



Financial Stability Report-Bhutan

Bhutan 2015

Financial Regulation & Supervision
Department

Royal Monetary Authority

Purpose of the Financial Stability Report

As per Section 7 of the Royal Monetary Authority (RMA) Act 2010, the primary objective of Bhutan's Central Bank is to formulate and implement monetary policy in order to achieve price stability. However, Section 8 clearly states the maintenance of financial stability as another objective of the RMA. Specifically, the Act empowers the RMA to 'formulate and apply financial regulations and prudential guidelines to ensure the stability and integrity of the financial system'; and 'promote sound practices and good governance in the financial services industry to protect it against systemic risk'. This would in turn promote macro-economic stability and economic growth in the country.

The RMA uses the Financial Stability Report (FSR) in pursuit of this objective. The FSR is intended to serve as a regular report identifying: macro-economic risks to financial stability; existing frailties in the financial sector and vulnerabilities to plausible and implausible risks; and latest developments in financial regulation and infrastructure. Additionally, it provides a starting point for a discussion on financial stability by different stakeholders-including banks and other financial institutions, and the government. The FSR is also a tool for building public confidence in the strength of the financial system.

Table of Contents

Chapter I	1
Macro-Financial Risks to Financial Stability	1
1.1 Financial Sector Overview	1
1.2 Credit to GDP and Interconnectedness in Financial System	1
1.3 India	3
1.4 Domestic Development	5
1.5 External Sector Vulnerabilities	7
Chapter II	14
Financial System Stability: Soundness and Resilience	14
2.1 Banking Sector	14
2.1.1 Performance	15
2.1.2 Soundness	17
2.1.3 Asset Quality	17
2.1.4 Credit Concentration Risk	18
2.1.5 Implementation of Loan to Value Ratio to Mitigate the Risk of a Housing Market Downturn	19
2.1.6 Maximum Loan Ceiling for Personal Loans	19
2.1.7 Satisfactory Loss Absorption Capacities	19
2.1.8 Profitability	19
2.2 Resilience - Stress Tests for Credit Risk	20
2.3 Maintenance of Satisfactory Liquidity Levels	26
2.3.1 Liquidity Management	26
2.3.2 Liquidity Policy Instruments	27
2.3.3 Management of Commercial Bank Liquidity	27
2.3.4 Liquidity Stress Test	29
2.4 Non-Banks	30
2.4.1 Capital Adequacy	31
2.4.2 Asset Quality	31
2.4.3 Profitability	32
Chapter III	33
Macro-Prudential Regulations	33
3.1 Summary of Macro-prudential Regulations	34
3.2 Conclusion	36
Chapter IV	38
Recent Activities and Developments in Financial Sector Regulation	38
4.1 Investment Guidelines for Insurance Business	38
4.2 Credit Information Bureau Regulations	38
4.3 Base Rate System	39
4.4 Reserve Management Policy	39
4.5 Payments and Settlement System	40
4.6 Central Registry	40
Annexures	41

List of Abbreviations

<i>Abbrv.</i>	<i>Full Form</i>	<i>Abbrv.</i>	<i>Full Form</i>
BIL	Bhutan Insurance Limited	LCR	Liquidity Coverage Ratio
BFS	Bhutan Financial Switch	LTI	Loan to Income
BNB	Bhutan National Bank	LTV	Loan to value
BOB	Bank of Bhutan	NEFT	National Electronic Fund Transfer
CAR	Capital Adequacy Ratio	NFS	National Financial Switch
CIB	Credit Information Bureau	NPL	Non-performing loans
CPI	Consumer Price Index	NPPF	National Pension and Provident Fund
CRR	Cash Reserve Ratio	NSFR	Net Stable Funding Ratio
DPNB	Druk Punjab National Bank	PCR	Provisioning Coverage Ratio
EFTCS	Electronic Fund Transfer and Clearing System	PR	Prudential Regulations
FRSD	Financial Regulation and Supervision Department	RICB	Royal Insurance Corporation of Bhutan
GDP	Gross Domestic Product	RMA	Royal Monetary Authority of Bhutan
		ROA	Return on assets
		ROE	Return on Equity
		SCR	Sectoral Capital Requirements
		SLR	Statutory Liquidity Ratio
		USD	US Dollar

Chapter I

Macro-Financial Risks to Financial Stability

1.1 Financial Sector Overview

Financial system of Bhutan is still at its initial stage with lots of structural deficiencies. The development of Bhutanese financial system until 2009 was limited to only two banks, one agricultural development bank, one insurance company accompanied by a small stock exchange and a Pension Fund Bureau. Beginning 2009, major changes have occurred in the financial system. In 2009, two new banks and one insurance company were licensed to begin operation in 2010. Further, the agricultural development bank was granted a specialized deposit-taking bank license in 2010 to expand its business to the urban areas. The Royal Monetary Authority (RMA) is the central bank of Bhutan and is also responsible for supervision of financial institutions in Bhutan. There are eight financial institutions that are currently authorized by the RMA to perform lending operations. These include five banks, two insurance companies, and a pension fund. Of the banks, two are government owned,

Bank of Bhutan Limited and Bhutan Development Bank Limited and three are private, Bhutan National Bank Limited, T-Bank Limited and Druk Punjab National Bank Limited. The two insurance companies are Royal Insurance Corporation of Bhutan Limited (RICBL) and Bhutan Insurance Limited (BIL). These two insurance companies compete with banks in terms of rendering their services of lending to the people. The National Pension and Provident Fund (NPPF) responsible for managing the retirement plans of civil servants, employees of government owned corporations, joint sector companies, and armed forces is also allowed to perform limited lending to their members. In 2013, RMA granted license to first reinsurance company, GIC-Bhutan Re to undertake reinsurance business in Bhutan.

1.2 Credit to GDP and Interconnectedness in Financial System

1.2.1 Credit-to GDP

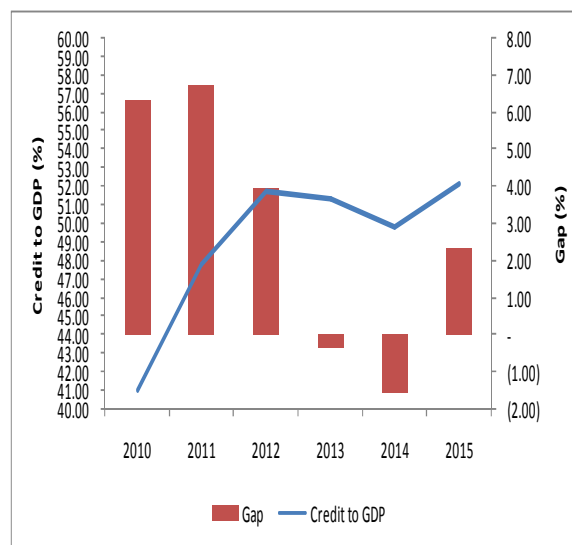
The credit-to-GDP gap is a measure that provides signals of banking system stress

and can be used as a part of central bank policy tools to mitigate banking system risk. For example during recession, losses in the banking sector can be massive when an economic downturn is preceded by a period of excessive lending/credit (i.e. a credit bubble). These losses can destabilize the banking sector and this instability can further spread throughout the economy which then feeds back to the banking sector. One way of protecting the banking sector from the crisis is to have the banks build up additional capital buffer. Basel III regulatory framework requires banks to build up a countercyclical capital buffer to ensure that the banking sector capital requirements take account of the macro-financial environment in which they operate.

The credit-to-GDP ratios of private sector and public sector in Bhutan stood at 51.17 percent and 0.96 percent respectively as of December 2015. As for the credit-to-GDP gaps, the positive gap in the private sector has grown by 2.28 percent in December 2015 as compared to the negative gap of 1.93 percent in December 2014 (48.89 percent credit-to-GDP ratio in 2014), while in the public sector the

gap has reduced from 0.38 percent to 0.05 percent during the same period (0.90 percent credit-to-GDP in 2014).

Figure 1: Credit -to-GDP Ratio



The credit-to-GDP ratio (including both credit to public and private sectors) increased to 52.13 percent in December 2015 as compared to 49.79 percent in previous year generating a positive credit-to-GDP gap of 2.34 percent. Given that the credit-to-GDP gap is not very significant (as the gap has not exceeded 500 basis points to implement the counter-cyclical capital buffer requirement under the Macro-prudential Regulations), it is judged that potential leverage-related systemic risks in Bhutan's financial system are not considerably high. However, not only is a

private credit-to-GDP ratio high and growing, but the credit-to-GDP gap in public sector is also positive, thus, more caution is needed concerning the possibility of future build-up of risks.

1.2.2 Interconnectedness

A look at the financial sector interconnectedness matrix shows that the volume of assets and liabilities interconnected across financial institutions reached Nu. 117.45 billion (USD 1.11 billion)¹ as of December 2015, up by about Nu. 7.82 billion compared to the end of 2014 (Nu. 109.72 billion). By sector, the volume of interconnectedness across banking sector and non-banks had increased by Nu. 4.95 billion (5.10 percent) and Nu. 2.87 billion (22.81 percent) respectively during the period under review.

1.3 India

1.3.1 Relevance to Bhutan

India is Bhutan's largest trade partner. 67.8 percent of the country's external debt is denominated in Indian Rupees. Moreover, the respective governments of the two countries have shared a cordial

relationship over the years. On average between 2003-2004 and 2014-2015, the Indian Government provided 65.6 percent of all budgetary grants available to the Royal Government of Bhutan (RGoB). There are three ways by which India's economic circumstances can affect Bhutan-growth, inflation and exchange rate.

The Article IV Consultation in Bhutan estimated a long run macro-econometric model for Bhutan concluding that any slowdown in India can have spillover effects in Bhutan. Higher growth in India for instance would have the potential to energize exports from Bhutan-both merchandise and service exports like tourism. Higher growth would also translate into fiscal space for the government of India to provide timely grants and hydropower financing. Inflation and exchange rate movements in India, both have the potential to affect inflation in Bhutan since a majority of its imports are from the former.

When the Indian currency depreciates, Indians have to pay more for their imports. This is likely to affect domestic inflation in India. In turn, this may be imported into Bhutan. More directly,

¹ 2015 end exchange rate was Nu. 67.45 for a USD

since Bhutan's exchange rate is pegged to India's currency, a weaker rupee also means a weaker Ngultrum. Hence, Bhutan can also end up importing inflation from countries other than India.

1.3.2 Outlook in India²

Indian economy remained resilient in a global environment characterized by falling macroeconomic risks. GDP picked up in 2014-2015, rising by 7.3 per cent on top of a growth of 6.9 per cent in 2013-2014. The firming up of growth during 2014-2015 was driven mainly by private consumption and supported by fixed investment, even as government consumption and net exports slackened considerably. Even though, the weakness in external demand has adversely affected its exports, current account deficit (CAD) as a percentage of GDP has remained at comfortable level, and current account deficit narrowed in 2014-2015 from its level a year ago on terms of trade gains and weak import demand. However, despite improved macro-economic fundamentals and resilience - given the challenges for the rupee to maintain external competitiveness on the one hand

and manage inflationary pressures and requisite capital flows on the other, sluggishness in domestic demand and private investment call for higher public investment in order to accelerate the pace of growth.

Average inflation at 5.9 per cent during 2014-2015 turned out to be significantly lower than 9.5 per cent a year ago. From June 2014, inflation declined faster than initially anticipated. A combination of favorable factors such as the collapse of international commodity prices, particularly of crude, and loss of pricing power among corporate due to weakening demand as well as pro-active supply management and deregulation of key fuel prices worked in alignment with a disinflationary monetary policy stance that was set from September 2013.

1.3.3 Maintaining exchange rate peg of the Ngultrum to the Indian Rupee

The Ngultrum has been pegged at par to the Indian Rupee ever since its introduction in 1974.³ With the continuing dominance of bilateral trade (over 80 percent of total imports and close to 90 percent of total exports) and

² RBI Annual Report and Financial Stability Report, 2015

³ RMA Monetary Policy Statement

financial flows (for economic developmental aid and loans for hydro power projects) from India, the pegged exchange rate continues to be the best choice of exchange rate policy – an anchor for macroeconomic stability - guiding fiscal and monetary developments in Bhutan.

Rapid credit expansion (that led to Rupee outflow) and import growth in the past had contributed to huge external sector pressures on Bhutan’s Rupee reserves. The 2012 Indian Rupee shortages not only exposed the vulnerabilities of our heavily import-dependent structure but also revealed challenges related to the composition and management of reserves. While on the one hand, a comfortable level of convertible currency reserves was maintained, on the other hand, several expensive Indian Rupee loans were availed to meet the shortages. Thus, maintaining the stability of the exchange rate peg of the Ngultrum to the Indian Rupee continued to remain one of the cornerstones of RMA’s monetary and reserve management policy in 2015.

1.4 Domestic Development

1.4.1 Output⁴

There are multiple ways in which output affects financial stability. Periods of ‘prolonged (economic) prosperity’ can cause economies to transit from stable to unstable financial systems⁵. This is because growth induced optimism can cause borrowers to undertake riskier activities and lenders to finance the same. Excessive lending, especially to risky (sub-prime) borrowers, can lead to non-performing loans, deleveraging and market illiquidity, and thus a credit crunch. Lack of credit may in turn adversely affect economic activity and translate into a real-side downturn. Conversely, an economic recession can lead to financial instability by reducing borrower incomes and impairing the ability to repay loans.

1.4.2 GDP Growth

Macroeconomic conditions have improved since the slowdown brought about by the 2012 Indian Rupee shortages in the Bhutanese financial

⁴ Most provision of this section has been sourced from the RMA annual report 2014/15

⁵Minsky, H. P. (1992).The Financial Instability Hypothesis.Working Paper No. 74. New York, The Jerome Levy Economics Institute of Bard College.

markets. The economy in 2015 achieved a real GDP growth of 6.5 percent. The growth was largely driven by the secondary sector with a contribution of 3.5 percentage points. The contribution of the tertiary sector has fallen from 3.8 to 2.4 percentage points, while the contribution of the primary sector has increased from 0.3 to 0.6 percentage points. In nominal terms, GDP increased by 10.4 percent to Nu.132 billion in 2015 from Nu.119.5 billion in 2014.

1.4.3 Government Finance

High and sustained fiscal imbalances can adversely affect financial stability through various channels. One, monetization of the fiscal deficit by the Central Bank can cause inflation, which if unpredictable, can hinder financial decisions. Two, if fiscal deficits translate into burgeoning debt, risks of sovereign default may arise.

According to the revised budget for financial year 2014-2015, the overall fiscal policy stance of the government continued to be progressive, with total expenditure increasing by 17 percent (from Nu.33.5 billion in FY 2013-2014 to Nu.39.2 billion) during the year. The increase was on account of growth in spending for both current and capital

expenditures, which grew by 22.9 percent and 10.2 percent, respectively. On the resource front, total revenue (including grants) decreased by negative 3.8 percent in 2014-2015, compared to the 23.4 percent growth in 2013-2014 (from Nu. 37.8 billion to Nu. 36.4 billion).

Figure 2: Gross Domestic Product (GDP)

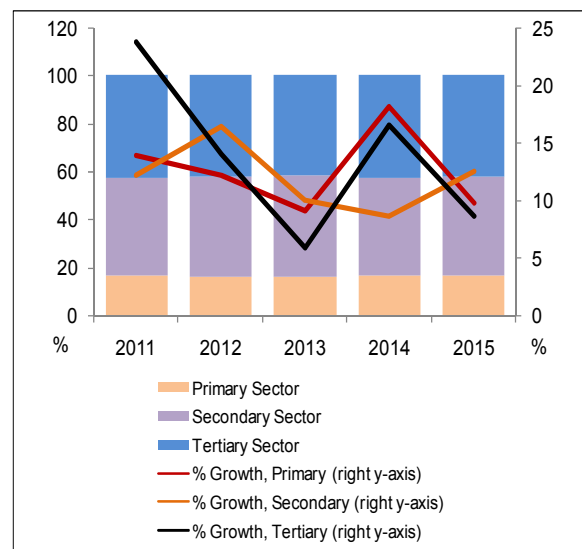
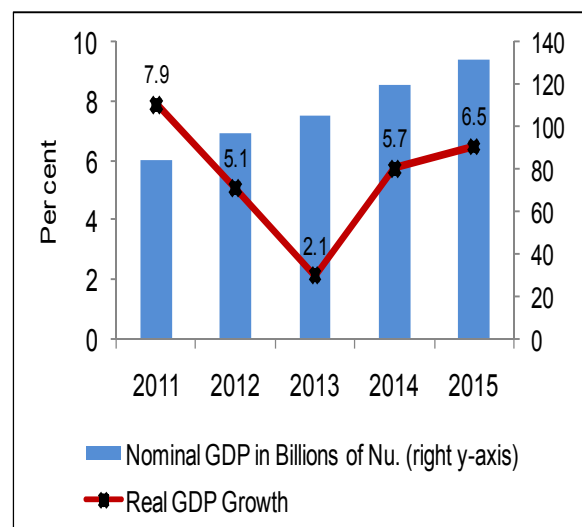


Figure 3: Composition of Nominal GDP



Total revenue decreased by 5.4 percentage points to 30.4 percent of GDP in 2014/15. As part of the fiscal measures, new taxes, such as sales tax on telecom services and green tax on fuel were introduced along with the revision of sales tax and customs duty on import of vehicles.

Despite the government's efforts to pursue sustainable fiscal path over the medium term through expenditure rationalization and revenue enhancement measures, the revised budget of 2014-2015 resulted in an overall fiscal deficit of Nu. 2.8 billion (2.4 percent of GDP) compared to the Nu.4.2 billion surplus in 2013-2014.

External borrowings which are highly concessional are availed from bilateral and multilateral development partners. Meanwhile, a large portion of the remaining resource gap was also financed through domestic sources.

1.5 External Sector Vulnerabilities

The size of Bhutan's balance of payments assumes importance in context of the fixed exchange rate between Indian Rupees and Ngultrum. If Bhutan faces high current account deficits and the

inflows on the capital and financial account are not adequate to cover the same, the RMA has to intervene to maintain the peg against the Indian rupee.

For instance, shortage of Rupee reserves has plagued Bhutan's economy since November 2011, when it was observed that Rupee balances, taking into account the overdue debt obligations, had turned negative. This was a structural problem in the sense that the majority of the country's reserves are denominated in convertible currency (due to external aid), while a large part of payment obligations are denominated in rupees (payments for imports, repayment of loans). As a result of negative Rupee reserves, the RMA resorted to sale of USD 200 million worth of convertible currency reserves to buy Indian Rupees to the State Bank of India in December 2011 at the prevailing market rate. An Indian rupee shortage occurred again and for the second time the RMA sold \$200 million for Rs11 billion on 27 June 2013 to keep imports from India going, and to maintain a minimum level of Indian rupee reserve. The Indian rupee was also borrowed at commercial rates between 2011 and 2013 to finance current and financial accounts.

Many import restrictions combined with access control to the Indian rupee was established in 2012 and 2013, which reduced Indian rupee outflow and stemmed drastic depletion of the Indian rupee reserve. With prudent reserve management, Indian Rupee Swap loan from the RBI was also fully liquidated in September 2013.

1.5.1 Overall Balance of Payments (BOP)

In the balance of payments, the current account deficit continues to remain elevated in terms of GDP and the RMA views the current account deficit as the biggest medium-term challenge for the economy. The experiences of the 2012 Indian Rupee shortages have clearly demonstrated the vulnerabilities of our import-dependent economic structure and the macro-financial links between excessive credit growth and rising external imbalances: credit growth translated into imports, which in turn contributed to huge external sector pressures on Bhutan's Rupee reserves. Addressing this challenge will require monetary and fiscal measures as well as other sector-specific policies and reforms. In particular, the stance of both monetary

and fiscal policies can directly impact the magnitude and direction of the current account deficit.

Current account deficit increased from 28.2 percent of GDP in financial year 2013-2014 to 30.2 percent of GDP in financial year 2014-2015. Trade deficit also widened by 7.7 percent amounting to Nu.26.0 billion. Deficits continued to persist in the services and primary income accounts as well, while the usual surplus in the secondary income (driven by grants for budget support) decreased by 15.8 percent in the year.

The capital and financial account balance increased by 22.9 percent to Nu.37.9 billion. Indian Rupee denominated hydropower loan disbursements increased by 27.0 percent to Rupees 18.1 billion with an additional Rupees 9.6 billion received as the grant component.

After accounting for other financial flows and the negative net errors and omissions, the capital and financial account surplus was not enough to finance the current account deficit with a subsequent drawdown in reserves by an equivalent of Nu. 560.4 million.

1.5.2 Balance of Payments with India

Bhutan's current account deficit with India increased from 24.4 percent of GDP to 25.1 percent in 2014-2015. The trade deficit has widened from Nu.17.4 billion to Nu.19.0 billion. In the income account, budgetary grants increased from Rupees 2.2 billion to Rupees 3.3 billion. Interest paid on hydropower debt (Kurichhu and Tala) amounted to Rupees 1.4 billion while accrued interest on the three ongoing hydropower projects (Punatsangchhu I and II and Mangdechhu) amounted to almost Rupees 6.3 billion for the year. In the capital and financial account, grants for budget support decreased from Rupees 7.1 billion to Rupees 4.1 billion while grants for hydropower projects increased marginally from Rupees 9.4 billion to Rupees 9.6 billion.

1.5.3 Reserves Position

Gross international reserves fell to USD 958.5 million as of June 2015 from USD 997.9 million as of June 2014, although reserves were sufficient to finance 11.8 months of merchandise imports while also covering 51.7 percent of public external debt. Of the total, USD 788 million was convertible currency reserves

while Rupees 10.9 billion was Indian Rupees.

The management of reserves, in particular of Indian Rupee reserves, remains one of the key challenges for the RMA because of the persistently high current account deficit. RMA has set operational threshold for convertible currency reserves as part of the RMA's reserve management policy to ensure adequate composition of reserves between India Rupees and other convertible currencies in line with the needs for Indian Rupees. Addressing the challenge of the current account deficit will require longer-term structural measures and policies aimed at channeling investments into productive sectors, diversifying the economy, increasing productivity and building the domestic supply and production base for increasing exports.

Table 1: Overall Balance of Payments and Selected External Indicators

Item	Nu. in Million			USD in Million		
	2012/13 (r)	2013/14 (r)	2014/15 (p)	2012/13 (r)	2013/14 (p)	2014/15 (p)
A. Current Account	-25,769.3	-29,694.1	-36,084.7	-469.7	-483.1	-581.5
<i>o.w. India</i>	-26,625.8	-25,750.8	-29,981.0	-485.4	-418.9	-483.2
<i>o.w. COTI</i>	856.4	-3,943.3	-6,103.7	15.6	-64.1	-98.4
Trade Balance	-20,708.5	-24,170.5	-26,021.6	-377.5	-393.2	-419.4
<i>o.w. India</i>	-17,468.8	-17,362.4	-19,048.7	-318.4	-282.4	-307.0
<i>o.w. COTI</i>	-3,239.7	-6,808.1	-6,972.9	-59.1	-110.8	-112.4
Exports (fob)	29,931.5	32,876.6	35,901.8	545.6	534.8	578.6
<i>o.w: Hydropower Exports</i>	10,323.4	10,247.9	11,260.1	188.2	166.7	181.5
Imports (fob)	50,640.0	57,047.1	61,923.4	923.1	928.0	997.9
Services	-2,972.6	-3,996.0	-3,701.0	-54.2	-65.0	-59.6
Credit	6,764.6	7,646.2	7,685.5	123.3	124.4	123.9
Debit	9,737.3	11,642.2	11,386.6	177.5	189.4	183.5
Primary Income	-9,085.7	-7,439.7	-11,341.7	-165.6	-121.0	-182.8
Credit	965.9	1,192.4	1,407.2	17.6	19.4	22.7
Debit	10,051.6	8,632.1	12,748.9	183.2	140.4	205.5
Balance on Goods, Services & Primary Income	-32,766.9	-35,606.1	-41,064.3	-597.3	-579.2	-661.8
Secondary Income	6,997.5	5,912.0	4,979.6	127.6	96.2	80.2
Credit	8,684.7	7,333.4	6,874.2	158.3	119.3	110.8
<i>o.w: Budgetary Grants</i>	4,716.2	3,856.5	4,785.0	86.0	62.7	77.1
Debit	1,687.1	1,421.3	1,894.6	30.8	23.1	30.5
B. Capital Account	14,459.0	16,901.7	13,981.0	263.6	275.0	225.3
<i>o.w. Budgetary Grants, Credit</i>	4,698.6	7,541.5	4,408.0	85.7	122.7	71.0
<i>o.w. Hydropower Grants, Credit</i>	9,760.4	9,360.2	9,573.0	177.9	152.3	154.3
C. Financial Account¹	-19,443.4	-13,914.9	-23,886.1	-354.4	-226.4	-384.9
Direct investment in Bhutan: net incurrence of liabilities	2,707.8	511.5	2,075.0	49.4	8.3	33.4
Other investment: net acquisition of assets	956.5	-202.7	-861.5	17.4	-3.3	-13.9
Other investment: net incurrence of liabilities	17,692.2	13,200.6	20,949.6	322.5	214.7	337.6
<i>o.w. INR denominated hydropower loans²</i>	14,275.7	16,347.5	22,890.0	260.2	265.9	368.9
<i>o.w. CC loans of the RGOB</i>	3,658.0	2,362.6	1,327.7	66.7	38.4	21.4
D. Net Errors & Omissions	1,079.1	3,158.0	-2,342.8	19.7	51.4	-37.8
E. Overall Balance (Reserve Assets)	9,212.2	4,280.5	-560.4	167.9	69.6	-9.0
In % of GDP						
Trade Balance (Goods)	-21.2	-22.9	-21.8			
Goods and services (net)	-24.3	-26.7	-24.9			
Current Account Balance	-26.4	-28.2	-30.2			
Overall Balance	9.5	4.1	-0.5			
GDP at current prices ³	97,453.0	105,378.4	119,545.8			
Memorandum Items:						
Gross International Reserves (end of period) ⁴				916.9	997.9	958.5
In months of merchandise imports				13.0	12.6	11.8
Short term external debt as a % of Reserves ⁵				9.9	-	-
External Debt Outstanding (end of period)				1606.8	1759.0	1854.6
In percent of GDP				98.4	100.3	98.9
Debt Service Ratio (including overdraft facility)				229.2	27.1	19.8
Debt Service Ratio (excluding overdraft facility)				17.5	27.1	19.8
Annual average exchange rate (Nu/USD)				54.9	61.5	62.1
End of period exchange rate (Nu/USD)				59.7	60.1	63.8

¹Net acquisition of financial assets minus net incurrence of financial liabilities; (+) figure denotes net lending and (-) figure denotes net borrowing; excludes reserve assets. ²Includes accrued interest. ³Calendar year GDP used (eg: CY 2014 = FY 2014/15); Source: NSB. ⁴Excluding pledge on any outstanding overdraft during the reference periods. ⁵Short term external debt defined as debt of original maturity of less than 1 year; eg - RBI Rupee swap and Indian Rupee overdraft facility.

Note: External debt includes only loan liabilities. Debt service ratio is in percent of exports of goods and services.

1.5.4 External Debt

Bhutan's total outstanding external debt increased to an equivalent of USD 1.9 billion as of June 2015 (5.4 percent growth between June 2014 to June 2015). Of this, an equivalent of USD 581.2 million was outstanding on convertible currency loans and the remaining Rupees 81.2 billion were outstanding Indian Rupee loans. Of the total Rupee debt, 90.2 percent were outstanding public debt on hydropower projects while 8.6 percent represented debt taken to finance BOP transactions with India (the GOI line of credit).

External debt denominated in rupees can be another source of stress. As of 2011-2012, the first year when the Rupee shortage became apparent, the total external debt was USD 1.3 billion. Since then, it has been on increasing trend. This will also translate into higher Rupee outgo on a yearly basis for debt servicing, especially when Punatsangchhu I, II and Mangdechhu become operational and the schedule of repayment begins.

Within the convertible currency loan portfolio, concessional public and publicly guaranteed debt accounted for 99.9 percent while the remaining 0.1 percent represented outstanding external debt of the private sector.

The Government of India remains Bhutan's largest creditor with 67.8 percent of overall external debt at Nu.80.2 billion or 98.8 percent of total Rupee outstanding debt. This is followed by the ADB with USD 259.2 million, the World Bank with USD 165.4 million and the Government of Austria with USD 81.0 million. Bhutan's total debt outstanding stood at 98.9 percent of GDP.

Overall debt servicing on both convertible currency and Indian Rupee debt for 2014-2015 was USD 139.5 million as compared to USD 178.9 million in 2013-2014. Bhutan's debt service ratio measured as a percent of the export earnings from goods and services decreased to 19.9 percent in 2014-2015 from 27.1 percent in 2013-2014.

Table 2: IMF'S Debt Sustainability Analysis (DSA) 2014 and 2016⁶

The IMF uses two separate models for analyzing the debt sustainability of developing and low income countries and for emerging economies and industrialized countries. In the former case (applicable for Bhutan), countries mainly resort to external loans on concessional terms. Hence an external debt sustainability analysis is perceived as being equivalent to a public debt sustainability analysis.

The debt sustainability of a country is judged based on the performance of certain indicators relative to pre-defined thresholds. If some or many of the indicators exceed the thresholds, it might signal a risk of debt being unsustainable. The performance is measured based on projections for a 20 year long horizon. The thresholds vary with the perceived strength of a country's policies and institutions. Countries with weak institutional frameworks may find difficulties in dealing with even low levels of public debt. Hence for them the thresholds are lower as compared to countries with strong policies and institutions. Bhutan is judged as having high quality of institutions and policies. The indicators used are as given below:

- Net Present Value of Public Debt as a % of
 - Exports
 - GDP
 - Budget Revenues
- Public Debt Service as a % of
 - Exports
 - Budget Revenues

The DSA 2014 shows that the present value of Bhutan's external debt to GDP ratio would fall below 25% over the long term. The present value of debt to exports and debt to revenue is also projected to fall below the respective thresholds in the long term. The debt service indicators are expected to remain below thresholds for most of the period under consideration, save for temporary breaches caused by hydropower debt. The 'stress' scenarios however indicate the presence of vulnerabilities with most of the indicators breaching the set thresholds under simulated shocks.

Yet, **the overall likelihood of risks to Bhutan's debt sustainability remain moderate.** This is because a large part of Bhutan's external debt is to finance the construction and operating costs of hydropower plants. These loans are taken from India on a concessional basis. Moreover, all surplus power generated by the hydropower plants is bought by India at a pre-determined price. This is fixed after the construction of the plant is over, on a cost-plus basis. This means that the price per unit covers the cost of the project, financing costs, operation and maintenance charges, depreciation, market conditions as well as a net return of 15%. According to the IMF, such terms allow for hydropower loans to be treated as 'non-debt creating'.

⁶IMF, May 2014. Staff Report for 2014 Article IV Consultation-Debt Sustainability Analysis.
IMF, June 2016, Staff Report for 2106 Article IV Consultation-Debt Sustainability Analysis.

1.5.5 Inflationary Risk

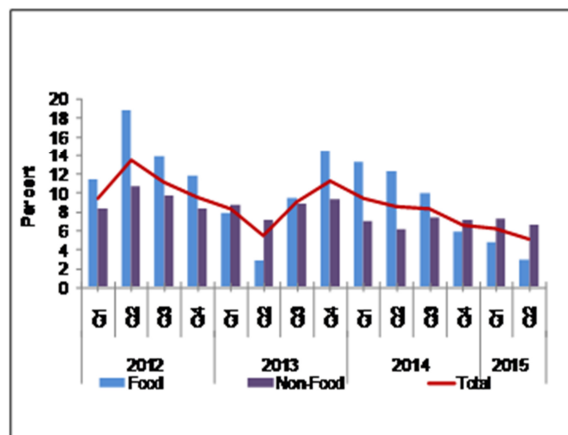
Inflation can adversely affect financial stability by misleading agents about their financial decisions. In a situation where the inflation rate exceeds the interest rate, individuals would be unlikely to save, investors would be unlikely to invest or lenders to lend. The resultant lack of credit in the market could hamper economic activity which could translate into increasing non-performing loans and financial instability. A sustained increase in inflation can also lead to permanently higher inflation expectations. So the problem may persist if the interest rate fails to catch up with these expectations.

Bhutan's annual inflation was recorded at 5.2 percent for the quarter ending June 2015, down by 3.4 percentage points from 8.6 percent in 2014 (year-on-year).

The fall in the prices of food items has mainly contributed to the decrease in the CPI inflation in the quarter ending June 2015. A significant decrease in the prices of food commodities was registered with food inflation at 2.9 percent in second

quarter 2015, compared to 12.3 percent during the same quarter last year. On the other hand, the general prices of non-food items increased to 6.7 percent during the second quarter of 2015 compared to 6.1 percent last year. The overall monthly CPI (year-on-year) recorded a 4.7 percent decrease in June 2015, of which prices of both imported and domestic goods and services decreased by 5.7 percent and 3.8 percent respectively.

Figure 4: Consumer Price Index



Chapter II

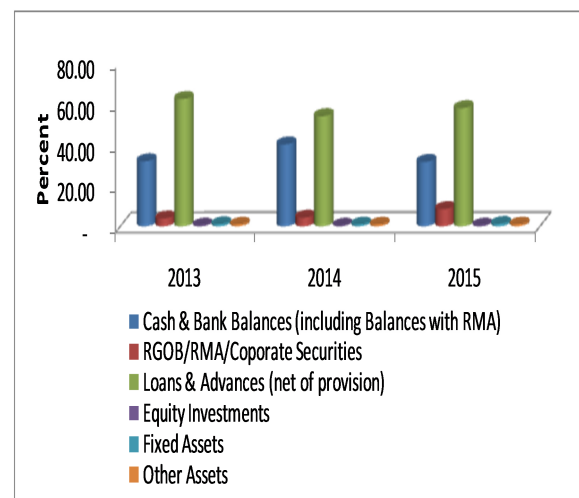
Financial System Stability: Soundness and Resilience

Financial soundness refers to the ability of the financial system to withstand shocks. A healthier financial system, as measured by capital adequacy, profitability etc. is likely to be resilient. The resilience of the commercial banks in respect of credit risk and liquidity risk were studied through stress testing by imparting extreme but plausible shocks, since these risks are the most relevant risk in financial sector for now. An important macro-prudential goal of stress testing is to assess whether the banking system is sufficiently capitalized to maintain the supply of credit in the face of adverse shocks. The Bhutanese financial system remains well capitalized relative to current regulatory requirements. The stress-test results suggest that the banking system is well capitalized to support the economy in a severe stress scenario, which would adversely affect Bhutan. The capitalization of the system has improved further over the course of 2015. The financial system also has a liquid asset buffer that exceeds regulatory requirements, which are designed to enable financial institutions to withstand temporary periods of stress. Financial sector's profitability remains strong with high net interest margins. However, it is important that financial institutions manage risks relating to their exposures and adequately provision for expected losses.

2.1 Banking Sector

Asset size of the banking sector has been increasing steadily over time. The total assets of banks increased to Nu.102.07 billion in December 2015 from Nu.97.12 billion in December 2014, recording an annual growth of 5.10 percent. 57.75 percent of the total assets of the banking sector comprises of loans and advances.

Figure 5: Asset Composition



2.1.1 Performance

Credit and Deposit Growth

Credit growth of banking sector on year-on-year basis increased by 12 percent, from Nu. 55.32 billion to Nu. 62.06 billion. Large part of banking sector's lending is concentrated in housing sector with 25.15 percent, followed by service/tourism sector (16.57 percent), personal loan (16.35 percent), trade/commerce sector (15.14) and manufacturing/industry sector (13.98 percent). Credit growth has slowed considerably over the last three years following the Indian Rupee shortages and subsequent policy measures to temper consumption-led demand for Rupees. Housing and vehicle loans were re-introduced in September 2014 and as a result, credit growth has been picking up again.

Total deposits increased by 3.81 percent from Nu.75.34 billion in December 2014 to Nu. 78.21 billion in December 2015. The share of demand deposits in total deposits fell slightly from 54.95 percent in December 2014 to 51.78 percent (Nu.901 million) in December 2015. However, the share of time deposits increased from 45.05 percent to 48.22

percent (Nu. 3.7 billion) over the same period.

Figure 6: Loans by Sector

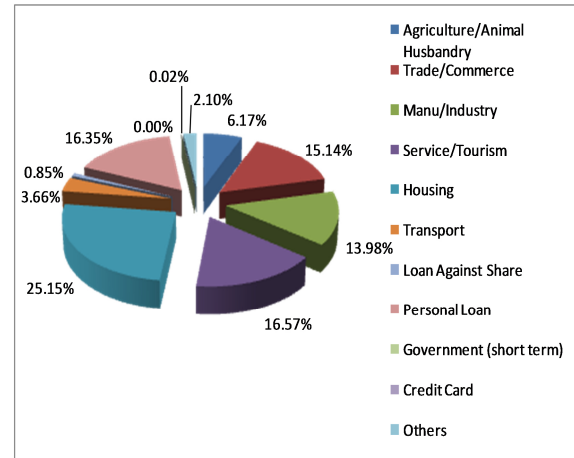
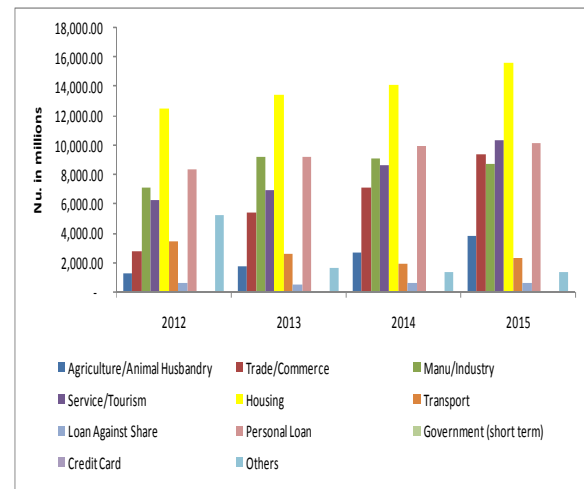


Figure 7: Loan Growth



In terms of deposits by customer type, corporate deposits accounted for 53.78 percent (Nu. 42.06 billion) of total deposits and remaining 46.22 percent (Nu. 36.15 billion) constituted retail deposit. Corporate deposits continued to dominate

the deposit holding pattern of the banks for the period ended December 2015.

Market Share

Banking licenses were issued to three new banks in 2010. With the operation of new banks, the share of deposits as well as credit has been changing for the existing banks. During the first year of operation, the new banks collectively mobilized total deposits amounting to Nu.6.78 billion, while as of December 2010 the banking sector as a whole mobilized deposits amounting to Nu.52.9 billion. Since then, the deposits of the new banks have been increasing steadily, reaching Nu.25.02 billion as of December 2015. In terms of percentage share, the new commercial banks contributed only 12.82 percent to the overall deposit of the banking sector during their initial year of operation but since then their share has increased to 31.9 percent as of December 2015. With the increasing share of new banks in overall deposits, the share of the older commercial banks to total deposits have been declining, from 87.18 percent as of December 2010 to 68.01 percent as of December 2015.

Similarly the credit levels of the new commercial banks grew steadily from Nu.6.5 billion as of December 2010 to

Figure 8: Total Deposits

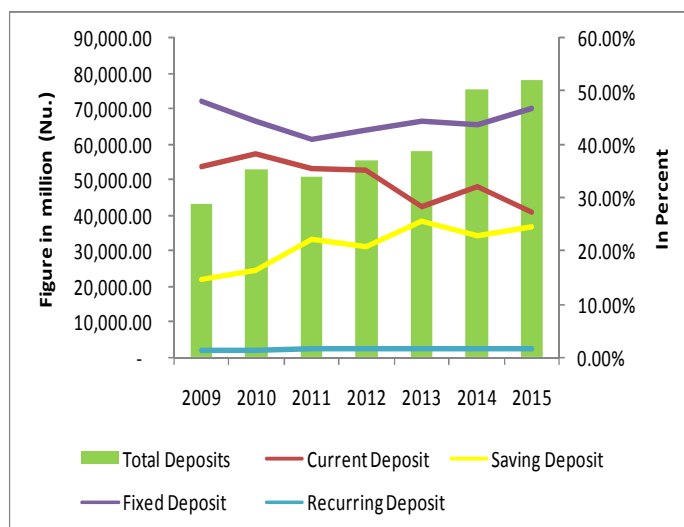


Figure 9: Deposits by Customer

Deposits by Customer	Total FIs(Nu. In million)		%Change	%Holding
	Dec-14	Dec-15		
Corporate deposits	37,375.87	42,062.07	12.54%	53.78%
Government	8,471.42	10,363.90	22.34%	13.25%
Government Corp.	11,000.53	12,985.09	18.04%	16.60%
Public Companies	356.93	483.21	35.38%	0.62%
Private Co.	3,021.92	4,215.87	39.51%	5.39%
Commercial Banks	7,649.47	8,651.93	13.10%	11.06%
NBFIs	6,875.61	5,362.07	-22.01%	6.86%
Retail deposits	37,968.12	36,151.30	-4.79%	46.22%
Individuals	36,743.51	34,887.89	-5.05%	44.61%
Foreign Currency	1,224.60	1,263.41	3.17%	1.62%
Total	75,343.99	78,213.37	3.81%	100.00%

Nu.21.07 billion as of December 2015. The share of the older commercial banks in total credit has declined gradually over the same period from 79.07 percent to 66.05 percent, although overall credit has been increasing steadily.

2.1.2 Soundness

Capital Remains Steady

Capital ratios of banking sector are stable at levels above the current regulatory requirements. The Capital Adequacy Ratio (CAR) of banking sector was 18.74 percent of risk-weighted assets (RWA) at end-December 2015, and the Core (Tier 1) Capital ratio was 15.02 percent.

In December 2015, the capital fund of the banking sector increased by 11.39 percent, from Nu. 16.13 billion in December 2014 to Nu. 17.97 billion in December 2015.

CAR and Core CAR can at times be inadequate measures of capital adequacy since 'risk-weighted assets' form the denominator. If the risk-weighting does not keep pace with the increase in the inherent riskiness of the assets, CAR may be unable to truly reflect a banking sector's solvency. To account for this, non-risk based approach; Leverage Ratio has been used as a complementary measure. It is calculated as the ratio of Tier 1 capital to total assets and off balance sheet exposures. As of December 2015 banking sector recorded a leverage ratio of 12.67 percent, which is comfortably above the required minimum leverage ratio of 3 percent.

Table 3: Market Share (Banking Sector)

Bank	End of December							
	Deposits (Nu. Million)				Credit (Nu. Million)			
	2012	2013	2014	2015	2012	2013	2014	2015
Old Banks								
BOBL	23,463.9	25,396.3	33,355.7	32,105.3	17,444.9	17,901.9	19,270.9	19,912.9
BNBL	19,056.8	17,633.2	20,097.0	21,087.9	17,859.9	18,166.5	18,768.6	21,077.1
Total	42,520.6	43,029.5	53,452.7	53,193.2	35,304.8	36,068.4	38,039.5	40,989.9
New Banks								
BDBL	4,420.4	6,724.4	12,159.2	14,216.4	6,247.4	8,500.4	10,941.1	14,171.4
T BANK	3,529.9	3,455.7	4,013.2	3,914.4	2,298.2	2,225.8	2,420.4	2,437.9
DPNBL	5,015.9	5,145.6	5,718.9	6,889.4	3,575.8	3,733.8	3,917.1	4,459.5
Total	12,966.3	15,325.7	21,891.3	25,020.1	12,121.4	14,459.9	17,278.6	21,068.8
Grand Total	55,486.9	58,355.2	75,344.0	78,213.4	47,426.3	50,528.3	55,318.1	62,058.8
% Share of Total Deposits and Credit								
Old Banks	76.6	73.7	70.9	68.0	74.4	71.4	68.8	66.1
BOBL	42.3	43.5	44.3	41.0	36.8	35.4	34.8	32.1
BNBL	34.3	30.2	26.7	27.0	37.7	36.0	33.9	34.0
New Banks	23.4	26.3	29.1	32.0	25.6	28.6	31.2	33.9
BDBL	8.0	11.5	16.1	18.2	13.2	16.8	19.8	22.8
T BANK	6.4	5.9	5.3	5.0	4.8	4.4	4.4	3.9
DPNBL	9.0	8.8	7.6	8.8	7.5	7.4	7.1	7.2

2.1.3 Asset Quality (Credit Risk)

The rapid increase in credit growth in recent years suggests growing credit risk. Asset quality continued to pose some concerns as the total Non-Performing Loans (NPL) of the Banking sector increased from Nu. 3.74 billion in December 2014 to Nu. 4.09 billion in December 2015 indicating an increase of 9.56 percent. However, the gross NPL ratio (NPL to total loans) stood at 6.59 percent in December 2015 as compared to 6.75 percent in December 2014.

Sectoral data as of December 2015 indicates that among the broad sectors, trade/commerce sector continued to record the highest NPL of about 20 percent of total NPL, followed by housing and service sectors at 19 percent each of the total NPL.

2.1.4 Credit Concentration Risk

Total aggregate exposures to single largest borrower (or group of borrowers defined as single largest borrower) of the banking sector stood at 13.78 percent of the capital fund as of December 2015, with no banks exceeding the maximum allowable single largest borrower's limit of 30 percent of their respective capital fund. Similarly, during the period, the ten largest borrower's exposures of banking sector stood at 17.25 percent of the total loans, with none of the banks violating the maximum allowable limit of 30 percent of total loan portfolio of respective financial institutions. Concentration of lending to few sectors or customers would expose a bank to credit risk in the event of a crisis associated with one sector or a customer, affecting the recoverability of a large share of the loan portfolio. Hence, banks should closely monitor the potential credit risk associated with key sectors.

Figure 10: CAR Position

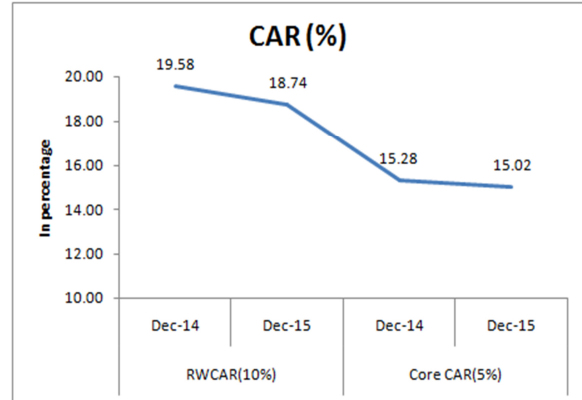


Figure 11: Sectoral NPL Trend

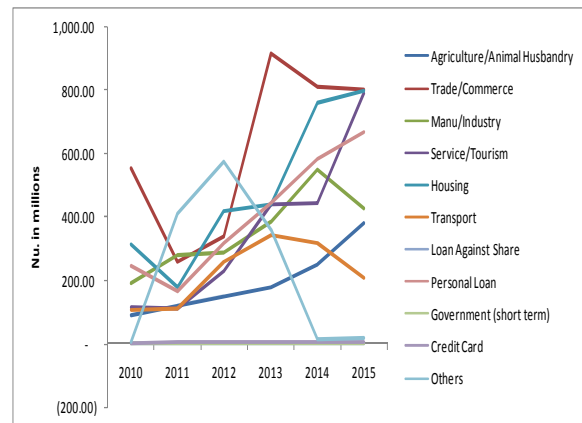
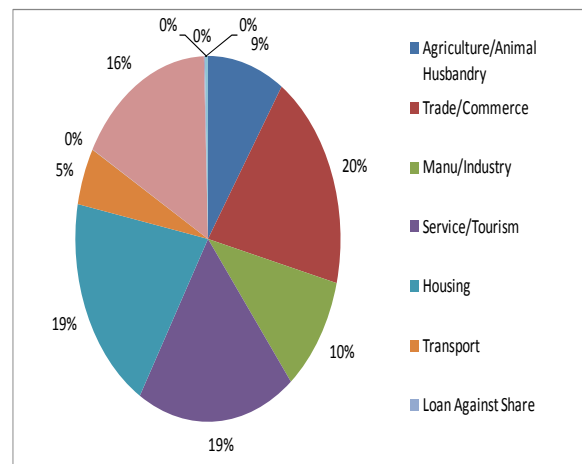


Figure 12: Sectoral NPL Holding



2.1.5 Implementation of Loan to Value Ratio to Mitigate the Risk of a Housing Market Downturn

The loan to value (LTV) ratio refers to the value of the loan advanced, relative to the value of the underlying collateral asset. A higher value of this ratio may translate into loan defaults in case of falling asset values. This is simply because the borrower has less to lose. A cap on the maximum amount of the loan as a proportion of the value of the underlying collateral can partially mitigate the credit risk. Accordingly, the RMA introduced LTV ratio as a “macro-prudential measure” in 2014 to mitigate the risks of default due to fall in the value of the underlying collateral and also to prevent any speculation in the housing market which may exacerbate the systemic risks. The LTV regulation for Bhutan is applicable for loans taken for acquiring residential property-for self-occupation, tenancy or commercial sale (e.g. for constructing a residential complex for sale of the constituent flats). The LTV limit is expressed as a percentage of the value of the property to be acquired through the loan. The size of the loan cannot exceed the prescribed limits on

these ratios. The limits vary by the type of property to account for the differential risks attached.

2.1.6 Maximum Loan Ceiling for Personal Loans

RMA also came up with the guidelines specifying the maximum loan amount of Nu. 500,000 to curb the loan exposure to personal sector, thereby mitigating any potential risk that could arise. This was necessary as it was very difficult to ascertain the purposes of loans provided under this sector (productive versus non-productive). The exposure to this sector grew by more than two fold (CAGR of 15 percent) during the period 2010 to 2015.

2.1.7 Satisfactory Loss Absorption Capacities

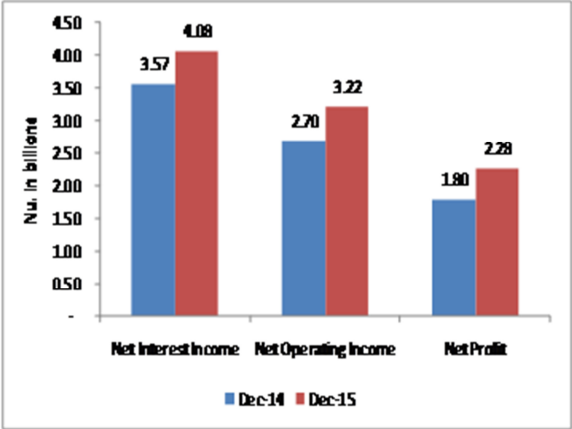
Banking sectors’ loss absorption capacities have maintained at a satisfactory level. The provision coverage ratio which shows banks’ capacities for absorbing expected losses, for the period ended December 2015 stood at 63 percent.

2.1.8 Profitability

Both Return on Assets (ROA) and Return on Equity (ROE) increased to 2.38 percent

and 13.66 percent respectively as of December 2015 as compared to 2.06 percent and 12.16 percent as of December 2014. Banking sector recorded a net profit of Nu.2.28 billion in December 2015 as compared to Nu. 1.80 billion in December 2014. High profitability partly reflects the cost efficiencies in the banking sector and strong net interest margins (NIMs). Accordingly, banking sector experienced the increase in the net interest income from Nu. 3.57 billion in December 2014 to Nu. 4.08 billion in December 2015.

Figure 13: Profitability



2.2 Resilience - Stress Tests for Credit Risk

Stress tests are conducted on banking sector to assess the resilience of the banking sector to different shock scenarios. The resilience of the banking system to credit risk was tested by

stressing the credit portfolio of banking system and providing a forward-looking, quantitative assessment of the capital adequacy of Bhutanese banking system. The level of NPL to total loans is taken as the main measure of credit risk, since credit risk is associated with the quality of the loan portfolio.

The analysis for credit risk included aggregate shocks on asset quality and a set of separate shocks, each aiming to examine a different aspect of credit risk concentration. The shocks introduced below are developed based on the following scenarios:

- (i) Slowdown in the domestic economy starting 2013-2014, could reduce the ability of borrowers’ or major sectors financed by banks to service loans, thus leading to increase in NPL and impacting the performance of banks.
- (ii) Rapid credit expansion to certain sectors exacerbates vulnerabilities in those sectors and may prompt the build-up of potential bubbles. In the case of Bhutan, rapid credit growth in some sectors may potentially constitute a source

of risk over the medium term. Thus, going forward, it is important to be aware of potentially vulnerable sectors and concentration to single and group of borrowers (counterparty risk)

Under each scenario, the after-shock CAR is compared with the minimum regulatory CAR requirement of 10 percent. Accordingly, four kinds of credit shocks introduced are as follows:

- (i) What happens when a fixed proportion of doubtful loans turn into loss assets?
- (ii) What happens when a fixed proportion of performing loans turn into non-performing loans?
- (iii) What happens when loans to specific sectors turn into NPL?
- (iv) Concentration risk analysis

RMA Prudential Regulations requires banks to provision for loans based on the level of its quality. Therefore, any increase in NPL would require the banks to set aside additional provisions in order to cover for any potential losses from these loans. These additional provisions are deducted from the capital fund of the

bank, which in turn affects the level of the capital adequacy of the bank.

Credit shock 1: What happens when a fixed proportion of doubtful loans turn into loss assets?

This shock has been introduced to measure the impact on the banking sector's capital stock when certain proportion of doubtful loans turns into loss assets. The degree of provisioning required for loss assets is higher than for doubtful loans. For loss assets (loans) 100 percent of the value of non-performing loan has to set aside as a specific provision as compared to 50 percent provisioning requirement for doubtful loans. As 56 percent of total NPL are in the loss category (25 percent under doubtful category) as of December 2015, a shock of 30 percent of doubtful loans moving into a loss category is assumed, and provisioning those loans at 100 percent.

Result: The result of this shock as measured by the movement of loans from doubtful to loss category indicates that banking system is resilient to this shock occurred in isolation. With 30 percent slippage of loans, the average total Capital Adequacy Ratio (CAR) of the Bhutanese banking system falls slightly from 18.8

percent to 18.7 percent, with none of the banks falling below the minimum regulatory CAR requirement of 10 percent. This is indicating that provisions (specific provisions) provided by banking sector against NPLs are more than the minimum requirement prescribed by RMA Prudential Regulation, as a result, has a little or no impact on the capital adequacy of the banking system. Generally, when the loans move from doubtful to loss category, there is higher provisioning requirement pressure on the banking system. This is assumed to be met through the capital fund of banks, that is, the capital fund decreases by the extent of the additional provisioning required.

Credit Shock 2: What happens when a fixed proportion of performing loans turn into non-performing loans?

Second shock is a situation where asset quality declines, affecting all banks proportionately. This shock was introduced to measure the impact on capital when an additional proportion of hitherto performing loans turn non-performing loans. The extent of provisions kept against performing loans is much lower than that kept against non-performing loans. Hence, an increase in

non-performing loans leads to an increase in the provisioning requirement. As before, the capital stock will be reduced by the extent of the additional provisions required. The following are the assumptions used under this shock:

- (i) 20 percent of performing loans turning into NPL
- (ii) The new NPL will require a uniform provisioning (specific provision) requirement of 25 percent
- (iii) The new NPL will bear a risk weight of 100 percent

Result: Stress test result of shock 2 (figure 14 & 15) revealed that at an aggregate level, a reasonable degree of resilience was observed and CAR of the banking system remained in excess of the minimum regulatory capital requirements. The CAR after this shock falls to 16.3 percent from 18.8 percent, registering gross total losses of 16 percent of the total capital. At an individual level, deterioration in the CAR of few banks were observed, making their CAR just little higher than the minimum requirement of 10 percent. Overall, the credit risk stress test under this shock does not indicate significant cause for concern.

Figure 14: CAR Distribution

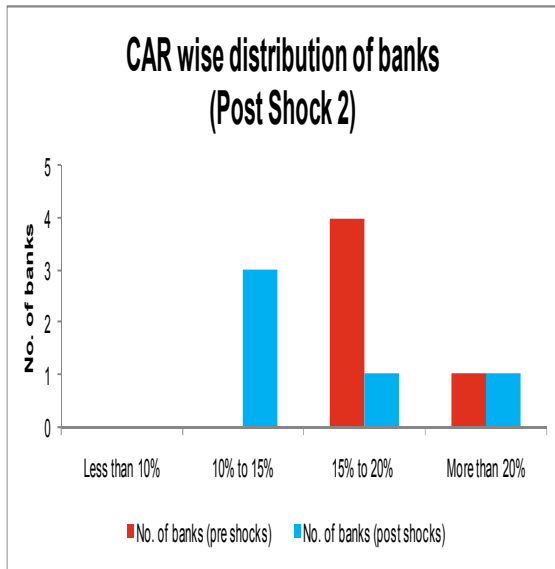
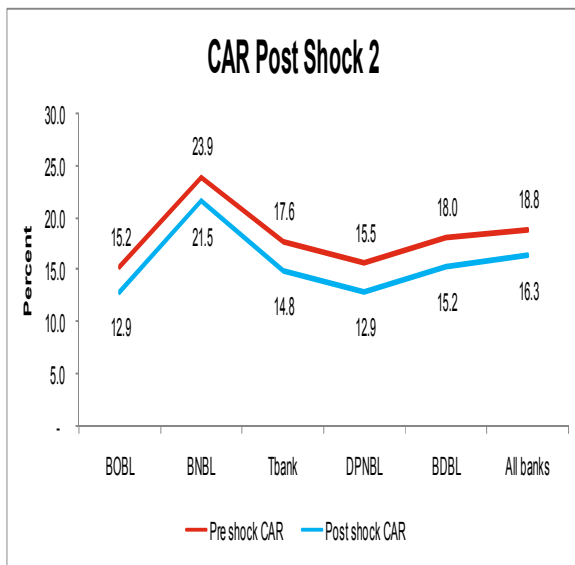


Figure 15: CAR Post-Shock 2



Credit Shock 3: What happens when loans to specific sectors turn into NPL?

Apart from overall decline in the asset quality, shocks in specific sectors may also have a bearing on the banks’ economic value. This test aims to measure the impact on capital when a fixed

proportion of performing loans in specific sectors turn non-performing. The advantage of this test is that we can directly simulate the impact of the emergence of non-performing loans in the vulnerable sectors. This stress test will examine the impact of the combined shock for three sectors (sectors in which banking sector as a whole is highly exposed to): Trade & Commerce, Housing and Personal sectors of the banking system as a whole as well as on the individual bank, although, sector-specific increase in NPLs may have different implications for different banks depending on the relative size of the banks’ credit exposures to these sectors. Housing and personal sector has been assumed for this test, given the fact that housing sector is the highly exposed sector and also prior to 2015, the loans under the personal sector did not have specified purposes and moreover most of the personal loans were also sanctioned for housing purposes. It should be noted that banks being highly exposed to these sectors, any creation of asset bubble would pose a significant risk to the banking sector. Therefore, this test will assess the level of bank resilience, should the vulnerabilities under these sectors

materialize. Similarly, since the NPL under the trade and commerce sector has the highest share of total NPL, the impact on the capital was assessed by further deteriorating the loans under this sector. The assumed shocks for this stress test are as follows;

- (i) 10 percent of performing loans under Trade & Commerce sector becomes NPLs
- (ii) 20 percent of performing loans under Housing sector becomes NPLs
- (iii) 20 percent of performing loans under Personal sector becomes NPLs
- (iv) The new NPLs will require a uniform provisioning (specific provision) requirement of 25 percent
- (v) The new NPLs will bear a risk-weight of 100 percent

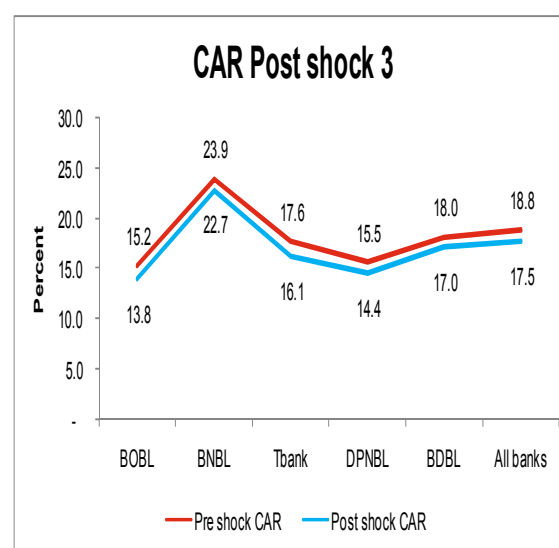
Result: The result of this stress test (figure 16) revealed that the combined shock would increase NPLs, while the single sector shock would have only marginal effect. With this combined shock, it would result in CAR for the banking system, falling from 18.8 percent to 17.5 percent. Although, the CAR of banking system still remains resilient and

above the minimum regulatory requirement and with no single banks falling below the minimum regulatory limit, the banking system accumulates gross total losses of 8 percent of the total capital.

Table 4: Loans and NPL

Performing loans (in Nu. million) Only Principal	All banks	Assumed shocks (% of performing loans in the sector becoming NPLs)	Total increase in NPLs
Agriculture/Animal Husbandry	3,384.46	0%	-
Trade/Commerce	8,526.56	10%	853
Manu/Industry	7,986.85	0%	-
Service/Tourism	9,034.98	0%	-
Housing	14,609.36	20%	2,922
Transport	2,049.90	0%	-
Loan Against Share	523.82	0%	-
Personal Loan	9,418.09	20%	1,884
Government (short term)	-	0%	-
Credit Card	6.95	0%	-
Others	1,285.58	0%	-

Figure 16: CAR Post-Shock 3



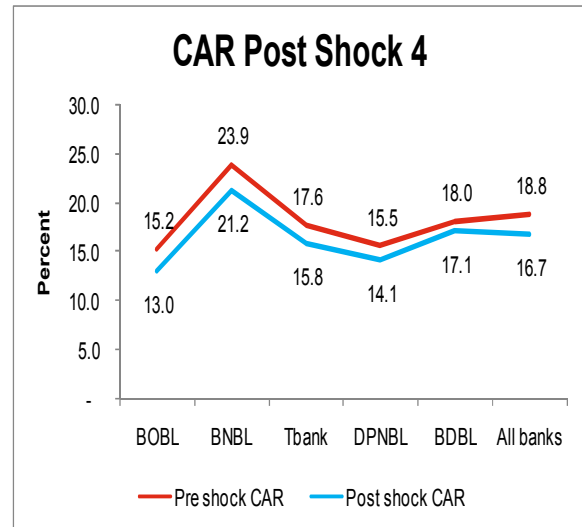
Credit Shock 4: Concentration Risk Analysis

Banking sector is exposed to 'concentration risk' as well. It refers to a situation where the bank's exposures are unevenly distributed among borrowers, sectors or regions. This shock will measure concentration risk by testing for failure of the largest counterparties of all banks. Under this shock, the impact of CAR will be assessed under the assumption that the single largest borrower of a bank would default and capital stock would be reduced by the extent of the additional provisions required.

Result: Consolidated single largest borrower's exposure (figure 17) of the banking system is only 3.9 percent of total loans or 13.2 percent of the total capital. The results indicate that for the mild test (single largest borrower's default) all banks are resilient with post shock CAR of 16.7 percent in the banking sector. However, the results of the calculation suggest that the default of top three largest borrowers exposures of all banks would bring the total average CAR of the banking system to 13.2 percent, and two banks becoming undercapitalized (with

the share of the total system's assets of 47 percent).

Figure 17: CAR Post-Shock 4



Conclusion

Stress testing exercise provided important insights into the resilience of the Bhutanese banking system. These tests help ascertain potential credit risk losses and the capacity of each bank to absorb it along with the additional capital required (CAR). The single and multi-factor sensitivity calculations on credit risks analysis suggest that the overall banking system would be able to withstand credit risk and sector specific shocks occurring in isolation. The credit risk stress tests, therefore, do not indicate significant cause for concern except under extremely stressed scenarios.

2.3 Maintenance of Satisfactory Liquidity Levels

To ensure that banking sector are resilient to a short-term loss of confidence or market disruption, the RMA requires individual bank to hold sufficient quick assets to meet estimated net cash outflows during periods of stress. Statutory Liquidity Requirement (SLR) of the banks stood at 32.68 percent in December 2015 as compared to 44.44 percent in December 2014 as against the mandatory requirement of 20 percent.

2.3.1 Liquidity Management

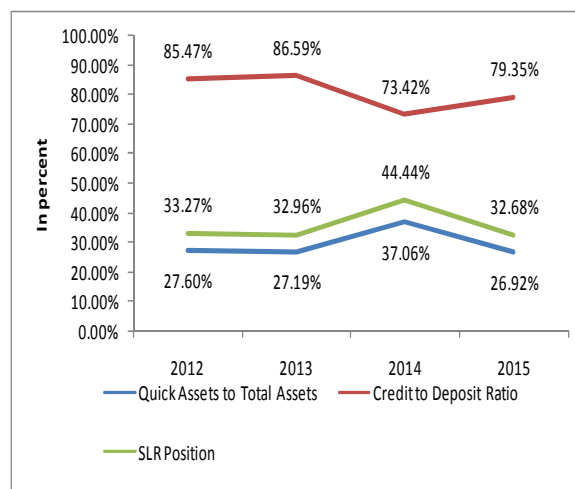
Liquidity management involves the balance sheets of both the central bank and of the commercial banks. The central bank determines the amounts in, and terms on, which it issues its liabilities (base money) to the commercial banks. Commercial banks need to manage their own balance sheets– that is, the ability to pay off their own liabilities.

Bhutan is emerging from a period of considerable liquidity tightness. This was preceded by a period, in 2011-2012, of excessive liquidity build-up, as a result of inflows of foreign exchange to finance hydro project developments. As a result,

banks flush with liquidity, expanded lending at a very rapid rate. Inevitably, this expansion spilled over into imports and external imbalance, resulting in the consequential sharp tightening of liquidity witnessed in 2012 and 2013.

RMA adopted a two-pronged response to the liquidity tightness in 2012-2013. The cash reserve requirement (CRR) for banks was eased, in two stages, first from 17 percent to 10 percent in March 2012 and again, from 10 percent to 5 percent in June 2012 (brought back to 10 percent in 2015). This experience of easing the liquidity pressure has highlighted the need for a more active and forward-looking approach to liquidity management, if similar episodes of instability in liquidity conditions are to be avoided.

Figure 18: Liquidity Position



2.3.2 Liquidity Policy Instruments

Primary instruments currently available to RMA to manage the level of liquidity in the financial system are the CRR and SLR ratios. These ratios can be raised to make liquidity unavailable to support lending expansion, and vice versa. They operate on the quantity of liquidity available to fund lending and thus the quantity of lending that it is possible for banks to undertake.

RMA's capacity to manage domestic liquidity conditions can be further strengthened by measures that help to achieve a level of interest rates consistent with equilibrating the supply of, and demand for loanable funds; that is, that help to develop an interest rate transmission mechanism in Bhutan. In 2012 an important step was taken in this direction with the establishment, in collaboration with the commercial banks, of a 'base rate' system for bank lending. This provides a base from which banks price loans to individual borrowers, according to the risk and tenor of the loan.

A next step for RMA would be to undertake more active and market-based operations to manage the amount of

liquidity in Bhutan's financial system. Those operations can either be by way of sale/purchase of Government of Bhutan Treasury bills or by way of sale/purchase of bills issued by the RMA itself. These operations are needed to anchor the riskless short-term end of the Nu. yield curve at a level consistent with maintenance of liquidity conditions in line with RMA's policy objectives.⁷

2.3.3 Management of Commercial Bank Liquidity

Whilst a central bank provides base money to banking system, the commercial banks need to manage their liquidity so as to be able to pay their obligations on time.

The core underpinning for that is that banks manage their balance sheets so as to maintain demonstrable solvency, i.e., a margin of assets over their liabilities. That requires, mostly, that lending is on terms that provide high levels of assurance that loans will be repaid. In addition, however, it is important that banks underpin confidence in their solvency with demonstrable ability to pay their obligations on time. Banks need to

⁷Longer term rates are determined as the average of expected short rates over the investment or borrowing horizon.

manage their own liquidity – the maturity structure of their liabilities and assets and the availability of cash and assets that can be converted into 'cash' at short notice and little or no risk of loss (quick assets) to achieve that.

Banks in Bhutan hold quite substantial amounts of quick assets. However, as discussed above, the more comfortable position currently follows a period in 2012-2013 during which Bhutan's banks came under liquidity pressures.

In the light of this experience, RMA, in addition to strengthening its monitoring and forecasting of banking system-wide liquidity influences, is planning to extend its monitoring of individual banks' liquidity positions. It plans to do this using a framework based on liquidity standards developed by the Basel Committee on Banking Supervision, for international adoption. The framework comprises two parts-Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). These measures provide a framework better designed for prudential monitoring of, and for banks managing liquidity risk. However, RMA does not propose to apply the LCR and NSFR as regulatory standards at this stage. Rather

the existing Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) requirements will remain in place for the foreseeable future. These, particularly the CRR, currently also play an important role in terms of RMA's management of monetary policy and any change to banks' liquidity requirements would therefore need to take account of that aspect as well.

Table 5: LCR and NSFR

Liquidity coverage ratio (LCR) – which is a measure of a bank's stock of high quality liquid assets relative to the cash outflow, it could face under a short-term (30-day) 'stress scenario'. 30-day cash outflow is estimated by applying percentages to the bank's liabilities payable within 30 days (the percentages varying according to how 'sticky' or 'flighty' different categories of liability could be in a period of financial stress); net of contractual cash inflows during that period. The international standard is that, commencing 2015, banks should hold sufficient high quality liquid assets (balances with RMA or assets that can reliably and quickly be converted into such balances) to cover 60% of 30-day cash outflow, increasing to 100% by 2019.

Net stable funding ratio (NSFR) – a measure of the underlying resilience of a bank's funding sources. This ratio is calculated as the ratio of stable funding (comprising, in broad terms, funding with a term to maturity of at least one year, or from retail sources) to the banks long-term illiquid assets (comprising essentially all assets except for its 'liquid assets'). Internationally this ratio takes formal effect in 2018, at a level of 100%.

2.3.4 Liquidity Stress Test

Liquidity stress tests allow banks to assess the possible impact of exceptional but plausible stress scenarios on their liquidity position. The test will assess the ability of a bank to withstand unexpected deposit withdrawal without recourse to any outside liquidity support. The scenarios have been developed based on unexpected deposit withdrawals in different proportions (depending on the type of deposits). The test assesses the adequacy of liquid assets available to fund these withdrawals. The deposit run is assumed to continue for five days. At the end of each day, we calculate the net cash inflow as the difference between the cash available on account of asset liquidation (since the beginning of the withdrawal pressures) and the cash outflow on account of the deposit withdrawal. If at the end of the day, this net cash inflow is positive, the bank is deemed to be liquid. If not, the bank is illiquid. The following assumptions are made under this liquidity stress test:

- (i) The total unexpected withdrawal of deposits is assumed to take place in the following proportions;

- a. Daily 20 percent of demand deposits in domestic currency will be withdrawn
 - b. Since foreign currency deposits are relatively stable and subject to lesser volatility, daily withdrawal for each bank is assumed at 10 percent.
 - c. Daily withdrawal rate for time deposits in domestic currency and foreign currency are 3 percent and 1 percent respectively since there are restrictions on number of transactions.
- (ii) The bank is assumed to meet stressed withdrawal of deposits through sale of liquid assets based on the following proportions;
- a. 95 percent of the quick assets can be immediately used to meet obligations
 - b. 70 percent of non-quick but liquid assets can be

immediately used to meet obligations

- c. In case of non-liquid assets, it is assumed that only 1 percent can be liquidated to meet obligations.

Result: Stress test results showed that based on the above assumptions, banking system can withstand a quite severe deposit run, although a number of banks becoming illiquid. One bank will not have adequate liquid assets to meet its withdrawal from the 4th day of liquidity stress, with another two banks becoming illiquid on the 5th day. In the worst case scenario, which may force banks to liquidate all their liquid/quick assets, collectively they can manage a run of up to 70 percent of the total demand deposits.

Figure 19: Liquidity Stress Test

Survival	No. of banks	Percent of Assets
Yes	2	35%
No	3	65%

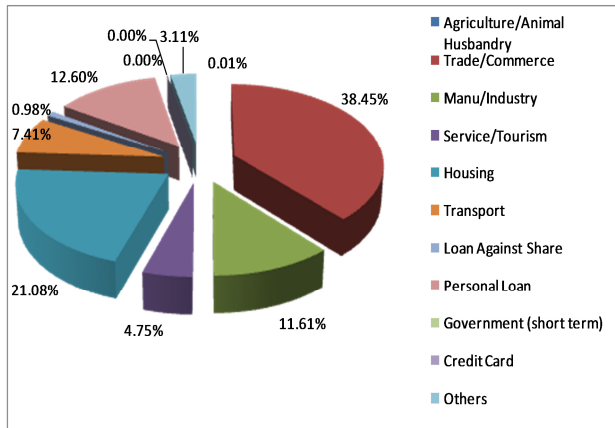
2.4 Non-Banks

Total assets of non-banks recorded a year-on-year growth of 22.81 percent between December 2014 (Nu.12.59 billion) and December 2015 (Nu.15.47 billion). Similar to banking sector, the share of loans and advances is the largest share of the asset item with 80.06 percent. The non-banks' overall credit portfolio increased from Nu. 8.67 billion as of December 2014 to Nu. 12.72 billion as of December 2015 indicating a growth of 46.67 percent. The sector wise distribution of credit shows the largest share of the credit portfolio under the trade/commerce sector with 38.45 percent, followed by housing sector (21.08 percent), personal loan (12.60 percent) and manufacturing/industry sector (11.61 percent).

On the liabilities side, one of the major funding sources of the NBFIs has been domestic borrowings from the financial institutions although there have been other sources such as the sale of life and general insurance policy. During the year, NBFIs borrowed Nu.2.34 billion from the domestic financial institutions which has increased from Nu.1.35 billion in 2014. Of the total domestic borrowings, Nu.1.09 billion was borrowed from other non-bank financial

institutions while Nu.1.24 billion was borrowed from commercial banks. NBFIs also issued a corporate bond worth Nu. 2.5 billion.

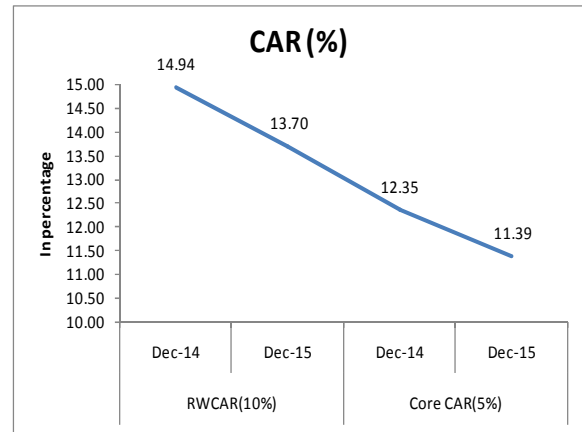
Figure 20: Loans for Non-Banks



2.4.1 Capital Adequacy

The RWCAR of non-banks stood at 13.70 percent in December 2015 as compared to RWCAR of 14.29 percent in December 2014. The risk-weighted assets of the non-banks have increased by 22 percent during the period under review. Non-banks also recorded a leverage ratio of 14.64 percent.

Figure 21: CAR Position



2.4.2 Asset Quality

NPL for non-banks has also increased by 33 percent (from Nu.0.32 billion to Nu.0.42 billion) as against the increase in the total loans by 47 percent (from Nu.8.67 billion to Nu. 12.72 billion). The NPL ratio of non-banks stood at 3.30 percent in December 2015 as compared to 3.64 percent in December 2014.

Sectoral data as of December 2015 indicates that among the broad sectors, trade/commerce sector continued to record the highest NPL of about 50 percent of total NPL, followed by personal and transport sectors at 24 percent and 14 percent respectively.

Figure 22: Sectoral NPL

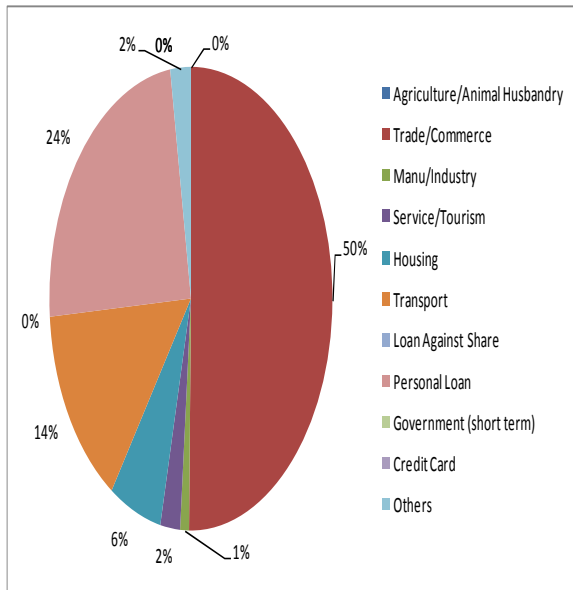
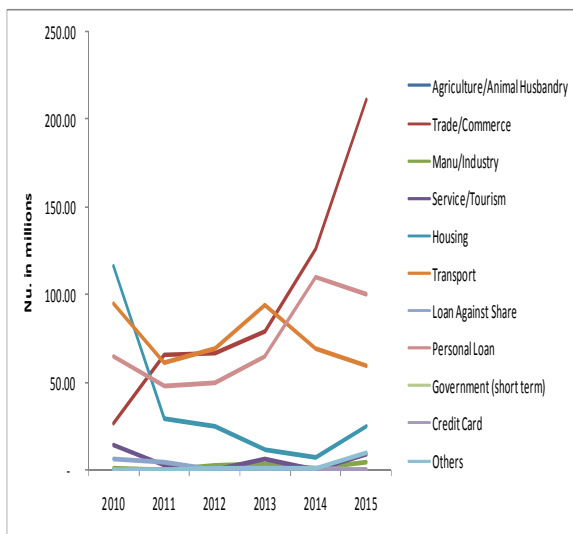


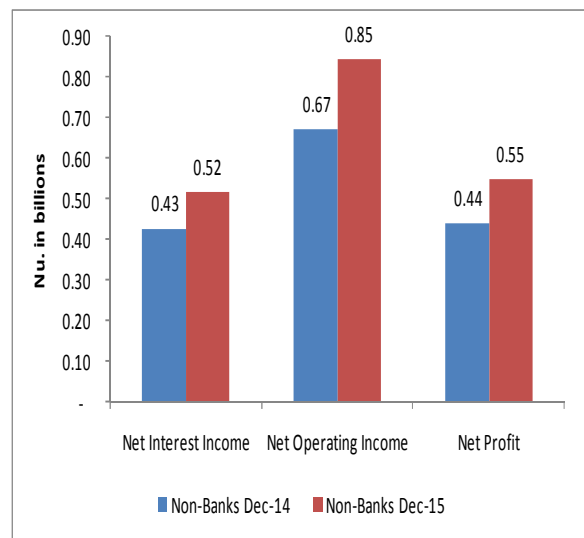
Figure 23: NPL Trend



2.4.3 Profitability

Return on Assets (ROA) and Return on Equity (ROE) increased to 3.99 percent and 19.29 percent respectively as of December 2015 as compared to 3.90 percent and 18.73 percent as of December 2014. Non-banks net profit increased by 24 percent, to Nu.0.55 billion in December 2015 as compared to Nu. 0.44 billion in December 2014. Net interest income also increased by 21 percent during the period under review.

Figure 24: Profitability



Chapter III

Macro-Prudential Regulations

After the global financial crisis, there have been efforts across the world to develop macro-prudential instruments that can be operationalised at desired times. Macro-prudential regulation aims to contain systemic risk. The IMF describes systemic risk as the “risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences on the real economy”⁸.

Macro-prudential policy instruments broadly have two aims. The first is to strengthen the financial system’s resilience to economic downturns and other adverse aggregate shocks. Second, macro-prudential policy instruments can help “lean against the wind” by pro-actively limiting the build-up of financial risks. The same instrument may be capable of serving both functions. For example, the counter-cyclical capital

buffer can mandate banks to increase capital in good times which can be drawn down during bad times. Availability of the buffer could provide a financial institution with the requisite space to maintain the flow of credit even during downturns of the economic cycle—the first function. Moreover, the act of building up additional capital during good times can itself modulate the hitherto excessive flow of credit—the second function.

Currently eight macro-prudential regulations have been notified in Bhutan.

Macro-prudential Regulations in Bhutan and implementation dates are mentioned in the table below:

⁸Monetary and Capital Markets Department, I. M. F., Monetary and Economics Department, Bank for International Settlements, the Secretariat of the Financial Stability Board (2009). Guidance to Assess the Systemic Importance of Financial Institutions, Markets, and Instruments: Initial Considerations—Background Paper. Report to G20 Finance Ministers and Governors. International Monetary Fund, Bank for International Settlements, Financial Stability Board: 27.

Table 6: Macro-Prudential Regulations in Bhutan and Implementation Dates

S.no	Regulation	Implementation Date
1	Minimum Ceiling on the Leverage Ratio	1st November 2014
2	Loan to Value and Loan to Income Restrictions	1st November 2014
3	Debt to Equity ratio for project financing	1st November 2014
4	Restrictions on Distribution of Profits	31st December 2014
5	Time Varying Capital Provisioning and Margin Requirements	1st January 2016 and 1st November 2014 respectively
6	Counter cyclical capital buffer	As per RMA directive (post 2016)
7	Sectoral Capital Requirement	As per RMA directive (post 2016)
8	Disclosure Requirement	January 2016

3.1 Summary of Macro-prudential Regulations

Leverage ratio is meant to serve as a supplementary measure to the CAR, to ensure that the capital stock of the banking sector is adequate, even if the risk weighting procedure is not robust. In Bhutan, it is to be calculated as the ratio of Tier 1 capital to total assets. Total assets refer to the sum of on and off-balance sheet exposures of FIs. The minimum leverage ratio that all financial institutions have to maintain is 3%.

The objective of the **LTV-LTI Regulation** is to mitigate risks of default arising from fall in collateral values or inadequate repayment capacity of borrowers. It is applicable for loans taken for acquiring residential property-for self-occupation, tenancy or commercial sale (e.g. for

constructing a residential complex for sale of the constituent flats). For a loan intended to acquire either type of property, both the LTV and LTI limits shall be applicable at the same time. The limits vary by the type of property to account for the differential risks attached. The limits on the maximum allowable LTI ratio increase with income.

Debt, according to the regulation on **Debt to Equity Ratio for Project Financing** in Bhutan, should finance no more than 75% of the total cost of the project. At least 25% of the project cost should be financed by equity. Moreover, the equity portion of the project must come from the borrower's own resources.

Rationalizing distribution of profits helps attain two objectives. First, it balances the interests of small deposit holders and

shareholders. Second, introducing a standard regulation determining the quantum of dividend payable introduces discipline and uniformity to the practice of dividend distribution across the financial sector. Bhutan's regulation on **Restrictions on Distribution of Profit** requires financial institutions to fulfill two conditions for being able to distribute any profit. These centre on capital adequacy (as measured by CAR) and asset quality (as measured by the net NPL ratio).

Provisioning is generally pro-cyclical implying that during good times, non-performing loans are low and thus the required provisioning is low as well. The reverse is true during bad times when high non-performing loans translate into higher provisioning requirements. This adversely affects already dwindling profits. Dynamic loss provisioning can help alleviate this situation. Bhutan's regulation on **Time Varying Capital Provisioning** helps address this.

The **Counter Cyclical Capital Buffer (CCyB)** aims to safeguard the intermediation activities of financial institutions by ensuring they have adequate capital in hand during the

downward phase of the economic cycle. This is done by building buffers when the economy is in good shape and experiencing a credit boom. 'Good times' are assumed to be signaled when there is excessive credit outstanding in the economy-i.e., the gap of the credit-GDP ratio from its trend value is at least 500 basis points.

Alternatively, the **Sectoral Capital Requirement** can be used when excessive credit is being disbursed in a specific sector. In that case, capital buffers are built against the risk weighted assets of a particular sector. For a sector to qualify for the imposition of the SCR, it must account for 15% or more of the economy's total outstanding credit, and the growth of credit to the sector must exceed the overall growth of credit in the economy by 500 basis points or more.

Regulation on **Disclosure Requirement** specifies the forms and content of the information that financial institutions will disclose at regular intervals to ensure a higher degree of transparency. It will enable stakeholders to take informed decisions with regard to their financial activities.

3.2 Conclusion

The ultimate objective of macro-prudential regulation is to preserve financial stability. This includes making the financial system more resilient and limiting the build-up of vulnerabilities, in order to mitigate systemic risk and ensure that financial services continue to be provided effectively to the real economy. RMA now has many classifications of macro-prudential instruments to be implemented according to the source of systemic risk. For example, credit booms can be addressed by measures that influenced all credit exposures of the banking system. These measures include countercyclical capital buffers, loan loss provisioning requirement and leverage ratio. On the other hand, sectoral vulnerabilities can be contained through a range of sectoral tools that target specific credit categories such as sectoral capital requirements, loan-to-value and loan-income-ratio limits. In line with the objective of macro-prudential regulations, RMA has issued the following guidelines to mitigate exposure to housing sector, personal loans and concentration risk:

(i) Guideline on the Housing Regulations (LTV and LTI Limits)

Such limits were in place in banking system (debt-equity ratio) even before the introduction of macro-prudential regulations but did not adequately cover the housing sector related lending and financing activities. As a result, banks' actual exposure to the housing sector turned out to be higher than suggested by the regulatory caps (debt-equity ratio). Regulations on LTV and LTI for the housing (Guidelines on Commercial Housing Loan and Home Loan 2014) sector help to stem the housing sector boom. LTV and LTI limits are now serving as potentially useful instruments for containing banks' exposure to the housing sector (real estate sector).

(ii) Guideline on Consumer/Personal Loans

Personal lending regulation assumes macro-prudential significance because of its high share in total lending. RMA has capped the personal/consumer loan ceiling to Nu. 500,000 in order to curb the exposure for personal sector and mitigate any potential risk that could arise.

(iii) Guideline on Motor Vehicle Loans

RMA also issued a guideline on motor vehicle loans with regard to the implementation of LTV ratio in respect of credit facilities by banks for the purpose of purchasing the motor vehicles. The LTV ratio for purchasing vehicle varies from 50 percent to 60 percent.

Table 7: LTV Limits for Commercial Housing Loan

Loan Amount	Financing Limit (Loan to collateral value)	
	<i>CH Loan</i>	<i>Second hand Assets</i>
Up to Nu. 5 million	70%	60%
Nu. 5 million above but below or equal to Nu. 20 million	60%	50%
Above Nu. 20 million	50%	40%
<i>Repairs</i>		
Up to Nu. 10 million	50%	

Table 8: LTV Limits for Residential Housing Loan

Loan Amount	Financing Limit (Loan to Collateral value)	
	<i>Home loan</i>	<i>Second hand Assets</i>
Upto Nu. 1 Million	80%	70%
Nu. 1 million above but below Nu. 2 million	70%	60%
Upto Nu. 5 million	60%	50%
<i>Repairs</i>		
Upto Nu. 0.6 million	50%	

Chapter IV

Recent Activities and Developments in Financial Sector Regulation

In order to strengthen the RMA's role as Bhutan's integrated financial regulator, the following sets of regulations, aimed at financial services providers has been implemented:⁹

4.1 Investment Guidelines for Insurance Business

In order to ensure that investments by the insurance companies are carried out in line with international best practices, the RMA issued Investment Guidelines for Insurance Business 2015 for implementation from January 2016. The main objectives of issuing the guidelines are to ensure:

- (i) Investments by the insurance companies are carried out in line with international best practices
- (ii) All insurance assets (investments) are covered by appropriate investments with safety

- (iii) All investments have the level of liquidity to meet their predicted outward cash flow
- (iv) The return on assets is commensurate with the risk of the assets

The guideline will also address the problem of asset liability mismatch of the insurance companies. It details the list and limit of investment in various avenues.

4.2 Credit Information Bureau Regulations

Since the Credit Information Bureau collects a large amount of sensitive personal information, it was necessary to ensure that the Bureau is subject to formal oversight by RMA in order to safeguard the credit data and consumers' interests. As a result, the RMA issued the Credit Information Bureau Regulations 2015.

⁹ Most provision in this section has been sourced from RMA Annual Report 2014/15

4.3 Base Rate System

The Base Rate Operational Guidelines, effective since July 2013, set the standard for calculating the minimum rate below which lending institutions would not lend. In fact, it is designed to be the rate below which lenders would find it unviable to lend. Actual lending rates would be calculated as the sum of the base rate and borrower specific charges-accounting for credit risk premium, time premium and so on.

The third Base Rate Review was conducted with the representatives of the commercial banks from May 4-6, 2015. The base rate for 2015 was computed in line with the audited annual accounts for the year 2014 and the standing provisions contained in the Revised Base Rate Operational Guidelines. In order to promote the flow of credit towards priority sectors, the RMA continued to provide the following exemptions on the base rate framework to the financial institutions:

- Loans for the agricultural sector;
- Loans for small businesses and artisan schemes;
- Entrepreneurship Development Program (EDP) loans;

- Staff incentive loans;
- Loans against fixed deposits;
- Pension membership loans of the NPPF.

RMA also encourage the banks to work towards initiating variable interest rate system and semi-annual computation of the base rate. Currently, the base rate is being computed on an annual basis with a one-year time lag.

4.4 Reserve Management Policy

Reserve Management Policy was also implemented in 2015 empowering RMA with the responsibility to manage, monitor and invest the country's foreign exchange reserve in a more prudent and efficient manner through upholding the principal objective of safety, liquidity and return. The RMA's recent efforts have focused on managing recurrent pressures on Indian Rupee reserves. The operational threshold for convertible currency reserves established as part of the RMA's reserve management policy has ensured adequate composition of reserves between the Indian Rupee and other convertible currency to position for Indian Rupee needs. As such in 2015, the RMA has not availed any short-term

overdraft since June 2013 and the Indian Rupee Swap loan from the RBI was also fully liquidated in September 2013 (RMA Monetary Policy Statement, May 2015).

4.5 Payments and Settlement System

Moving forward with the payment systems reform process, the RMA is currently working on the following projects, namely the:

- implementation of the bank-led model Interbank Mobile Payment System (IMPS) which offers round the clock, interbank funds transfer facility through mobile phones, internet banking, etc on a real time basis;
- integration of Bhutan Financial Switch (BFS) with the National Financial Switch (NFS) of National Payments Corporation of India which will facilitate the use of ATM cards issued by Bhutanese banks in India and vice versa;
- formation of a National Payments Council which will provide overall guidance for the development of payment and settlement systems of the country.

4.6 Central Registry

Central Registry for Secured Transaction (CRST) is a division under the Credit Information Bureau of Bhutan established with the executive directive from the Royal Government of Bhutan and acts as a single and centralized repository for all security interest in moveable property. The Central Registry for Secured Transaction is in operation since July 1st 2014.

The purpose of the Central Registry of Secured Transaction (CRST) in moveable property is a computer registry that serves the entire Kingdom of Bhutan. The CRST allows both individual and institutions to record their financial interest in moveable goods (vehicles, stocks, shares, etc.). The benefit of the registry is that it improves the access to credit by allowing more types of moveable collateral to be used in loan. The registry allows more certainty for secured parties on where they stand in terms of priority in relation to other secured parties having the same moveable collateral pledged.

Annexures

Annexure 1

Financial Soundness Indicators of Financial Institutions

Indicators	Dec-13	Dec-14	Dec-15
Capital			
<i>RWCAR(10%)</i>	19.61%	18.76%	17.81%
<i>Core CAR(5%)</i>	17.50%	14.76%	14.35%
<i>Leverage Ratio</i>	14.27%	12.27%	12.92%
Asset Quality			
<i>NPLs to Total Loan</i>	6.57%	6.33%	6.03%
<i>Provision to NPL</i>	67.78%	68.39%	63.32%
<i>Net NPL to Net Loan</i>	2.21%	1.35%	1.50%
<i>Single Largest Borrower</i>	17.55%	15.67%	14.54%
<i>Ten Largest Borrower</i>	19.54%	17.81%	16.94%
Earning			
<i>Return on Asset(ROA)</i>	2.37%	2.27%	2.58%
<i>Return on Equity(ROE)</i>	13.44%	13.06%	14.48%
<i>Profit After Tax(Nu. in million)</i>	Nu.1,956.36	Nu.2,246.40	Nu.2,833.91
Liquidity			
<i>Liquid asset Ratio</i>	23%	26%	17%
<i>Loans to Deposits ratio</i>	86.59%	73.42%	79.35%
<i>Statutory Liquidity Requirement</i>	31.83%	42.41%	30.49%
<i>Excess Liquidity(Nu. in million)</i>	Nu.9,136.15	Nu.21,456.02	Nu.11,380.74

Annexure 2

Sectoral Loan Trend (December 2013-2015)

Sectoral Loan trend from Dec 2013-2015				Nu.in Billion	
Sector	Total FIs			TREND	% Holding(2015)
	Dec-13	Dec-14	Dec-15		
Agriculture/Animal Husbandry	1,745.42	2,652.93	3,829.64		8.48%
Trade/Commerce	7,301.21	9,888.14	14,283.60		22.51%
Manu/Industry	9,974.40	10,230.03	10,153.21		9.49%
Service/Tourism	7,040.59	8,859.81	10,888.78		17.75%
Housing	15,506.41	16,414.67	18,288.42		18.22%
Transport	3,246.85	2,391.02	3,216.45		5.92%
Loan Against Share	577.39	702.59	652.16		0.02%
Personal Loan	10,406.60	11,496.78	11,751.13		16.84%
Credit Card	6.40	8.63	12.99		0.17%
Others	1,655.46	1,345.24	1,701.25		0.60%
Total	57,460.73	63,989.85	74,777.63		100.00%






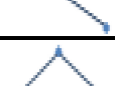





Annexure 3

Loan Classification (December 2014-2015)

Consolidated Loan Classification of the FIS - December 2015						(Nu. in million)		
Loans and Advances	Banks		NBFIs		TOTAL		% Change	Absolute Change
	Dec-14	Dec-15	Dec-14	Dec-15	Dec-14	Dec-15		
Performing loans	51,582.91	57,966.49	8,356.53	12,299.07	59,939.44	70,265.56	17.23%	10,326.12
Standard	46,748.22	52,909.72	7,553.37	11,319.14	54,301.59	64,228.86	18.28%	9,927.27
Watch (up to 90 days)	4,834.69	5,056.76	803.16	979.93	5,637.85	6,036.69	7.07%	398.85
Non-performing loans	3,735.16	4,092.28	315.25	419.79	4,050.41	4,512.07	11.40%	461.65
Substandard (91 to 180 days)	819.71	1,018.62	96.10	75.95	915.81	1,094.57	19.52%	178.76
Doubtful (181 to 365 days)	877.34	823.90	58.06	84.53	935.40	908.44	-2.88%	-26.96
Loss (366 days & above)	2,038.11	2,249.75	161.09	259.31	2,199.20	2,509.06	14.09%	309.86
Total	55,318.07	62,058.76	8,671.78	12,718.86	63,989.85	74,777.63	16.86%	10,787.78

Annexure 4

Sectoral NPL Trend (December 2013-2015)

Sectoral NPL trend from Dec 2013-2015				Nu.in million	
Sector	Total Fls			TREND	% Holding(2015)
	Dec-13	Dec-14	Dec-15		
Agriculture/Animal Husbandry	181.61	250.30	382.80		8.48%
Trade/Commerce	993.63	937.13	1010.00		22.51%
Manu/Industry	387.58	548.70	428.46		9.49%
Service/Tourism	449.87	446.04	800.58		17.75%
Housing	451.00	768.31	822.01		18.22%
Transport	437.45	386.21	267.28		5.92%
Loan Against Share	0.72	1.60	0.80		0.02%
Personal Loan	508.00	693.21	769.02		16.84%
Credit Card	3.11	3.80	6.00		0.17%
Others	360.00	15.12	25.11		0.60%
Total	3,772.96	4,050.41	4,512.07		100.00%

Annexure 5

Consolidated Deposits by Type (2014 and 2015)

Consolidated Deposit by Type - December 2015		FIGURES IN MILLIONS		
Deposits by type	Banks		% CHANGE	% Holding (Dec 2015)
	Dec-14	Dec-15		
Demand Deposits	41,401.38	40,500.28	-2.18%	51.78%
<i>Current Deposits</i>	24,155.97	21,450.82	-11.20%	27.43%
<i>Savings Deposits</i>	17,245.41	19,049.46	10.46%	24.36%
Time Deposits	33,942.61	37,713.09	11.11%	48.22%
<i>Fixed Deposits</i>	32,853.12	36,472.45	11.02%	46.63%
<i>Recurring Deposits</i>	1,089.49	1,240.65	13.87%	1.59%
Total	75,343.99	78,213.37	3.81%	100.00%

Annexure 6

Summary of Consolidated Profit/Loss Account (December 2014-2015)

Particulars (Nu. In Million)	Banks		Non-Banks		Total Fls		% Change
	Dec-14	Dec-15	Dec-14	Dec-15	Dec-14	Dec-15	
Interest Income	6,409.89	7,361.78	1,183.21	1,472.33	7,593.10	8,834.11	16.34%
Interest Expenses	2,838.18	3,283.96	753.82	952.35	3,592.00	4,236.31	17.94%
Net Interest Income	3,571.71	4,077.82	429.39	519.98	4,001.10	4,597.80	14.91%
Net Operating Income	2,701.18	3,218.96	674.80	846.89	3,375.98	4,065.85	20.43%
Profit before Tax	2,497.35	3,159.14	632.51	786.77	3,129.85	3,945.91	26.07%
Tax	693.70	875.96	189.75	236.03	883.45	1,111.99	25.87%
Profit after Tax	1,803.65	2,283.18	442.76	550.74	2,246.40	2,833.91	26.15%

Annexure 7

Asset Quality Pre-Shock December 2015 (Stress Testing)

	All Banks	State-Owned Bank (SB)	Domestic Private Bank (DB)	Foreign Bank
Total loans (only principal amount)	60,402	32,957	23,067	4,377
Performing loans	56,827	31,076	21,543	4,208
Standard Loans	51,882	28,754	19,184	3,944
Watch Loans	4,945	2,322	2,358	264
Non performing loans (NPLs)	3,576	1,882	1,525	169
Substandard loans	734	339	340	54
Doubtful loans	630	469	144	17
Loss loans	1,839	803	945	91
Loans with highest exposure				
Substandard loans	246	191	55	0
Doubtful loans	126	79	41	7
Provisions held (General and Specific)	3,171	1,603	1,413	155
Regulatory capital	17,986	8,664	8,242	1,081
Risk-weighted assets (RWA)	95,893	53,542	35,380	6,970
Capital adequacy ratio (CAR) pre-shock	18.8	16.2	23.3	15.5
NPLs (gross)/total loans (gross)	5.9	5.7	6.6	3.9
(NPLs-specific provisions)/capital	5.6	7.0	4.1	5.3

* *State-Owned Bank: Bank of Bhutan Limited and Bhutan Development Bank Limited*

* *Domestic Private Bank: Bhutan National Bank Limited and T-Bank Limited*

* *Foreign Bank: Druk Punjab National Bank Limited*

Annexure 8

Credit Shock 1 - December 2015

	All Banks	State-Owned Bank (SB)	Domestic Private Bank (DB)	Foreign Bank
Shock 1. "Underprovisioning"				
Assumed provisioning rates (%)				
Standard Loans	1			
Watch Loans	1.5			
Substandard loans	15			
Doubtful loans	50			
Loss loans	100			
Sub standard Loan (highest exposure)	30			
Doubtful loans (highest exposure)	60			
% of doubtful loans moving to loss category	30			
New value of loans				
Standard Loans	51,882	28,754	19,184	3,944
Watch Loans	4,945	2,322	2,358	264
Substandard loans	734	339	340	54
Doubtful loans	441	329	101	12
Loss loans	2,066	967	1,001	98
Doubtful loans (highest exposure)	88	55	29	5
Provisions needed	3,117	1,595	1,363	158
Provisions held	3,171	1,603	1,413	155
Of which				
<i>Required provisions (pre-specified ratios)</i>	3,007	1,516	1,336	155
<i>Discretionary element of provisions</i>	164	87	77	0
Provisions to be made	70	62	5	3
Capital post-shock	17,917	8,602	8,237	1,077
Impact on RWA/impact on capital (%)	100			
RWA post-shock	95,824	53,481	35,376	6,967
Capital adequacy post-shock	18.7	16.1	23.3	15.5
Capital adequacy change	-0.1	-0.1	0.0	0.0

Annexure 9

Credit Shock 2 - December 2015

	All Banks	State-Owned Bank (SB)	Domestic Private Bank (DB)	Foreign Bank
Shock 2. "Proportional increase in NPLs"				
Assumed increase in NPLs (%)	20			
The increase is proportional to: existing performing loans				
Additional NPLs	11,365	6,215	4,309	842
Assumed provisioning of the additional NPLs (%)	25			
Additional provisions	2,841	1,554	1,077	210
Capital post-shock	15,145	7,110	7,165	870
Impact on RWA/impact on capital (%)	100			
RWA post-shock	92,982	51,927	34,299	6,757
Capital adequacy post-shock	16.3	13.7	20.9	12.9
Capital adequacy change	-2.5	-2.5	-2.4	-2.6
Capital adequacy overall change (provisioning and increase in NPLs)	-2.5	-2.6	-2.4	-2.7
Memo items:				
Post-shock NPLs	14,941	8,097	5,833	1,011
Post-shock NPL/total loan ratio	25	25	25	23
Post-shock provisions/NPLs	40	39	43	36

Annexure 10

Credit Shock 3 - December 2015

	All Banks	State-Owned Bank (SB)	Domestic Private Bank (DB)	Foreign Bank
Shock 3. "Sectoral shocks to NPLs"				
<i>Structure of lending (in Nu. million)</i>				
<i>Total loans (Only Principal)</i>	60402	32957	23067	4377
Agriculture/Animal Husbandry	3727	3725	2	1
Trade/Commerce	9207	2955	5763	488
Manu/Industry	8373	4115	3644	614
Service/Tourism	9736	4848	3757	1131
Housing	15306	7301	6816	1189
Transport	2224	1186	923	115
Loan Against Share	524	172	92	261
Personal Loan	9995	7767	1720	508
Government (short term)	0	0	0	0
Credit Card	11	6	5	0
Others	1300	883	346	71
<i>Nonperforming loans (in Nu. million)</i>				
<i>Only principal</i>	3576	1882	1525	169
Agriculture/Animal Husbandry	343	341	1	0
Trade/Commerce	680	232	426	23
Manu/Industry	386	96	277	13
Service/Tourism	701	316	344	42
Housing	697	370	320	7
Transport	174	97	69	8
Loan Against Share	1	0	1	0
Personal Loan	577	425	77	75
Government (short term)	0	0	0	0
Credit Card	4	1	3	0
Others	14	5	8	1

<i>Performing loans (in Nu. million) Only</i>	56827	31076	21543	4208
<i>Principal</i>				
Agriculture/Animal Husbandry	3384	3383	1	0
Trade/Commerce	8527	2723	5338	466
Manu/Industry	7987	4018	3368	601
Service/Tourism	9035	4533	3413	1089
Housing	14609	6931	6496	1182
Transport	2050	1089	854	107
Loan Against Share	524	172	91	261
Personal Loan	9418	7342	1643	434
Government (short term)	0	0	0	0
Credit Card	7	5	2	0
Others	1286	878	338	69
<i>Assumed shocks (% of performing loans in the sector becoming NPLs)</i>				
Agriculture/Animal Husbandry	0			
Trade/Commerce	10			
Manu/Industry	0			
Service/Tourism	0			
Housing	20			
Transport	0			
Loan Against Share	0			
Personal Loan	20			
Government (short term)	0			
Credit Card	0			
Others	0			
New NPLs (from the affected sectors)	5,658	3,127	2,162	370
Assumed provisioning rate (%)	25			
Provisions Required	1,415	782	540	92
Capital (post-shock)	16,572	7,882	7,701	988
Change in RWA/change in capital	100			
RWA (post-shock)	94,479	52,761	34,840	6,878
CAR (post-shock)	17.5	14.9	22.1	14.4
CAR (change)	-1.2	-1.2	-1.2	-1.1
CAR (overall change, including the underprovisioning)	-1.2	-1.2	-1.2	-1.1

Annexure 11

Credit Shock 4 -December 2015

	All Banks	State-Owned Bank (SB)	Domestic Private Bank (DB)	Foreign Bank
Shock 4. Large exposures				
Number of large exposures becoming NPLs	1			
Assumed provisioning rate (%)	100			
Additional provisions	2,379	1,097	1,167	115
Capital (post-shock)	15,608	7,567	7,075	965
RWA (post-shock)	93,515	52,446	34,214	6,855
CAR (post-shock)	16.7	14.4	20.7	14.1
SLB to Capital ratio	13.2%	12.7%	14.2%	10.7%
SLB to loan ratio	3.9%	3.3%	5.1%	2.6%

Annexure 12

Liquidity Stress Test

	All Banks	State-Owned Bank (SB)	Domestic Private Bank (DB)	Foreign Bank
Demand deposits (domestic currency)	39,237	25,550	9,391	4,296
Withdrawn per day (%)				
Demand deposits (foreign currency)	1,263	833	411	20
Withdrawn per day (%)				
Time deposits (domestic currency)	37,713	19,939	15,200	2,574
Withdrawn per day (%)				
Quick Assets	27,479	15,663	8,945	2,872
Available per day (%)				
Non-quick but liquid assets	1,333	798	445	89
Available per day (%)				
Non-liquid assets	73,261	41,657	26,163	5,440
Available per day (%)				
Day #				
1				
Demand deposits (domestic)	7,847	5,110	1,878	859
Demand deposits (foreign)	126	83	41	2
Time deposits (domestic)	1,886	997	760	129
New cash outflow (during day 1)	9,859	6,190	2,679	990
Quick assets (available on day 1)	26,105	14,880	8,497	2,728
Non-quick but liquid assets (available on day 1)	933	559	312	62
Non-liquid assets (available on day 1)	733	417	262	54
New cash inflow (during day 1)	27,771	15,855	9,071	2,845
Net cash inflow since beginning of run	17,911	9,665	6,391	1,855
Liquid? (1=yes, 0=no)	1	1	1	1
2				
Demand deposits (domestic)	6,278	4,088	1,503	687
Demand deposits (foreign)	114	75	37	2
Time deposits (domestic)	1,791	947	722	122
New cash outflow (during day 2)	8,183	5,110	2,262	811
Quick assets (available on day 2)	1,305	744	425	136
Non-quick but liquid assets (available on day 2)	280	168	94	19
Non-liquid assets (available on day 2)	725	412	259	54
New cash inflow (during day 2)	2,310	1,324	777	209
Net cash inflow since beginning of run	12,039	5,879	4,907	1,253
Liquid? (1=yes, 0=no)	1	1	1	1

3					
	Demand deposits (domestic)	5,022	3,270	1,202	550
	Demand deposits (foreign)	102	67	33	2
	Time deposits (domestic)	1,702	900	686	116
	New cash outflow (during day 3)	6,826	4,238	1,921	668
	Quick assets (available on day 3)	65	37	21	7
	Non-quick but liquid assets (available on day				
2)		84	50	28	6
	Non-liquid assets (available on day 3)	718	408	256	53
	New cash inflow (during day 3)	867	496	306	66
	Net cash inflow since beginning of run	6,080	2,137	3,292	651
	Liquid? (1=yes, 0=no)	1	1	1	1
4					
	Demand deposits (domestic)	4,018	2,616	962	440
	Demand deposits (foreign)	92	61	30	1
	Time deposits (domestic)	1,617	855	652	110
	New cash outflow (during day 4)	5,727	3,532	1,643	552
	Quick assets (available on day 4)	3	2	1	0
	Non-quick but liquid assets (available on day				
2)		25	15	8	2
	Non-liquid assets (available on day 4)	711	404	254	53
	New cash inflow (during day 4)	739	421	263	55
	Net cash inflow since beginning of run	1,092	-974	1,912	154
	Liquid? (1=yes, 0=no)	1	0	1	1
5					
	Demand deposits (domestic)	3,214	2,093	769	352
	Demand deposits (foreign)	83	55	27	1
	Time deposits (domestic)	1,536	812	619	105
	New cash outflow (during day 5)	4,833	2,960	1,415	458
	Quick assets (available on day 5)	0	0	0	0
	Non-quick but liquid assets (available on day				
2)		8	5	3	1
	Non-liquid assets (available on day 5)	704	400	251	52
	New cash inflow (during day 5)	711	405	254	53
	Net cash inflow since beginning of run	-3,029	-3,529	750	-251
	Liquid? (1=yes, 0=no)	0	0	1	0