no (or very nominal amount) exposures in derivatives and securitized assets. Basel III has prescribed the higher risk weights for such exposure. Therefore, it can be expected that the risk exposures of the Nepalese banks is likely to be affected very insignificantly by the measures prescribed for the risk coverage. However, this will ensure good coverage in future when the scope of banking industry of Nepal moves towards such instruments and exposures.

5.3 Leverage ratio

One of the main features of the crisis was excessive on- and off-balance sheet leverage in the banking system. The leverage of some of the internationally active banks was above 50 times of the capital, even in such scenario the banks complied with the minimum capital adequacy requirement. Basel III has introduced leverage ratio, which is considered to be another response to the financial crisis. The Basel Committee has proposed testing a minimum Tier 1 leverage ratio of 3 percent (33.33 times) to start with as a Pillar 2 measure, which will eventually be made a Pillar 1 requirement.

The purpose of the ratio is to address procyclicality that can originate from excessive lending or models that are inappropriate to measure risk weighted assets. The leverage ratio is defined as eligible Tier 1 capital divided by total assets and off balance sheet items. A low ratio indicates a high level of leverage. To reduce pro-cyclically and keep leverage ratios more stable the Basel III has set a minimum leverage ratio of 3 percent at all times.

$$\text{Leverage ratio} = \frac{\text{Tier 1 Capital}}{\text{Assets} + \text{Off B/S Items}}$$

Basel III has allowed the transition period for the buffer as;

| Transition period | | | | | | | | |
|-----------------------|-------------------------------|------|--|------|------|------|------------------------------|------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Leverage Ratio | Supervisory monitoring | | Parallel run 1 Jan 2013 – 1 Jan 2017 Disclosure starts 1 Jan 2015 | | | | Migration to Pillar 1 | |

Nepalese Context

There is no practice of regulatory monitoring of the leverage ratio in the Nepalese context. Basel III has prescribed the minimum leverage ratio of 3 percent. Offsite data shows that the leverage position of our Commercial Banks is better than the minimum proposed limit by the Basel III. Table no.2 below shows the leverage ratios of the banks compiled on the basis of quarterly offsite data.

Table 2: Leverage Ratio

Mid July 2013

Rs. in million

| S.N. | Bank | Tier 1 Capital | B/S Assets | Off B/S Assets | Total Assets | Tier 1 to Total Assets (%) |
|------|-------|----------------|------------|----------------|--------------|----------------------------|
| 1 | NBL | -346 | 72591 | 2845 | 75436 | -0.46% |
| 2 | RBB | 1115 | 102039 | 175 | 102214 | 1.09% |
| 3 | NABIL | 7315 | 77876 | 26410 | 104286 | 7.01% |
| 4 | NIBL | 7852 | 77697 | 23885 | 101583 | 7.73% |
| 5 | SCBL | 5013 | 46860 | 18094 | 64954 | 7.72% |
| 6 | HBL | 5541 | 62252 | 9188 | 71440 | 7.76% |
| 7 | NSBL | 3960 | 66103 | 10875 | 76978 | 5.14% |
| 8 | NBBL | 2451 | 24271 | 13657 | 37929 | 6.46% |
| 9 | EBL | 5449 | 66546 | 13965 | 80510 | 6.77% |
| 10 | BOK | 2983 | 33480 | 13763 | 47242 | 6.31% |
| 11 | NCCBL | 2160 | 26323 | 4987 | 31310 | 6.90% |
| 12 | NIC | 4831 | 48249 | 4031 | 52279 | 9.24% |
| 13 | LUBL | 2180 | 13699 | 2293 | 15993 | 13.63% |
| 14 | MBL | 2775 | 31281 | 2837 | 34118 | 8.13% |
| 15 | KBL | 2657 | 30155 | 3617 | 33772 | 7.87% |
| 16 | LXBL | 2569 | 31202 | 9717 | 40919 | 6.28% |
| 17 | SBL | 2646 | 35685 | 4450 | 40135 | 6.59% |
| 18 | ADBL | 15298 | 89450 | 7965 | 97415 | 15.70% |
| 19 | GBL | 3532 | 41070 | 13128 | 54198 | 6.52% |
| 20 | CTZBL | 2662 | 27060 | 7209 | 34268 | 7.77% |

| | | | | | | |
|----|--------|------|-------|-------|-------|--------|
| 21 | PCBL | 3070 | 33335 | 5836 | 39172 | 7.84% |
| 22 | SUBL | 2437 | 27206 | 5814 | 33020 | 7.38% |
| 23 | GrBL | 2360 | 22407 | 2869 | 25276 | 9.34% |
| 24 | NMB | 2507 | 25735 | 5351 | 31086 | 8.06% |
| 25 | KIST | 2138 | 25575 | 2301 | 27875 | 7.67% |
| 26 | JBNL | 2256 | 16522 | 2977 | 19498 | 11.57% |
| 27 | MEGA | 2660 | 18064 | 2176 | 20240 | 13.14% |
| 28 | CTBN | 2096 | 12401 | 2801 | 15201 | 13.79% |
| 29 | CIVIL | 2153 | 18533 | 11569 | 30102 | 7.15% |
| 30 | CCBL | 1223 | 13434 | 1979 | 15413 | 7.93% |
| 31 | SANIMA | 2410 | 22932 | 2847 | 25779 | 9.35% |

Source: Offsite, BSD, NRB

Calculation of leverage ratio as per Basel III framework may provide slightly different result from the above table due to specification and classification of assets and their provisioning. Major factor affecting the calculation are the components of tier 1 and the practice of netting the assets of the balance sheet.

5.4 Capital conservation buffer

During the global financial crisis, it was observed that the banks were maintaining insufficient level of buffer capital above the minimum requirements. Banks were found to be distributing earnings even during the stress periods. Basel III requires the banks should maintain a capital conservation buffer of 2.5 percent of risk-weighted exposure in addition to the minimum requirements. Such buffer should consist of Common Equity Tier 1 (CET1). Therefore the Banks are effectively required to keep CET1 of 7 percent of risk-weighted exposure. Total Tier 1 capital would increase to 8.5 percent and total capital should be no less than 10.5 percent of risk-weighted exposure.

Transitional arrangement for implementation and phasing-in of a capital conservation buffer is from January 1, 2016 to January 1, 2019.

Phase-in arrangements (All dates are as of 1 January)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|------|------|------|------|------|-------|------|-------|------|
| Capital Conservation Buffer (%) | | | | | | 0.625 | 1.25 | 1.875 | 2.5 |

Nepalese Context:

Capital conservation buffer is an addition to the existing capital adequacy requirements. There will be a need of additional 2.5 percent capital buffer by 2019. Current level of our common equity and tier 1 ratio shows that most of the banks are maintaining the buffer above the capital requirement of Basel III. To maintain this buffer, it will not be difficult for Nepalese banks because the existing regulatory requirement (as per Basel II) is already on the higher side.

5.5 Countercyclical buffer

Basel III introduced two capital buffers on top of the minimum. The second capital buffer is the countercyclical buffer. This buffer aims to ensure that banking sector capital requirements take account of the macro-prudential environment in which banks operate. The objective behind the buffer is to protect banks from system-wide risk because of excess credit growth as well as to ensure that a regular flow of credit is maintained in the economy even in stress in the financial sector. It also ensures the banking system has a buffer of capital to protect it against future potential losses.

It was the lesson from the crisis that the capital requirements should be able to respond to increased risk from credit boom. This buffer is introduced to increase the capital in banks during the periods of excess credit growth. For the implementation of this buffer each jurisdiction is considered to be responsible. Local jurisdictions and authorities are instructed to monitor credit growth and to assess system-wide risk. If local authorities find that system-wide risk increased, they can instruct banks to maintain the buffer. The basis for introducing the buffer can be a common guide (credit-to-GDP ratio) and use of judgment.

The limit of the buffer is in the range from 0 to 2.5 percent of risk-weighted assets. The extra capital at hand should be made up of Common Equity Tier 1. When the capital of the banks fall within this buffer range, Basel III has proposed to impose restriction on the distribution of staff bonus payments, share buy-backs and distributions to shareholders.

Nepalese Context:

This buffer is also an addition to the existing CAR. To introduce the ratio, we should have a mechanism to monitor the credit growth of the banking sector. The buffer should be aligned with some indicators of credit growth. In developed countries, excessive credit growth can be taken as the indicator of systemic risk. However, in developing countries like Nepal, credit growth only may not be the symptom of risk. There is a need of a regular credit growth to utilize the resources in the productive sector. Therefore, in addition to the Credit to GDP ratio, the nature of the credit should be taken into consideration while introducing counter cyclical buffer. Moreover, dividend and bonus payout can be monitored for maintaining buffer.

5.6 Addressing systemic risk and interconnectedness

Global financial crisis taught an important lesson that excessive interconnectedness among systemically important banks transmits shocks across the financial system and economy as a whole. The banks, which are systemically important, should have loss absorbing capacity beyond the minimum standards. Therefore, it is necessary to regulate and supervise the systemically important financial institutions in a special manner. The globally systemically important financial institutions (SIFIs) should attract additional layer of regulatory capital. The framework suggests banks that qualify as globally important, to hold extra Common Equity Tier 1 capital between 1 percent and 2.5 percent of risk-weighted exposure. The framework has also proposed to improve the cross border coordination.

Nepalese Context:

There is no any possibility that any Nepalese bank will qualify as globally important one. However, national systemically important banks are required to increase capital requirements in the future. BCBS requires that, National authorities should establish a methodology for assessing the degree to which banks are systemically important in a domestic context. Defining criteria for SIFI may include; size, complexity, substitutability and interconnectedness. There is a need of classification of the banks on the basis of their systemic presence domestically. So mechanism should be developed to define SIFI in the Nepalese context and to regulate such institutions.

5.7 Basel III Liquidity Framework

Global financial crisis began with the liquidity problems in some banks. Many banks with adequate capital levels also experienced difficulties because of their poor practices in liquidity management. The banking system came under severe stress, which necessitated Central Banks' action for liquidity support. There were no internationally agreed measures (standards) for liquidity management. Regulations of Basel I and Basel II were concentrated mainly on capital regulation. But regulating capital was not sufficient for the successful operation of the banks. The crisis taught another lesson that liquidity and solvency are deeply interrelated. Importance of robust liquidity risk management was felt necessary during the crisis.

BCBS issued guidelines, "Basel III: International framework for liquidity risk measurement, standards and monitoring (December 2010). BCBS has established some principles for Sound Liquidity Risk Management and Supervision. In addition to the principles, Basel III introduced two ratios for liquidity monitoring and management in banks;

- Liquidity Coverage Ratio (LCR)
- Net Stable Funding Ratio (NSFR)

5.7.1 Liquidity Coverage Ratio (LCR)

LCR is introduced to promote short-term resilience by requiring sufficient high-quality liquid assets to survive acute stress lasting for 30 calendar days. Stock of high quality liquid assets is classified in two levels; Level 1 assets and Level 2 assets. Level 2 assets are considered to be lower quality than Level 1 assets whereas Level 1 assets are considered at 100 percent of market value when estimating the total stock. Level 2 assets, on the other hand, are considered at maximum 85 percent of market value.

$$\text{LCR} = \frac{\text{Stock of high quality liquid assets}}{\text{Total net cash outflow over 30-day period}} \geq 100\%$$

The bank which maintains the ratio more than hundred percent during the short period of time is considered to be the sound bank in terms of short-term liquidity.

5.7.2 Net Stable Funding Ratio (NSFR)

It is aimed at promoting resilience over longer term through incentives for banks to fund activities with more stable sources of funding. The ratio is developed to address the maturity mismatch between liabilities and assets in the financial sector and to make sure that banks have sufficient stable funding to withstand a yearlong liquidity crisis.

Available amount of stable funding

Required amount of stable funding $\geq 100\%$

Basel III requires the ratios to be more than 100%. In addition to the ratios, there are other monitoring tools such as;

- Contractual maturity mismatch
- Concentration of funding
- Available unencumbered assets
- LCR by significant currency
- Market related monitoring tools

Basel III has prescribed the transition phase for the implementation of liquidity requirements;

Transition Phase

(all dates are as of 1 January)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------------|---------------------------|------|------|------|----------------------------|------|------|----------------------------|
| Liquidity coverage ratio | Observation period begins | | | | Introduce minimum standard | | | |
| Net stable funding ratio | Observation period begins | | | | | | | Introduce minimum standard |

Observation of both liquidity ratios begins from 2011. Basel III requires that the minimum standard for Liquidity coverage ratio should be initiated from January 2015. Similarly Net Stable Funding Ratio should be initiated from 2018.

Nepalese Context

Nepal Rastra Bank has developed its own liquidity-monitoring framework for the short-term liquidity monitoring of the banks. The ratio defined in the framework is very similar to the Liquidity Coverage Ratio (LC Ratio) of the Basel III. Effective implementation of the framework is necessary to cover this aspect.

For the long term liquidity monitoring, mechanism to monitor Net Stable Funding Ratio (NSFR) has to be developed.

5.8 Disclosure

Basel III has issued some guidelines to strengthen the disclosure requirements. The disclosure comprises the following elements:

- A full reconciliation of all regulatory capital elements back to the balance sheet in the audited financial statements
- Separate disclosure of all regulatory adjustments and the items not deducted from CET1 because of the threshold deductions
- A description of all limits and minima, identifying the positive and negative elements of capital to which the limits and minima apply – primarily the relevant minimum requirements on total regulatory capital and its components and any boundaries around regulatory deductions
- A description of the main features of capital instruments issued
- A comprehensive explanation of the methods used to calculate any ratios that have not been defined, or are not required, by the regulatory framework, but which involve the components of regulatory capital (for example, 'Equity Tier 1', 'Core Tier 1' or 'Tangible Common Equity' ratios)
- The full terms and conditions of all instruments included in regulatory capital to be published on the relevant bank's website
- The specific components of capital that are benefiting from transitional arrangements

In the Nepalese context, some of the provisions presented above are already in place. The new provisions regarding disclosures should be incorporated in the new capital framework together with strengthening the supervisory role towards monitoring and adjusting the disclosures, which is imperative for safety and soundness of financial sector.

6.0 Impact of Basel III

NRB Strategic plan 2012-16 has spelled out about the beginning of implementation of Basel III by 2015. Basel III has increased the capital and liquidity requirements for the banks. Such increase in capital and liquidity is likely to bring some impacts in the financial sector as well as economy as a whole. The Macroeconomic Assessment Group (MAG) of the Financial Stability Board (FSB) and Basel Committee on Bank Supervision (BCBS) has concluded that one percentage point increase in the ratio of capital to risk-weighted assets results in a median increase in bank lending spreads of approximately 15 basis points. On December 17, 2010, the Basel Committee released a report on the likely macroeconomic impact of Basel III. It indicated that full compliance with Basel III is likely to result in a small dip in real GDP growth. The OECD estimates that the implementation of Basel III will decrease annual GDP growth by 0.05-0.15 percent. There is no such study carried out in the Nepalese context. Simply, we can explain the possible impact of Basel III in capital, liquidity and profitability of the banks as;

Capital

- Nepalese banks have very low (almost negligible) level of exposures in trading book, securitized instruments and derivatives. Therefore, there is very minimum probability of increase in risk assets as a result of implementation of Basel III.
- Regulatory Minimum capital requirements are already higher than the global minimum requirements prescribed by Basel II. At present, minimum capital requirement of 6 percent for Tier 1 and 10 percent total capital, which are higher by 2 percentage points as compared to the Basel II requirements.
- However, if Nepal Rastra Bank requires bank to increase capital buffers subsequently by 2.5 percent for each of the buffers, Nepalese banks will have the burden of increasing capital by 2.5-5% in addition to the present level of minimum requirements.
- Paid up capital, general reserve and retained earnings are the components of common equity tier 1 (CET1) capital under Basel III. Paid up capital of the most of the Nepalese banks are already higher than the CET1 ratio of prescribed by Basel III.
- Introducing both capital conservation buffers, countercyclical buffer and initiating new capital adequacy requirements as per Basel III will need a rigorous exercise in Nepal.

Liquidity

- Some liquidity indicators like; CRR (5 percent), SLR (12 percent), CCD Ratio (80 percent) and net liquid assets to total deposit ratio (20 percent) are already in place. All these requirements are mandatory. Moreover, the liquidity-monitoring framework, which is very similar to LC Ratio of Basel III, is under implementation process. All of the banks are maintaining NRB liquidity requirements at present.
- Initiating new liquidity requirement as per Basel III will not be a very new and complex issue in the context of Nepal. However, some exercise is necessary to initiate the Net Stable Funding Ratio (NSFR).

Earning

- Studies have concluded that Implementing Basel III will have an impact of profitability of the banks. Such studies show that Basel III would reduce return on equity (RoE) for the average bank by about 4 percentage points in Europe and about 3 percentage points in the United States (McKinsey & Company).
- In case of Nepal, the impact of Basel III in earning is likely to be less than that of Europe (4 percent) and USA (3 percent) since there will not be a significant level of additional capital requirements for the securitized assets, derivatives and trading portfolios.

7.0 Conclusion and Recommendations

7.1 Conclusion

Global financial crisis highlighted the need of Basel III. Basel Committee on Banking Supervision (BCBS) issued “Basel III: A global regulatory framework for more resilient banks and banking systems” in December 2010. Basel III has some micro-prudential elements so that risk is managed in each individual institution; and macro-prudential overlay that will take care of issues relating to the systemic risk. Micro-prudential regulation under Basel III includes the definition of capital, its quality, and quantity and risk coverage. Similarly macro-prudential elements of Basel III include capital conservation buffer, countercyclical capital buffer, and too-big-to-fail problem. Basel III has set its objectives to improve the shock absorbing capacity of each and every individual bank as the first order of defense. In addition to the measures, the efforts are directed to ensure the banking system as a whole does not weaken and its spillover impact on the real economy is minimized.

From the study of major components of Basel III and its implementation in Nepal, major observations/findings are;

- Common Equity Tier 1(CET1) ratio, Tier 1 capital ratio and total capital ratios of the Nepalese banks found to be higher than the minimum capital determined by the Basel III taking in to consideration the inherent risk in Nepalese banking sector.
- The risk exposure of the Nepalese banks is likely to be affected very insignificantly by the measures prescribed by the Basel III. Nepalese banks are not yet exposed to complex financial instruments like derivatives and securitized assets. However, as the market gains maturity, these measures would be more relevant.
- The leverage position of our Commercial Banks complied on the basis of offsite data is higher than the minimum prescribed limit (i.e.3 percent).
- There will be the need of additional capital for buffers like capital conservation buffer (2.5 percent) and countercyclical buffer. There is a transition arrangement for the implementation. Data shows that the banks are in buffer since we’ve already higher level of capital requirements.
- Implementation of liquidity monitoring framework is necessary for the development and implementation of the liquidity requirements under Basel III.

Nepalese banking system has not yet achieved the level of development and advancement of international standard. There are number of shortcomings and limitations in the system like; absence of credit rating practices, absence of internal rating of credit by banks, weak corporate governance, absence of strong macro-prudential measures and regulatory compliance. There will be a need of increased level of capital and liquidity after implementation of the Basel III. Implementing new capital and liquidity requirements as prescribed under Basel III will not be very complex issue in the context of Nepal. Moreover, there is sufficient period of transition arrangement as given. But there is a need of a timely development and issuance of regulation for the effective implementation of Basel III capital regulations in Nepal.

7.2 Recommendations

Some recommendations are presented below, which can be the foundation for the development and implementation of Basel III capital regulations in Nepal.

- To form a committee/working group for the development of Basel III capital adequacy framework comprising members from Banks & Financial Institutions Regulation Department, Bank Supervision Department and Nepal Bankers Association.
- To define the timeframe (at least 3 months) for the development of the framework.
- To provide knowledge and skills for drafting the framework.
- To conduct several interactions and discussion on the Basel III among all the stakeholders.

Annex 1
BASEL III in Nepal
Transition Period
(Mid July)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|------|------------------------------|----------------------------|-------------|----------|-----------------------|
| Minimum Common Equity Capital Ratio | - | Draft Regulations on Implementation of Basel III Capital Regulations in Nepal | | 4.00% | 4.50% | 4.50% | 4.50% | 4.50% |
| Capital Conservation Buffer | 1% | | | 1.00% | 1.25% | 1.50% | 2.00% | 2.50% |
| Minimum common equity plus capital conservation buffer | | | | 5.00% | 5.75% | 6.00% | 6.50% | 7.00% |
| Minimum Tier 1 Capital | 6% | | | 6.00% | 6.50% | 7.00% | 7.00% | 7.00% |
| Minimum Total Capital | 10% | | | 10.00% | 10.00% | 10.00% | 10.00% | 10.00% |
| Minimum Total Capital plus conservation buffer | | | | 11.00% | 11.25% | 11.50% | 12.00% | 12.50% |
| Counter Cyclical Buffers | | | | Introduce minimum standard | 0-2.5% | 0-2.5% | 0-2.5% | 0-2.5% |
| Leverage Ratio | - | | | Introduce minimum standard | Offsite Monitoring 3.00% | | | Migration to Pillar 1 |
| Liquidity coverage ratio | Liquidity Monitoring Framework Developed and Introduced | | | Review Existing Framework | LCR 100% | LCR 100% | LCR 100% | LCR 100% |
| Net stable funding ratio | | | | Observation and Parallel Run | Introduce minimum standard | Implemented | | |

Note:

- Above table presents the time frame for the development and implementation of each of the components of Basel III. The timeframe for the implementation is based on the current status of capital assessment in Nepal, period for developing new guidelines and implementation of Basel III before (not later than) the time schedule prescribed by the main document of Basel III.
- Minimum Common Equity Ratio is to be introduced in 2015 and gradually it'll be increased to 4.50% by 2016.
- Capital conservation buffer shall be increased to 2.50% by 2019. At present, there is a buffer requirement of 1% for the banks. This buffer will be changed into capital conservation buffer by 2015 and gradually increased.
- Minimum Capital adequacy ratios; Tier 1 and total capital are 6% and 10% of RWE. By 2016, such Tier 1 and total capital shall be increased to 7% and 10% of RWE respectively (including capital conservation buffers).
- Counter cyclical buffers shall be introduced on the basis of the parameters defined by the new framework. Such buffers may be 0-2.5% of the RWE, on the basis of credit growth and other defined parameters.
- Leverage ratio shall be introduced in 2015 and it'll be made pillar 1 ratio in 2019.
- Liquidity monitoring framework has been developed and implemented. It includes the liquidity ratio very similar to the Liquidity Coverage Ratio of Basel III. The framework will be revised to make it Liquidity Coverage Ratio in 2015.
- Monitoring framework for Net stable funding ratio shall be developed and implemented by 2017.

Annex 2

Criteria for classification as common shares for regulatory capital purposes

1. Represents the most subordinated claim in liquidation of the bank.
2. Entitled to a claim on the residual assets that is proportional with its share of issued capital, after all senior claims have been repaid in liquidation (ie has an unlimited and variable claim, not a fixed or capped claim).
3. Principal is perpetual and never repaid outside of liquidation (setting aside discretionary repurchases or other means of effectively reducing capital in a discretionary manner that is allowable under relevant law).
4. The bank does nothing to create an expectation at issuance that the instrument will be bought back, redeemed or cancelled nor do the statutory or contractual terms provide any feature which might give rise to such an expectation.
5. Distributions are paid out of distributable items (retained earnings included). The level of distributions is not in any way tied or linked to the amount paid in at issuance and is not subject to a contractual cap (except to the extent that a bank is unable to pay distributions that exceed the level of distributable items).
6. There are no circumstances under which the distributions are obligatory. Non-payment is therefore not an event of default.
7. Distributions are paid only after all legal and contractual obligations have been met and payments on more senior capital instruments have been made. This means that there are no preferential distributions, including in respect of other elements classified as the highest quality issued capital.
8. It is the issued capital that takes the first and proportionately greatest share of any losses as they occur. Within the highest quality capital, each instrument absorbs losses on a going concern basis proportionately and *pari passu* with all the others.
9. The paid in amount is recognised as equity capital (ie not recognised as a liability) for determining balance sheet insolvency.
10. The paid in amount is classified as equity under the relevant accounting standards.
11. It is directly issued and paid-in and the bank can not directly or indirectly have funded the purchase of the instrument.
12. The paid in amount is neither secured nor covered by a guarantee of the issuer or related entity or subject to any other arrangement that legally or economically enhances the seniority of the claim.
13. It is only issued with the approval of the owners of the issuing bank, either given directly by the owners or, if permitted by applicable law, given by the Board of Directors or by other persons duly authorised by the owners.
14. It is clearly and separately disclosed on the bank's balance sheet.

Annex 3

Criteria for inclusion in Additional Tier 1 capital

1. Issued and paid-in
2. Subordinated to depositors, general creditors and subordinated debt of the bank
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis bank creditors
4. Is perpetual, ie there is no maturity date and there are no step-ups or other incentives to redeem.
5. May be callable at the initiative of the issuer only after a minimum of five years:
 - a. To exercise a call option a bank must receive prior supervisory approval; and
 - b. A bank must not do anything which creates an expectation that the call will be exercised; and
 - c. Banks must not exercise a call unless:
 - They replace the called instrument with capital of the same or better quality
 - and the replacement of this capital is done at conditions which are
 - Sustainable for the income capacity of the bank; or
 - The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.
6. Any repayment of principal (eg through repurchase or redemption) must be with prior supervisory approval and banks should not assume or create market expectations that supervisory approval will be given
7. Dividend/coupon discretion:
 - a. the bank must have full discretion at all times to cancel distributions/payments
 - b. cancellation of discretionary payments must not be an event of default
 - c. banks must have full access to cancelled payments to meet obligations as they fall due
 - d. cancellation of distributions/payments must not impose restrictions on the bank except in relation to distributions to common stockholders.
8. Dividends/coupons must be paid out of distributable items
9. The instrument cannot have a credit sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organisation's credit standing.
10. The instrument cannot contribute to liabilities exceeding assets if such a balance sheet test forms part of national insolvency law.
11. Instruments classified as liabilities for accounting purposes must have principal loss absorption through either
 - (i) conversion to common shares at an objective pre-specified trigger point or
 - (ii) a write-down mechanism which allocates losses to the instrument at a pre-specified trigger point. The write-down will have the following effects:
 - a. Reduce the claim of the instrument in liquidation;
 - b. Reduce the amount re-paid when a call is exercised; and
 - c. Partially or fully reduce coupon/dividend payments on the instrument.
12. Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the purchase of the instrument

13. The instrument cannot have any features that hinder recapitalisation, such as provisions that require the issuer to compensate investors if a new instrument is issued at a lower price during a specified time frame
14. If the instrument is not issued out of an operating entity or the holding company in the consolidated group (eg a special purpose vehicle – “SPV”), proceeds must be immediately available without limitation to an operating entity or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Additional Tier 1 capital

Annex 4

Criteria for inclusion in Tier 2 Capital

1. Issued and paid-in
2. Subordinated to depositors and general creditors of the bank
3. Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis depositors and general bank creditors
4. Maturity:
 - a. minimum original maturity of at least five years
 - b. recognition in regulatory capital in the remaining five years before maturity will be amortised on a straight line basis
 - c. there are no step-ups or other incentives to redeem
5. May be callable at the initiative of the issuer only after a minimum of five years:
 - a. To exercise a call option a bank must receive prior supervisory approval;
 - b. A bank must not do anything that creates an expectation that the call will be exercised; and Banks must not exercise a call unless:
 - i. They replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank; or
 - ii. The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.
6. The investor must have no rights to accelerate the repayment of future scheduled payments (coupon or principal), except in bankruptcy and liquidation.
7. The instrument cannot have a credit sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organisation's credit standing.
8. Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the purchase of the instrument
9. If the instrument is not issued out of an operating entity or the holding company in the consolidated group (eg a special purpose vehicle – "SPV"), proceeds must be immediately available without limitation to an operating entity or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Tier 2 Capital

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