Bhutan’s Indian Rupee Shortage: Macroeconomic Causes and Cures

With over 74% of Bhutan’s trade taking place with India, ample holdings of Indian rupee reserves are critical for trade. In 2011, pressures on rupee holdings extended to levels unable to be matched by official rupee holdings, resulting in liquidity or rupee crisis. This chapter analyzes the causes and cures of the Indian rupee crisis and finds that excessive monetary growth, inflation differentials between India and Bhutan, and terms of trade imbalances were key factors in the Bhutanese liquidity crisis. It provides recommendations for the ongoing management of rupee reserve holdings.

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Bhutan’s Indian Rupee Shortage: Macroeconomic Causes and Cures

Karma Ura

Karma Ura is the President of the Centre for Bhutan Studies and GNH Research. The author would like to thank Hoe Yun Jeong, senior economist, Asian Development Bank for his comments and guidance.
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ABSTRACT

With over 74% of Bhutan’s trade taking place with India, ample holdings of Indian rupee reserves are critical for trade, a lot of which includes importing essential food items from India. In addition to trade, much of Bhutan’s public debt, and even private consumption debt for Indian sourced consumption goods—which has been growing along with rapid economic growth—is denominated in rupees. Servicing this debt thus also necessitates rapid conversion of ngultrum to rupees. In 2011, these combined pressures on rupee holdings extended to levels unable to be matched by official rupee holdings, resulting in what has come to be known as the liquidity or rupee crisis. This paper analyzes the causes and cures of the Indian rupee crisis and finds that excessive monetary growth, inflation differentials between India and Bhutan, and terms of trade imbalances were key factors in the Bhutanese liquidity crisis. It provides recommendations for the ongoing management of rupee reserve holdings.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BNB</td>
<td>Bhutan National Bank</td>
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<tr>
<td>BOB</td>
<td>Bank of Bhutan</td>
</tr>
<tr>
<td>BOIC</td>
<td>Business Opportunities and Information Centre</td>
</tr>
<tr>
<td>BOP</td>
<td>balance of payment</td>
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<tr>
<td>CPI</td>
<td>consumer price index</td>
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<td>DCP</td>
<td>Dungsam Cement Project</td>
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<td>DPNB</td>
<td>Druk Punjab National Bank</td>
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<tr>
<td>FDI</td>
<td>foreign direct investment</td>
</tr>
<tr>
<td>FYP</td>
<td>five year plan</td>
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<tr>
<td>GDCF</td>
<td>gross domestic capital formation</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>GDS</td>
<td>gross domestic saving</td>
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<td>NFA</td>
<td>net foreign assets</td>
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<td>NSB</td>
<td>National Statistics Bureau</td>
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<tr>
<td>ODA</td>
<td>official development assistance</td>
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<tr>
<td>PPP</td>
<td>purchasing power parity</td>
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<tr>
<td>RMA</td>
<td>Royal Monetary Authority of Bhutan</td>
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<td>RTC</td>
<td>Royal Thimphu College</td>
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<td>SAFTA</td>
<td>South Asian Free Trade Area</td>
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1 INTRODUCTION

1. This paper analyzes the causes and cures of Indian rupee shortage in Bhutan from a macroeconomic point of view. The term rupee and Indian rupee are used interchangeably throughout the paper.

2. The Indian rupee shortage erupted severely first in early 2012 and has persisted since then. Many quantitative restrictions and controls on Indian rupee access have been introduced. The rupee shortage has not abated after reaching a critical point in 2012 and 2013. While there is a search for more effective fiscal and monetary policies, people had to reconcile to rupee shortage as a new feature of the economy. Black market in the border towns of India and Bhutan where one ngultrum (Nu1) is exchanged for Rs0.90 to Rs0.93 has emerged, showing that effectively, the ngultrum has depreciated. The ngultrum is the Bhutanese currency, which is officially pegged to the Indian rupee on par.

3. Neither borrowing Indian rupee regularly from India—as happened in the past—nor official devaluation of the ngultrum to stem the Indian rupee shortage, is an attractive option. Hence Bhutan has to initiate action to avoid both eventualities. A blend of theoretical and empirical understanding of how the Indian rupee shortage came about is key to the solution. A clear analysis of the problem can lead to knowing cause and effect relationship. Treating the major causes of the Indian rupee shortage is necessary to end it. With that aim, this paper looks back at the Indian rupee crisis to draw lessons for the future.

4. In section 2, the paper gives an account of macroeconomy of Bhutan with latest data available. It aims to provide a broader context of the economy for understanding the rupee shortage. The Bhutanese economy is small and open, open most toward India, and it is characterized macroeconomically by a fixed exchange regime with very limited capital mobility and downward price rigidity. These factors are fundamental features of the Bhutanese economy and should be borne in mind while discussing macroeconomic solutions. Various aspects of the economy of Bhutan like growth, employment, inflation, trade, public finances, external and internal debt service payment, and debt stock, are introduced to give a quick overview of the economy. The consumer price index (CPI) basket for Bhutan is also discussed briefly because of the larger role a higher inflation in Bhutan compared to India has in creating current account deficit.

5. Section 3 examines the causes of the Indian rupee crisis in detail. The last parts discuss the policy implications of the experience of Indian rupee shortage and delineate lessons for future.

2 ECONOMY’S SALIENT FEATURES

2.1 Growth and Sectoral Composition

6. Since 2008, the average real economic growth recorded has been about 6.4% (National Accounts Statistics, 2013 and 2014). Gross domestic product (GDP) in constant prices was Nu 52.5 billion in 2013. In nominal terms, the GDP was close to Nu104.3 billion in 2013, leading to an estimated per capita of $2,440. At purchasing power parity (PPP), the GDP per capita was about $7,425 in 2013.
7. The fluctuation in growth rates is mainly caused by investment (gross domestic capital formation \([\text{GDCF}]\)), which is erratic (Table 1). This is in turn caused primarily by fluctuations in investment on hydropower plants’ construction and their commissioning. For example in 2007, the sharp increase in growth was caused by the commissioning of the Tala Hydropower Project. The electricity and construction sectors, which are correlated highly with hydropower plants’ construction, together compose about 30% of the economy. However, farming and livestock sectors employ most Bhutan nationals, and provide livelihood. Sixty percent of the total employed population work in the agriculture sector, compared to 19% in private business, and 3% in the private corporations. The government directly employs 17% as civil servants in its agencies and public corporations (Ministry of Labour and Human Resources, 2012). The farming sector has very low productivity due to lack of mechanization and other technological inputs.

2.2 Public Spending

8. Bhutan’s revenue to GDP ratio in the last 5 years averaged about 25%. Tax revenue forms about 66% of the total domestic revenue. Of this 66%, 40% comes from corporate income tax. Nontax revenue, such as profits and dividends, is generated mostly by the electricity sector. Revenue has been growing at about 10.3% a year.

9. Ratio of current expenditure to GDP has fluctuated between 15% and 22% in the last 10 years, with a long-term average of 18%. An annual growth rate of 18% in current expenditure is exceptionally high. Current expenditure is met mandatorily from domestic revenues as required by the constitution. Capital expenditures are financed by development assistance. If revenue grows at about 10% and
current expenditure grows at about 18%, there is bound to be a yawning gap that has to be closed by one of the three options: external assistance, increases in revenue from hydropower, or deficit finance.

### Table 1: Economic Growth and GDP Aggregates

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Nominal (Nu million)</th>
<th>GDP Constant (Nu million)</th>
<th>Real GDP Growth (%)</th>
<th>GDP Per capita ($)</th>
<th>Electricity (% of GDP)</th>
<th>Construction (% of GDP)</th>
<th>Agriculture (% of GDP)</th>
<th>Manufacturing (% of GDP)</th>
<th>Services % (GDP)</th>
<th>GDCF (% of GDP)</th>
<th>GDS (% of GDP)</th>
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<tbody>
<tr>
<td>2005</td>
<td>36,581.0</td>
<td>28,412.0</td>
<td>8.8</td>
<td>1,290.0</td>
<td>10.1</td>
<td>17.2</td>
<td>22.3</td>
<td>7.1</td>
<td>41.7</td>
<td>56.4</td>
<td>31.7</td>
</tr>
<tr>
<td>2006</td>
<td>41,443.0</td>
<td>30,218.0</td>
<td>6.9</td>
<td>1,387.0</td>
<td>13.1</td>
<td>14.8</td>
<td>21.4</td>
<td>7.6</td>
<td>40.9</td>
<td>45.6</td>
<td>33.0</td>
</tr>
<tr>
<td>2007</td>
<td>49,456.0</td>
<td>36,170.0</td>
<td>17.9</td>
<td>1,815.0</td>
<td>20.4</td>
<td>13.7</td>
<td>18.7</td>
<td>8.2</td>
<td>37.3</td>
<td>40.0</td>
<td>37.3</td>
</tr>
<tr>
<td>2008</td>
<td>54,744.0</td>
<td>37,964.0</td>
<td>4.7</td>
<td>1,874.0</td>
<td>21.1</td>
<td>11.4</td>
<td>18.4</td>
<td>8.4</td>
<td>38.4</td>
<td>30.6</td>
<td>40.2</td>
</tr>
<tr>
<td>2009</td>
<td>61,220.0</td>
<td>40,661.7</td>
<td>6.7</td>
<td>1,852.0</td>
<td>19.3</td>
<td>12.2</td>
<td>18.2</td>
<td>8.2</td>
<td>39.8</td>
<td>35.4</td>
<td>40.5</td>
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<tr>
<td>2010</td>
<td>72,496.0</td>
<td>45,432.0</td>
<td>11.7</td>
<td>2,278.0</td>
<td>21.8</td>
<td>15.1</td>
<td>14.5</td>
<td>8.7</td>
<td>35.4</td>
<td>39.6</td>
<td>36.4</td>
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<td>2011</td>
<td>84,950.0</td>
<td>49,017.0</td>
<td>8.6</td>
<td>2,571.0</td>
<td>21.8</td>
<td>16.2</td>
<td>14.5</td>
<td>8.2</td>
<td>35.4</td>
<td>52.0</td>
<td>34.5</td>
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<tr>
<td>2012</td>
<td>97,453.0</td>
<td>51,503.0</td>
<td>4.6</td>
<td>2,533.0</td>
<td>13.8</td>
<td>16.0</td>
<td>17.0</td>
<td>9.0</td>
<td>42.0</td>
<td>52.0</td>
<td>35.4</td>
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<td>2013</td>
<td>104,378.0</td>
<td>52,556.0</td>
<td>2.1</td>
<td>2,440.0</td>
<td>12.4</td>
<td>16.9</td>
<td>16.2</td>
<td>8.5</td>
<td>38.0</td>
<td>67.9</td>
<td>47.3</td>
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</table>

GDCF = gross domestic capital formation, GDP = gross domestic product, GDS = gross domestic savings, Nu = ngultrum.

10. External assistance (official development assistance [ODA] in terms of both grants and soft loans) comprised about 34% of total expenditure in the fiscal year (FY) 2013–2014 (Selected Economic Indicators, Dec. 2014), down from 43% in FY 2009–2010, for instance. External grants as a percentage of total ODA as well as absolute amount have decreased in recent years. India has been Bhutan's biggest development partner, contributing on average about 68% of total grant inflows over the last decade. Other important donors include ADB, Austria, Denmark, the European Union, Japan, the Netherlands, Switzerland, the UN Systems and the World Bank.

11. Foreign capital inflow is made up of ODA and concessional debt. Foreign direct investment (FDI) inflows have not been sizeable over the years, comprising, for instance, only about 0.9% of GDP in 2009. The low level of FDI may be related to difficulties in doing business in Bhutan. For FDI to increase, stringent restrictions on capital account transactions using foreign currencies will have to be lifted partially. Even current account transactions are controlled in many ways. Current account controls include: ceilings on amount of foreign exchange that commercial banks can hold, limits on foreign exchange requirements for importers, limits on foreign exchange earnings exporters can retain in foreign currency, and limits on foreign currency that business people or private travellers can take out of the country.

2.3 Inflation

12. Inflation rate has averaged about 7.6% in the last decade, though change in consumer baskets from the second quarter of 2013 makes comparison over this long period difficult. In the last 12 years, the real value of Nu1 has been reduced by about 55%. Inflation rose to 12% in 2012 but, by 2014 it came down to 8%. Part of the reason for this drop was that the CPI weights between food items and nonfood

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1 Ease of Doing Business indicator ranked Bhutan 125 in 2014 out of 189 countries (Kuensel, 2014, October 31).
items were changed in 2013. It was not entirely due to any major drop in prices, although fuel prices
came down in 2014. In any case, inflation is high in the country and the government assumes 10% price
escalation every year in its budget allocations. It is generally assumed that changes in materials costs in
India feed into imports coming to Bhutan. Fifty-seven percent of the goods in the Bhutan consumer
basket used for estimating inflation are imported (Ministry of Finance [MoF], 2013).

13. The extent to which increasing public expenditures, credit growth, and price of nontradable
goods leads to inflationary pressure is often not taken adequately into account in fiscal and monetary
policies. Inflation targeting remains to be attempted. Fuel, construction materials, and food
commodities are the three main classes of imports from India. Value of diesel and petrol import
amounted to nearly Nu5 billion in 2011. In 2013, Bhutan imported Nu7.4 B2 worth of fuel from India,
which accounted for 14% of total value of imports. Price increases worsen the current account deficit
and overall balance of payments situation, as quantity imported, by either public sector or private
sector, does not usually drop in spite of the rise of prices of imported goods.

2.4 International Reserves and Debt Stock

14. Bhutan, like other governments, maintains foreign currency reserves to meet foreign currency
liabilities such as debt repayment, to finance imports, and to meet unforeseen contingencies. A
sizeable liquid asset in terms of foreign currency reserves can help mitigate economic contingencies,
and the sense of security any government has depends partly on it.


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2 See Bhutan Trade Statistics (2014).
15. Since 2007, the Government of Bhutan has been borrowing from banks or the Government of India. To finance Indian rupee shortage, the Government of Bhutan borrowed more heavily in 2012 and 2013. The increase in Indian rupee reserves (Figure 2) after FY2010–2012 is a result of replenishment by borrowing.

16. Figure 2 shows that gradual accumulation of international reserves composed of both US dollars and Indian rupees up to FY2013–2014. Largely due to aid inflow, tourism earnings and soft loans from multilateral agencies, the latest (as of November 2014) level of foreign currency reserve (US dollar plus Indian rupee) has reached $1197.3 million. For US dollar currency earning, the tourism sector is the main source, besides ODA. The government charges royalties $ 65 per day per tourist. However, as a proportion of total (tax plus nontax) revenue, royalties on tourists represented 4.5% (Nu1047.9 million) in 2013–2014, though the perception exists that it is an overwhelming source of revenue. The number of tariff-paying tourists increased from 37,481 in 2011 to 44,252 in 2013 (Bhutan Tourism Monitor, 2013). But the total of number of tourists—when the Indian tourists who do not pay such royalty are included—exceeded 100,000 per year.

17. Bhutan has a growing debt stock, reaching Nu105,695 million in FY2013–2014. This debt stock is roughly equal to the size of the GDP of that year. Average growth rate of total external outstanding debts has been 19.5% in the last 13 years indicating a growth of about Nu7 billion every year. With more hydropower plants expected to be financed by debt, the debt stock is expected to rise further rapidly.

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Figure 3: External Debt Stock

Data source: Selected Economic Indicators, Royal Monetary Authority of Bhutan.

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18. Most of the total debt stock consists of Indian rupee debt on account of hydropower projects. In 2013–2014, for example, 64% of the debt stock was due to hydropower projects owed to the Government of India.

19. Convertible currency debts are owed to ADB, World Bank, Japan International Cooperation Agency /Japan Bank for International Cooperation, Government of Denmark, Government of Austria, Export Finance and Insurance Corporation (Australia), Kuwait Fund for Arab Economic Development, International Fund for Agriculture Development, and few other entities. ADB and the World Bank are the two major creditors in terms of convertible currency debt. Debt owed to ADB comprised on an average 40% of total convertible currency debt stock every year in the last 2 decades and debt to World Bank comprised about 26.5% of total convertible currency debt.

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**Figure 4: Total Debt Service Payment, 2004–2014**

![Graph showing total debt service payment from 2004/05 to 2013/14](image)

Data source: Selected Economic Indicators, Royal Monetary Authority of Bhutan.

20. The amount of debt service repayments has been erratic since 2010–2011 because of the inclusion of repayment for short-term borrowings, usually for 1 year. Indian rupee was borrowed on short term from banks in India, which had to be repaid within a year leading to high debt servicing. Figure 4 gives total debt service repayment in both US dollar and Indian rupee until 2013–2014. If only Indian rupee debt service repayment is taken into account, in 2009–2010, repayment consisting of both principal and interest for Indian rupee debt was about Rs 7.4 billion. Debt service payment amounted to Nu 16.5 billion in 2010–2011. It rose substantially to Nu 44.8 billion in 2011–2012 because of the repayment on overdrafts from India. The highest repayment on Indian rupee debt recorded was Rs 82.8 billion in FY2012–2013, which was fueled by repayment for overdraft loans from banks in India. Most recent figures of 2013–2014 on debt service payment indicate a substantial decline to Nu 9.4 billion. In FY2014–2015, total debt service payment is projected at Nu 5.1 billion.⁵

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⁵ See Annual Report 2013/14, RMA, p. 141.
21. Debt repayments on loans taken for construction of several hydropower projects are yet to start. Hence the underlying repayment scenario for the future will be very different from the pattern shown in Figure 4. As of June 2014, total debt stock was Nu106 billion. By FY2019–2020, hydro debt repayment alone will amount to Nu22 billion and rise steadily in the next 15 years as a consequence of hydro projects in the pipeline. Debt stock is projected to grow at about 21% annually over the next several years. Sixty-four percent of total external debt stock in FY2013–2014 was incurred for hydropower project investments, and this component will grow sharply in coming years if hydro plants are constructed as planned. In the current modality of financing of hydropower projects, 70% of the total cost of hydropower projects consists of loan that should be repaid in 12 equal parts over a 12-year repayment period as soon as a project is commissioned. One of the reasons for the swelling of national debt stock of Bhutan since mid-2005 is that the modality of financing of hydropower plants changed. Earlier 60% of the cost of a hydropower plant used to be grant from the Government of India, whereas now 70% of the cost is loan, at 10% simple interest rate. In addition to hydropower related debt repayment, there is debt service obligation for loans taken for other purposes.

3 ECONOMIC RELATIONS WITH INDIA

3.1 Indo-Bhutan Trade

22. India provides the bulk of development finance for Bhutan. India is also the main source of import for Bhutan and the main destination for exports. The ngultrum has been pegged at par to the Indian rupee since its first issue in 1974, given the close geographical and economic linkages between Bhutan and India.

23. Bhutan’s trade with India is governed by preferential, free trade arrangement. While there is substantial advantages, there is also very little or no protection of the domestic economy because of a high degree of openness. Bhutan is part of the South Asian Free Trade Area (SAFTA), a multilateral agreement (signed in 2004 and effective in 2006), and the South Asian Association for Regional Cooperation, which is intended as the first step toward transition to a customs union and, common market economic union. Members have committed themselves to phased tariff cuts for intra-SAFTA trade over 10 years, i.e., to be achieved by 2016.

24. Export to countries other than India and Bangladesh comprised just 4.4% while import from countries other than India and Bangladesh came to about 17.3% (Bhutan Trade Statistics, 2013). In the same year, 91% of total exports were to India, and 82.4% of total imports were from India. Import to GDP ratio stood at about 43% in 2008 and at 51% in 2013; But in terms of value, it doubled from Nu23.4 billion in 2008 to Nu53.2 billion in 2013.6

25. Goods are exported mainly to India. The main ones are hydropower, mineral and mineral-based commodities. Exports grew sluggishly from Nu25.6 billion in 2009 to Nu31.8 billion in 2013,

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8 The major items were manufactures representing 32.6% of imports; agricultural products 12.8%; and petroleum products accounting for 11.8% of total imports. Rice imports accounted for 2.8% of imports, supplied mainly by India (77.8%), as well as Japan, Malaysia, Singapore, the People’s Republic of China and the Republic of Korea.
increasing at a much less rapid pace than imports. From 2008 to 2013, exports grew slowly at an annual growth rate of 3.2% while imports rose sharply at 17% on an average.

**Table 2: Value of Trade in Proportion to Gross Domestic Product (Nu millions)**

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</tr>
</thead>
<tbody>
<tr>
<td>Import</td>
<td>18,625.0</td>
<td>17,024.7</td>
<td>19,012.0</td>
<td>21,745.0</td>
<td>23,495.0</td>
<td>25,650.0</td>
<td>39,084.0</td>
<td>48,698.0</td>
<td>53,094.0</td>
<td>53,273.0</td>
</tr>
<tr>
<td>Export</td>
<td>8,271.0</td>
<td>11,386.0</td>
<td>18,772.0</td>
<td>27,859.0</td>
<td>22,591.0</td>
<td>23,993.0</td>
<td>29,324.0</td>
<td>31,486.0</td>
<td>28,420.0</td>
<td>31,853.0</td>
</tr>
<tr>
<td>Trade Balance</td>
<td>-10,354.0</td>
<td>-5,639.0</td>
<td>-240.0</td>
<td>6,114.0</td>
<td>-904.5</td>
<td>-1,657.4</td>
<td>-9,759.7</td>
<td>-17,211.7</td>
<td>-24,673.5</td>
<td>-21,420.0</td>
</tr>
<tr>
<td>Exports/GDP</td>
<td>0.3</td>
<td>0.3</td>
<td>0.5</td>
<td>0.6</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.3</td>
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<tr>
<td>Imports/GDP</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
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<tr>
<td>Openness</td>
<td>0.8</td>
<td>0.8</td>
<td>0.9</td>
<td>1.0</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Total Trade Value</td>
<td>26,895.8</td>
<td>28,410.8</td>
<td>37,783.8</td>
<td>49,604.5</td>
<td>46,085.8</td>
<td>49,642.9</td>
<td>68,408.5</td>
<td>80,183.6</td>
<td>81,513.7</td>
<td>85,126.0</td>
</tr>
</tbody>
</table>

GDP = gross domestic product.

Source: Selected Economic Indicators, Royal Monetary Authority; and National Accounts Statistics, National Statistics Bureau.

26. As a result, Bhutan has an extremely large current account deficit with India. The 2013–2014 current account deficit with India was about Nu26 billion while the deficit with all other countries was about Nu2 billion. As a proportion of GDP, current account deficit with India was about 26%. But overall balance of payment (BOP) is positive because of capital inflows of grants and loans. On an average, between 2004 and 2012, yearly BOP was positive by about Nu2.9 billion (Selected Economic Indicators, December 2014). BOP surplus was estimated to be Nu9.2 billion in 2012–2013.
3.2 Indian Rupee Management Before Its Shortage

3.2.1 Credit Expansion

Monthly data available from July 2011 to June 2012 on domestic credit and M2 show that domestic credit was almost equal to foreign reserves until December 2011, and then it exceeded foreign reserves. Domestic credit became lower than net foreign assets only toward the beginning of 2014, after credit control was exerted since 2012. This suggests that the Indian rupee shortage that burst on the financial sector early in 2012 was caused largely by excessive domestic credit that fueled imports. For example, domestic credit in January 2012 was about Nu43.8 billion whereas foreign reserve (net foreign assets) was only Nu36.8 billion. Adding net foreign assets and net domestic credit, M2 in January 2012 was Nu55.1 billion. Since then, domestic credit has continuously exceeded net foreign assets (Figure 6). However, net foreign assets improved and exceeded domestic credit after November 2013, roughly until October 2014 when the latest data ends. After November 2013, domestic credit has fluctuated between Nu50 billion and Nu53 billion while net foreign assets had grown from Nu51.4 billion in November 2013 to Nu62.5 billion in October 2014.

The main lesson is that from 2011 until October 2014, domestic credit exceeded net foreign assets coinciding with the period of severe rupee shortage. The growth of domestic credit reached a historically high rate of 36.5% in 2011. The excessive growth of credit played undoubtedly a role in Indian rupee shortage. This is an important lesson from the past if it is heeded for future.

Figure 6: Net Foreign Assets and Domestic Credits since January 2012–October 2014

DC = domestic credit, NFA = net foreign assets.
29. Figure 7 depicts a situation where the banks have been lending to the hilt, in amounts that exceeded deposits, indicating in general low liquidity. When monthly data is examined, loans given as a percentage of deposits were close to 100% at the beginning of 2012. Later, loan-to-deposit ratio crossed the 100% threshold in June 2012 when pronounced Indian rupee shortage became evident. For the first time in the financial history of Bhutan, banks as a whole had given more loans than they had deposits to support. The Royal Monetary Authority’s (RMA) published data shows by October 2014, loan to deposit ratio is about 98%, i.e., for every Nu100 given as loan, there was Nu98 in deposits. Of course, such loan to deposit ratio does not reveal much about the mismatch between loans and deposits. Generally loans are long term while deposits are mostly in current account savings. Nevertheless, Figure 7 shows a crucial fact about the mismatch between deposit and credit in parallel with the emergence of rupee shortage. Though it is a simple indicator, it suggests that aggressive lending by banks and consequent borrowing resulted in financial instability. However, based on the most recent figures available at the RMA’s Monthly Statistical Bulletin, January 2015, loan-to-deposit ratio has been curtailed to about 98% by October 2014.

30. Despite the difficulties faced by the economy, profit maximization has been the goal of the financial institutions but it can often be false achievement when seen from a higher integrated perspective. Their financial over performance can emerge as problems at another level—in this case as overactive money multiplier, and the consequent Indian rupee problem that led to borrowing by RMA at commercial rates of interest from Indian banks to cover current account deficits. Between 2011 and 2012, Bhutan National Bank’s (BNB) profit grew by 37% (Nu697 million); Tashi Bank by 71% (Nu37 million); and Druk Punjab National Bank (DPNB) by 90% (Nu86 million). Bank of Bhutan (BOB) made a hefty profit of Nu660 million in 2012. Though the profitability of the banking sector is reported only for 2012, the trend in growth rate of profit has accelerated since then. BOB declared a net profit of Nu864 million in 2014 (Kuensel, April 14, 2015). 2013 first quarter performance report of the banking sectors reported that “net profit of financial sector has increased.”

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institutions should be weighed against the amount of interest rate payment made by the RMA on Indian rupee borrowing to finance imports. The amount of taxes and dividends banks pay to the government may be less than the amount of interest rate payment made by the RMA on Indian rupee borrowing to finance balance of payments although this needs further verification.10

31. One of the major reasons for an abnormal rate of credit expansion coinciding with the Indian rupee shortage was the concentration of investments. The experience of the past 5 years should be heeded. A few major investments drew away most of the credit. The top five borrowers in 2012 were the top five companies such as Tashi, Dungsam Cement Project (DCP), Lhaki, Druk Iron and Steel, Royal Thimphu College (RTC) and Royal Insurance Corporation of Bhutan, taking a total of Nu5.4 billion out of a total of Nu51 billion lending: Nu5.4 billion is 10% of total credit as shown in Table 3.

Table 3: Single Largest Borrowers of Domestic Loans as of June 2012

<table>
<thead>
<tr>
<th>Single largest borrower</th>
<th>Amount sanctioned</th>
<th>Amount outstanding</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tashi</td>
<td>1,735</td>
<td>1,634</td>
<td>3.2</td>
</tr>
<tr>
<td>Dungsam Cement Project</td>
<td>1,350</td>
<td>1,336</td>
<td>2.6</td>
</tr>
<tr>
<td>Lhaki group</td>
<td>925</td>
<td>769</td>
<td>1.5</td>
</tr>
<tr>
<td>Druk Iron &amp; Steel</td>
<td>556</td>
<td>491</td>
<td>1.0</td>
</tr>
<tr>
<td>Royal Thimphu College</td>
<td>501</td>
<td>496</td>
<td>1.0</td>
</tr>
<tr>
<td>Royal Insurance Corporation of Bhutan Limited</td>
<td>400</td>
<td>401</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>5,468</td>
<td>5,127</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Unpublished internal document of RMA

32. An official review of Indian rupee shortage pointed out clearly against undertaking big investments within a short span of time. “Tashi InfoComm, Druk Ferro Alloys, Druk Deothjung Resorts, Bhutan Concast, and Drukwang Ferro Alloys, and several others contributed to the domestic credit growth and increased the rupee demand. It also highlights that constructions of Dungsam Cement, an enormous project, and Dagachhu hydropower projects contributed to the credit growth as part of the projects are financed through domestic credit.”11 Spacing of major investments over time, as opposed crowding them over a same period, will be prudent. Repeating the experience will worsen liquidity situation and Indian rupee shortage. At the same time, due to the advantageous electricity tariff granted to some of these industries compared to export price of electricity, their operation can lower electricity revenue in Indian rupee.

3.2.2 New Banks Contributed to Credit Expansion

33. In 2011, two new banks were opened. One of them was the first ever FDI in the banking sector. Punjab National Bank from India established Druk Punjab National Bank with local partnership. The Tashi Group of companies also opened a bank. The increase in the number of banks just before the emergence of rupee shortage have played a role in the M2 increase and related credit creation, which further led to the Indian rupee shortage in 2012. The timing of their opening could not have been worse.

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To be conclusive about the link between licensing two more banks in early 2010 and credit creation boom requires disaggregated data. Some accounts would have migrated to the new banks and would not count as new loan transactions. Nevertheless, there is sufficient ground to infer that the establishment of two new banks added to the problem of the Indian rupee shortage. The two new banks increased the size of credit and gave the high marginal propensity to import; new credit from new banks fed the Indian rupee shortage. Together, Tashi Bank and DPNB lent Nu 4.1 billion out of a total of Nu 40.6 billion credit given by the banks in 2011. In 2012, Tashi Bank and DPNB lent Nu 5.7 billion out of Nu 51.3 billion credit disbursed by the banks (Table 4). The two new institutions lent out about Nu5.9 billion in 2014 from total of Nu63.1 billion. Between 2009 and 2012, the domestic credit grew at an average of 28.2% per year, but it dipped to about 10% in 2012 and 2013. This leads us to surmise that credit creation would have been slightly less if the two new banks have not been established in the same year. From the point of view of timing, opening of two new banks thus seems to have aggravated the situation.

Table 4: Amount of Loan Lent by Domestic Financial Institutions (Nu million)

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of Bhutan Ltd.</td>
<td>8,849.1</td>
<td>9,551.4</td>
<td>11,821.6</td>
<td>17,045.0</td>
<td>18,576.5</td>
<td>20,758.5</td>
</tr>
<tr>
<td>Bhutan National Bank Ltd.</td>
<td>10,051.6</td>
<td>11,953.1</td>
<td>14,864.2</td>
<td>17,324.6</td>
<td>18,149.7</td>
<td>18,376.2</td>
</tr>
<tr>
<td>Bhutan Development Bank Ltd.</td>
<td>2,790.5</td>
<td>3,277.3</td>
<td>4,287.9</td>
<td>5,350.8</td>
<td>7,644.8</td>
<td>10,236.0</td>
</tr>
<tr>
<td>Tashi Bank Ltd.</td>
<td>NA</td>
<td>500.7</td>
<td>1,952.3</td>
<td>2,354.7</td>
<td>2,262.9</td>
<td>2,189.1</td>
</tr>
<tr>
<td>Druk PNB Limited</td>
<td>NA</td>
<td>824.2</td>
<td>2,195.3</td>
<td>3,367.6</td>
<td>3,693.0</td>
<td>3,715.5</td>
</tr>
<tr>
<td>Royal Insurance Corporation of Bhutan Ltd.</td>
<td>2,565.8</td>
<td>3,668.9</td>
<td>5,312.6</td>
<td>5,524.8</td>
<td>6,088.4</td>
<td>7,524.6</td>
</tr>
<tr>
<td>Bhutan Insurance Ltd.</td>
<td>NA</td>
<td>NA</td>
<td>211.6</td>
<td>337.8</td>
<td>363.2</td>
<td>386.9</td>
</tr>
<tr>
<td>Total</td>
<td>24,257.0</td>
<td>29,775.6</td>
<td>40,645.5</td>
<td>51,305.3</td>
<td>56,778.5</td>
<td>63,186.8</td>
</tr>
<tr>
<td>DC Growth Rate (%)</td>
<td>27.6</td>
<td>22.8</td>
<td>36.5</td>
<td>26.2</td>
<td>10.7</td>
<td>11.3</td>
</tr>
</tbody>
</table>

DC = domestic credit.

3.2.3 Government Borrowings and Credit Growth

Some officials claimed that the aggressive lending to and borrowing by the private sector happened because of the lack of opportunities for buying short-term government instruments like bonds or treasury bills. A closer look at data disproves this observation. The government raised too much credit from the banking sector through its treasury bills and compounded credit growth in the economy. To maintain its cash flow in the 2012–2013 budget year, the government borrowed nearly Nu13 billion, which it repaid in the same fiscal year. Revenue collection needs to be redesigned so that cash flow over the year is less erratic. However, measuring the stock of domestic debt the government owes to local banks because of treasury bills at the end of year can be misleading. The end-of-the-year position of credit that the government owes the banking sector is smaller because the treasury bills debt have been redeemed. However, the total money borrowed by the government every quarter is huge. With a total credit market volume of Nu53 billion or so in 2012–2013, a turnover of Nu13 billion through the sale of treasury bills itself can rock the financial system. In FY2013–2014, treasury bills

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issued by the government was Nu 6.6 billion, which were redeemed in the same fiscal year. By December 2014 of the FY2014–2015, the amount of 90-day treasury bills floated was Nu 9 billion. This will be repaid within the fiscal year, which ends in June 2015, but in addition there will be a Nu 4.8 billion that will not be repaid in the fiscal year, leading to addition to domestic debt stock. The amount of Nu 4.8 billion is the budget deficit of which repayment will be deferred to the ensuing fiscal year.

36. A more analytic appraisal of treasury bills’ impact as well as a more fine-grained appraisal of the budget deficit is desirable in the future, given the precise knowledge of the limited, total deposit available for such purpose. Budget deficit as a percentage of GDP, though used as an indicator around the world, seems to be a blunt and misleading instrument in the case of Bhutan. Such large amount of fiscal deficit and 90-day borrowing entails financial crowding out.

4  MACROECONOMIC CAUSES OF RUPEE SHORTAGE

37. The section on Economic Relations with India showed that current accounts deficit worsened sharply between 2009–2010 and 2010–2011. For example, current account deficit was Nu9.2 billion in 2009–2010. This doubled to Nu8.2 billion in 2010–2011, and stabilized briefly at Nu15.6 billion in 2011–2012 before climbing to Nu26 billion in 2012–2013. The doubling of current account deficit in 2010–2011 coincided with the tremendous growth of credit (36.5%) in 2011. Thereafter, credit control on housing construction and vehicle import loans lead to smaller current account deficit.

38. To meet the Indian rupee shortage, the RMA sold $200 million 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. The amount of $200 million was sold 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.

39. For instance, students from Bhutan studying in India are eligible for a withdrawal of Rs10,000 a month. A citizen from Bhutan who wishes to travel to India can get up to Rs 30,000 from financial institutions on production of air ticket. A licensed businessperson importing goods from India is eligible for Indian rupees equivalent to the amount in import invoice that is verified by customs officials. Those who do not have any import license are ruled out from any access to Indian rupees. Except for trucks, issuing of licenses for imports of automobiles from India was banned until mid-2014. Banks were directed not to give loans for construction since most of the construction materials are imported from India. The ban on vehicle imports and construction loans have been partially lifted in 2014 but other rationing on Indian rupee are still in place.

40. The new government came to power in 2014 and loosened some of the credit controls in 2014. Simultaneously, an increased annual flow of Government of India aid for the 11th Five-Year Plan of Bhutan (2012–2016–2017), which had just started began to ease the Indian rupee shortage,
although free exchange of the ngultrum with the Indian rupee that existed before 2012 has not been restored. Had Indian rupee not been heavily rationed through official measures to restrict imports, the situation would have led to a repeat sale of dollar reserves. The Indian rupee reserve stood at Rs 8.6 billion in June 2014, which is estimated to finance 27 months of essential or lifeline imports. The stock of Indian rupee with the RMA did not increase substantially over the last five years and the probability of a difficult situation recurring is high.

41. The government’s long-term solution is to pin hydropower earnings to solve the Indian rupee shortage. However, this cannot be the whole solution. Switching expenditures to domestically produced goods, reducing expenditure, and expanding domestic production capacity have to go hand in hand. Labor productivity has to increase sharply to gain competitiveness.

4.1 Terms of Trade Deterioration

42. From a long-term perspective, the Indian rupee crisis is also caused by the deterioration in the terms of trade. Terms of trade are defined as the ratio of the average price of exports to the average price of imports. Export price index and import price index are needed to estimate terms of trade improvement or deterioration. Selecting top 50 import and export items to create indices can do this, though Bhutan has not estimated terms of trade technically.

43. Terms of trade measures how many units of export are needed to pay for a unit of import. An example can be given by comparing the growth rate of import price of diesel from India and the growth rate of export price of electricity from Bhutan. Import price of a liter of diesel has grown over the years much faster than the export price of a kilowatt per hour of electricity. Electricity export price lingered from Rs 1.5 in 2002 to Rs1.99 in 2013, resulting in a 2.6% rise over 11 years. In contrast, diesel price have risen 241% in the last 12 years. This means that to import a liter of fuel, Bhutan needs to export increasing units of electricity. Even if the quantity of fuel imported remains constant, the BOP will continuously deteriorate. Fuel import has risen by a large amount every year. The value of diesel and petrol import amounted to nearly Nu 5 billion in 2011. In 2013, Bhutan imported Nu7.4 billion worth of fuel from India, which accounted 14% of total value of imports. In this sense, rise in revenue from electricity export is roughly able to cover the rise in payment for fuel import.

44. Exports are not limited to electricity in the same way that imports are not limited to fuel. Food imports from India rose from Nu1.8 billion in 2004, to nearly Nu 7 billion in 2012 when beverages are also included. During the same period, food export s increased only from Nu675 million to Nu1.2 billion. The food trade gap has widened sharply over the years.

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16 The power tariff is currently Nu2.15 per kilowatt for Chukha power export. The original power purchase agreement was signed between Power Trading Corporation MD Tantra Narayan Thakur and Director Sonam Tshering on 31 August 2002. This agreement is largely technical—metering, grid, energy accounting. It sets out the terms and conditions of power supply of electricity. However, it does mention Rs1.50 per unit prevailing in 2002. The increase of tariff from Rs1.50 to Rs2 came on 1 January 2005, through a letter from Ranjit Rae, then joint secretary north to Bhutan Foreign Secretary Aum Neten, following the King of Bhutan’s request to the Prime Minister of India. This letter is the only document on tariff of Rs2 per unit, and no separate agreement on tariff increase to Rs2 per unit of electricity is recorded. The Power Purchase Agreement Annexure – I Schedule 3.1 says “The rate at which the energy will be sold by CHPC to PTC at the delivery point as defined in article III of this agreement shall be Rs1.50 (Indian Rupees one point five zero) per kWh.” This quoted part here is article III. In its next section 3.2 says that, “The energy tariff indicated above in para 3.1 shall remain fixed till it is due for review as per the 1974 Agreement.”


18 See Bhutan Trade Statistics (2013).
Therefore one structural and cumulative reason for the Indian rupee shortage is the relatively slow increase in the price of export commodities. Prices of major export agricultural commodities like apples, oranges, and potatoes, have risen very slowly during the last 10 years. Data on export prices can demonstrate this. The export price of apple to Bangladesh in 1992 was Nu10.7 per kilogram (kg). In 2010 it was Nu16.6 per kg. Averaging over 16 years, its export price rose only 6%. In 2013, apples exported to Bangladesh was Nu39 per kg. Oranges exported to Bangladesh was Nu13.3 per kg in 1992, and Nu14.8 per kg in 2010, rising by 2.1% in 16 years (Figure 11). In 2013, the export price for oranges was about Nu 22 per kg. Export price of potato to India was Nu4.13 in 2000 and Nu10.6 in 2010, but in certain years the export price had collapsed to Nu 2 per kg.

Three lessons emerge from these trends. First, value addition through agro-industry is vital if export revenue is to increase. Second, the distribution and storage of certain commodities within the country should be improved to avoid their import. For example, in 2008 Bhutan exported potatoes worth Nu19.7 million to India but imported potatoes valued at Nu17.7 million in the same year during off-season. Similarly, Bhutan exported Nu 360.1 million worth of potatoes to India in 2013 and in the same year imported Nu 56.7 million worth of potatoes from India. This kind of trading can be avoided to improve trade balance. Third and the most important lesson is that demand for these products should be price inelastic (price elasticity of export item should be below one) for the commodity to improve current account.

Figure 8: Annual Export Price/kg of Apples and Oranges


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20 However, the Bhutan Trade Statistics in 2011 lists the unit price for the export of apples to Bangladesh at Nu31 per kg.

21 Prices of apples, oranges, and potatoes. (Policy and Planning Division, Ministry of Agriculture, personal communication, 30 July 2013) and “Nu2 per kg is seasonal price of potato in 2005 received by people of Ura gewog” (potato sellers, personal communication, 13 September 2012).

47. Raw mineral and mineral products are major exports to India. The top 10 exports to India are mostly mineral-based. Export price of minerals also have not increased fast enough. Pithead price of gypsum, which is one of the top 10 exports, was Nu 1,000 per metric ton (MT) in 2000. Its pithead price was Nu 1,600 in 2011, which is 60% over 10 years or 6% a year. Only coal export seems to have done better. Export price of coal have been rising at an annual rate of 10.8% per year. Export price of coal per MT was Nu 1,700 in 2000. It rose to Nu 4,400 per MT in 2011.\(^{24}\) The main point is that changes in terms of trade affect current account, which in turn affect the Indian rupee reserve level.\(^{25}\)

48. Many sectors of the economy, unlike the hydropower sector, have been rendered uncompetitive by hasty liberalization. Prices of locally produced goods that are substitutes for imports became higher than prices of imported goods, as a result of opening up, combined with expansion of cheaper transport. Vegetables, for example, were nontraded goods (not imported).\(^{26}\) Vegetables from India were comparatively expensive before motor road transportation became widespread and when rural people were compelled to be self-sufficient. Partly as a result of wage-costs push, the cost of vegetable production in Bhutan has risen. The cost of an unskilled laborer was about Nu 400 per day in Bhutan in 2014. Vegetables from India became comparatively cheaper even after including haulage and transportation costs. Towns and Thimphu city in western Bhutan import about 20 truckloads of fresh vegetables every day from Falakata, which is close to Phuentsholing, the entry point town at the western border of Bhutan. Thus vegetables, which were nontradable goods, became traded goods in Bhutan due to imported vegetables becoming price competitive. In addition, lowering of

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\(^{24}\) Received soft copy of national accounts data from National Statistics Bureau. (Kuenga Tshering, personal communication, July 2013).

\(^{25}\) Terms of trade’s impact on current account and on Indian rupee reserves depend on price elasticity of demand for exports and imports.

transportation cost changed the competitiveness of vegetables from India, which were earlier not imported. Cheaper imports creates consumer surplus for those who buy imported vegetables but those imports have to be paid for by selling something in return. To be export-competitive, labor productivity has to be high. Bhutan labor productivity appears to be low in all sectors of the economy except hoteling and hydropower sectors. Hours of work in a year should fall while the output in ngultrum per hour should rise due to the rise in the value of goods that is produced and sold. Consequently, export price can rise and terms of trade can improve. If labor productivity does not rise in sectors such as agriculture, farming will become uncompetitive and labor will move out of agriculture further depressing production. This effect is already evident from the substantial migration from rural to urban Bhutan and from the rest to western Bhutan, which is more urbanized and more capital intensive.

49. The government can intervene to raise labor productivity in sectors like agriculture and services. But it will not be effective if it continues to employ people in the public sector at relatively high wage or salary where productivity is in fact extremely low. The civil service is an example of low labor productivity. Civil service can become overstuffed and a large proportion of it may not generate any efficient output. It has drawn in all the bright people and gradually made them less innovative, while driving up the wage level and depriving other sectors of potential employees. The size of the civil service could be decreased gradually by discontinuing irrelevant posts under a downsizing plan and winding up redundant offices. It would reduce the pressure on fiscal expansion. At the same time, this move should not result in increase in unemployment. Employment generation outside the public sector employment can be found through two means while increasing production capacity and labor productivity: (i) money must be saved instead of spent on public sector job creation, to create jobs in the private sector; (ii) a plan should be launched to employ thousands of youths in the new hydropower projects.

50. In trying to solve the Indian rupee problem, it is not only important to consider merchandise trade but also trade in services. Tourism, which is an invisible export, helps offset the current account deficit of Bhutan. However, the per capita per night difference in gross earnings from regional tourists and international tourists must be calculated in a rigorous way to show which kind of tourism will aggravate current account deficit and which one helps on the margin. Gross earning per regional tourist (mainly from India) is estimated to be $476 while gross earning for an international tourist is estimated to be $5,044. One additional international tourist can generate the same gross earning as 10 regional tourists. Bhutan should encourage international tourists and minimize regional tourism, given the concerns for limited cultural and environmental carrying capacity. In 2012, gross earnings from dollar tariff-paying tourists was $62.8 million; royalty to the government was $16.6 million; tour operators’ net was $43.96 million. Total gross earning was estimated to be $227 million. The Bhutan Tourism Monitor 2013 estimated total gross earning in 2013 to be approximately above $220 million including receipts from Drukair, regional tourism, out-of-pocket spending of visitors on shopping, and other additional services and products.

51. In 2012, a regional tourist spent around Rs 33,718 ($616.6) for a trip to Bhutan. Total gross earning of regional tourists was estimated to be $31.26 million. In 2013, the average spending of regional visitors was estimated to be about Rs 27,157, which is about 20% lower compared to the previous year. Still, these average amounts spent by regional tourists seem to be overestimated and needs further research. As the number of regional tourists increase, more budget hotels will have to be built, and construction materials and labor have to be imported. More fuel and food will have to be imported to support such tourism on a continuous basis. Promoting regional tourism will be fuel-, car-, and budget hotel construction-intensive compared to international tourism. Increasing imports of cars, fuel, and
construction materials—the main components of imports from India, will lead to current account deterioration. In this unexpected manner, regional tourism will contribute, though it will not be a decisive factor, to further deterioration in current account balance for some time.

**Figure 10: % of Regional Tourists by Total Spending (excludes airfare), 2013**


### 4.2 Excessive Monetary Growth

52. Addressing current account imbalance involves targeting monetary variables more accurately.\textsuperscript{27} Targeting monetary variables can be instrumental in the case of the Bhutan economy considering that neither the movement of capital nor interest rates is completely free while the exchange rate is fixed or pegged. Deposits do not move out of Bhutan banks into India in response to interest rate rise there or vice versa. Monetary policy is not forfeited under such circumstance; it can

\textsuperscript{27} See Goodhart (1984), Monetary Theory and Practice: The UK experience. Though an old publication, it discusses classic issues in monetary policy. From 2011 to 2013, foreign reserves have been run down by selling $200 twice to finance current account deficits. To explain the role of monetary solution in Indian rupee crisis, it should be understood that current account deficit (-CA) is identically equal to changes in the net foreign assets (\(\triangle NFA\)) held by the RMA in any year. \(\triangle\) denotes change between last year and this year. When current account is in deficits, the rest of the world builds claims on Bhutan as it spends more than its income.\textsuperscript{27} Changes in the net foreign assets (\(\triangle NFA\)) should be measured cumulatively for a year as in current account for this relationship to hold. Conventionally, net foreign assets are measured as a stock at a given point in the year instead of measuring its change for the whole year like current account. It may be noted that - CA \(\equiv - \triangle\) net foreign assets where \(\equiv\) means identically equal to. This identity links deficit current account with changes in the foreign reserves composed of the Indian rupee and the dollar. The monetary sector and the trade sector are intimately linked. Further, \(\triangle NFA + \triangle\) domestic credit \(\equiv \triangle M2\), the broad measure of money supply. \(M2\) means the total of currency outside the banks, demand deposits, saving deposits, time deposits, and foreign currency deposits held by foreigners, such as diplomats, allowed to hold their accounts in foreign currencies. They constitute together the supply of money. The preceding identity also can be rearranged as \(\triangle NFA \equiv \triangle M2 - \triangle\) domestic credit.
be effective. Monetary policy is ineffective only if capital mobility is complete, combined with a fixed exchange rate.

Figure 11: M2 and its Components, 2003–Oct. 2014

![Graph showing M2 and its components (2003 to Oct. 2014)]

DC = domestic credit, NFA = net foreign assets.
Data source: Selected Economic Indicators, December 2003, 2007, and June 2013, Royal Monetary Authority.

53. Sterilization of M2 and stabilization of the economy through monetary policy can be done by manipulating three broad variables (M2, NFA, and domestic credit) and forecasting their subcomponents, possibly 6 months in advance, according to certain rules. These forecasts can help influence all the agents’ and financial institutions’ policies. Changes in monetary policy that are enforced may cause swings and possibly introduce distortions. If two variables are measured well before hand, the third variable can be found residually. Influence on two variables can also be simultaneously exerted.

54. In the current situation of continuously deteriorating current account balance, domestic credit has been restricted by the RMA to reduce M2. Credit control was exerted on two main components of imports: private housing construction materials and private vehicle imports. Vehicle import ban and freeze on loan to private housing construction loans were removed partially in mid-2014. The restrictions were partially lifted in 2014 after the new government (People’s Democratic Party) came to power in mid-2013. General ban on vehicle import was lifted but imports were subjected to very high import and sales taxes in the parliamentary session in mid-2014. Depending on engine size, vehicle imports taxes ranged from 50% to 120%.

55. While restrictions were in place, M2 was Nu56 billion in December 2012 up from Nu50 billion in June 2012. In March 2013, it was Nu55.5 billion. By the end of October 2014, M2 had reached Nu70 billion (Figure 12). Figure 12 shows M2 has expanded steadily but domestic credit has been controlled
and kept at a fairly stable level. Annual growth of domestic credit was 36.5% in 2012, 26.2% in 2012, 10.7% in 2013 and 11.2% in 2014. So domestic credit growth has slowed down. Due to credit control, the growth of current account deficit with India was arrested between 2011 and 2013, before it resumed its normal trend.

![Figure 12: Supply of Broad Money (M2), Jun 2011–Oct 2014](image)

**Figure 12: Supply of Broad Money (M2), Jun 2011–Oct 2014**

![Nu billions](image)

DC = domestic credit, NFA = net foreign assets.
Data source: Selected Economic Indicators, June 2013 & Monthly Statistical Bulletin, June 2014, Royal Monetary Authority.

56. Operating at a broad level of monetary aggregates alone is, it seems, not sufficient. Understanding empirically the behavioral functions of the subcomponent variables and the transmission mechanism affecting two aggregates (domestic credit and M2) are crucially important before proceeding to policy targeting. The task of reducing certain components of M2, particularly its liquid components, is still to be addressed adequately and in a way that can be articulated well by working much more on predictive frameworks and behavioral functions. Building such frameworks and functions require modest research capacity. Considering the information that is available and the size of the economy, it would be possible to build simulation models of demand and supply of money, and inflation functions while delineating their transmission mechanisms.28

57. Monetary policy alone cannot resolve everything in the long-term. Crucial roles have to be played by (i) fiscal expansion caused by the Five-Year Plan (FYP) plan managed by the Gross National Happiness Commission and ministries, (ii) the cash flow management of the government agencies for which the Ministry of Finance is responsible, (iii) the operation of Druk Holdings Investment and Druk Green Power Corporation, (iv) the export improvement plan of Ministry of Economic Affairs, and (v) Bhutan Chamber of Commerce and Industry. If the actions and decisions of these agencies are not

aligned, they can scupper financial stability. The nature and scope of the FYP, including the hydropower investment, are fully implicated in the Indian rupee issue at a deeper level. Its resolution must take into account not only the FYP, including hydropower investment on the official front but the business plan of the private sector represented by the Bhutan Chamber of Commerce and Industries. The effects of bank deposits of hydropower investment and the FYP on multiplying money have not been adequately taken into account. Nor has the cumulative effects of increasing treasury bill operations on the increase of M2 has been fully taken into account.

58. At the same time, the long-term effects of FYPs on the financial sustainability of the country needs to be reexamined. Revenue growth is barely sufficient to cover the recurrent expenditures and capital repayments of debts. It requires competent detailed examination at the project, and subsector levels rather than dealing, as is the practice now, at broad aggregates of capital versus recurrent allocations. Had they been analyzed adequately, problems would not have emerged on the scale witnessed. But problems may and will intensify further without better methods of planning and understanding of the economy as a whole.

59. If and when foreign reserves rise, injecting counterpart ngultrum in the banking system will increase M2. M2 will increase when there is upsurge in official demand deposits with foreign capital inflow. This process is depicted in Figure 13. To reduce the effect of foreign reserves on increasing M2, one of the most feasible options is to keep a certain amount of reserves out of the Bhutan banking system for a certain period of time, for instance in a subsidiary branch of BOB in India. This is a variation on the standard measure of stabilization and sterilization, where the measures are usually carried out within the country. But keeping the Indian rupee outside for a planned period can be innovative for various other purposes too. The simple act of establishing a foreign subsidiary of BOB addresses the excessive credit creations while also meeting transaction and precautionary demand for the Indian rupee. It will restore confidence in the ngultrum. Ideally, there should be subsidiary branches of BOB in Delhi, Jaigoan, Siliguri, Bongaigoan and Guwahati where Bhutan traders can settle their transactions in Indian rupee.

60. If the measure suggested in the preceding paragraph or its equivalent is not adopted, with money multiplier as high as 2.9 (M2/M0) in Bhutan, injection of Rs1 into the banking system can result in as high a credit creation as Nu2.9. It is probable that the multiplier is higher. There might be Indian rupee hoarding and substitution without these transactions being reflected in official data. If so the money multiplier will be underestimated.

61. Depending on the marginal propensity to import, Nu 2.9 may finally result in substantial Indian rupee equivalent requirement as a creditor converts ngultrum holding into Indian rupee for import purposes. For example, if marginal propensity to import is 0.63, as the rough estimation shows, an increase in gross national disposable income by Nu1 will result in demand for Indian rupee by 0.63 Rs. In absolute terms, the amount spent on imports out of GDP will keep on going up as GDP does. But the estimate of marginal propensity to import is not reliable with a required level of confidence.

62. Trade statistics on imports also seem to be an underestimation by a substantial margin. The southern border towns of Bhutan are being inhabited more every year. The people living close to the border towns of India—perhaps constituting one fifth of the population—carry out their daily shopping across the border because they find it cheaper to do so. Their daily transactions are not official recorded.
An interesting question about excessive seigniorage profit and inflation tax imposed by RMA has not been raised before except by the UN Department of Economic and Social Affairs economist Hamid Rashid. The basic idea of seigniorage is simple. The cost of printing paper currency compared to face value of currency is almost negligible. The cost of printing currency of high denomination above Nu 50 could be as low as 0.3 ngultrum per ngultrum. Thus, the authority, which circulates currency, collects seigniorage or revenue, and excessive issuance of currency relative to the size of economy can result in inflation and undermine one-to-one peg with the Indian rupee. Hamid has provisionally estimated that seigniorage was as high as 4.6% of GDP, and when inflation tax is included, even higher at 7.26% of GDP in 2010–2011. Hamid has remarked that, “this is extremely high by international standards, which typically ranges between 3% and 4% of GDP. Standard economic theory suggests that a small open economy with a pegged exchange rate should not expect to collect a large seigniorage.” The seigniorage issue is relevant because it contributes to money supply and undermines currency peg. The reestimation shows substantial seigniorage made by the RMA but it is lower than Hamid’s findings. This is an important issue for future monetary policy.

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29 Inflation tax = tax rate * tax base.
30 Seigniorage = \( \Delta M \times 1/P \), where \( \Delta \) is change over the previous year, \( M \) is money supply, and \( p \) is inflation.
Another enormously important question is why M2, which is composed predominantly by domestic credit, accelerated since December 2011. M2 has reached (as of October 2014) to Nu70 billion. Within M2, the amount of currency circulating outside banks has been fluctuating little bit above Nu5 billion since 2010. Currency circulating outside the banks as of November 2014 was Nu5.5 billion,32 which means each of the 634,000 Bhutan national had Nu8,564 in cash in his or her pocket. Or it means that among 127,000 households, each household had Nu42,755 in cash. Cash held by every person or every household would not have changed much. However, since the distribution of cash is usually skewed, most of the people in lower quintiles would have less cash.

Time deposit was about Nu21 billion out of Nu51 billion M2 in April 2013. It had further increased to Nu39.9 billion in November 2014. An important thing to note is that the level of time deposit got lower than demand deposit after 2009. Time deposits were higher than demand deposits before that point in time. Demand deposits short-term liquidity has seen spectacular growth from Nu2 billion in 1997 to Nu8 billion in 2005 to Nu25 billion in April 2013. Demand deposit is half of M2. Burgeoning demand deposits of ministries and Druk Holdings Investment could be responsible for this acceleration of demand deposits. Distribution in holdings of demand deposits suggests that about 10% of it on average belongs to government corporations. At any given time, government corporations hold about Nu4.5 billion in demand deposits. It is assumed that government offices (as distinct from government corporations) hold about Nu2.5 billion in demand deposits at any given point in time. Roughly, about Nu7 billion of demand deposits would be held by the government sector, i.e., government offices and government corporations. Current and capital accounts of the government sector maintained in demand deposits contribute to growing level of M2.

As part of the explanation of growing level of domestic credit, it should be noted again that the volume of money maintained as time deposit was higher than demand deposit before 2009. This is an important change in the behavior of money supply. It seems that this could be explained by a combination of two factors. The first factor could be the higher rate of expected inflation that has had a real balance effect, i.e., people did not want to hold time deposits because the acceleration of inflation that has been undermining its value. An indirect evidence of real balance effect is the velocity of money (V=PY=real GDP/M2). Velocity of money is influenced by changing psychology of the people about their demand for money.33 It is inversely related to inflation and it often goes down when inflation goes up. Velocity of money becomes slower as people do not want to hold money. It has slowed down since 2007. It was 1.7 in 2008–2009 and 1.4 in 2010–2011 according to the RMA.34

However, the estimation shows that the income velocity fell gradually over the years from 1.9 in 2003 to 1.0 in 2012. It reached the lowest point, 0.9 in 2010, and has not recovered since then (Figure 14). Velocity of money is just below one now, whereas 10 years ago, it was nearly 2. The second factor could be that the volume of demand deposits in the banks increased due to a rise in government sector revenue as well as increasing government sector expenditure which, importantly, included hydropower investments.

The Indian rupee crisis is attributed by some economists to a change in the composition of foreign currencies reserves between the Indian rupee and dollars. Indian rupee reserves as a percent of total reserves has declined severely since 2006. Indian rupee reserves became less than dollar reserves

of RMA since 2006. But this observation that more should be held as Indian rupee reserve instead of dollar reserve is not a diagnosis of cause but of symptom.

- **Figure 14: Income Velocity (GDP_constant price/M2)**
  - Ratio of GDP at constant price to M2

- **Figure 15: Monthly Status of Foreign Reserves (Jan 2010–June 2014)**
69. It is descriptive and it simply means that the outflow of the Indian rupee has been greater than the inflow. As long as that is the case, reserves of Indian rupee will run. How soon it will run out depends on the initial stock of Indian rupee reserve, and how many years the reserve is sufficient to cover imports. In fact, dollar reserve has a far greater advantage as this currency is appreciating against the Indian rupee and there can be exchange rate gains in future.

70. It has been suggested that half of reserves should be held in Indian rupee. But if outflow exceeds inflow, changing the composition of foreign reserves in favor of the Indian rupee will not resolve the problem. Just as selling dollar reserves from time to time when the rupee is at its lowest point cannot remove the root cause. Only if the Indian rupee or dollar reserves inflow is greater than outflow can the reserves get replenished and get cumulatively higher. For the moment, however, it is important to note that when one looks at the monthly record of the Indian rupee and dollar reserves held by the RMA, they are almost a mirror image of each other. When dollar reserves goes up, Indian rupee reserve comes down (Figure 15).

71. This happened because as dollar is converted into ngultrum, the ngultrum holding is quickly reconverted into Indian rupee for import purposes. So the round tripping of the dollar into ngultrum and back into Indian rupee seems to have taken place with very little time lag. The time lag of completing a round trip from ngultrum to Indian rupee seems to be less than a year—probably 6 months—in Bhutan.

### 4.3 Divergence in Inflation

72. Another fundamental cause of the Indian rupee crisis is the higher inflation in Bhutan compared to India. Usually in other countries, stable price is a goal of monetary policy along with full employment. Full employment is coupled with stable price because they are inversely related: inflation and full employment have a trade-off. Of course, inflation targeting has proven to be difficult in practice not only in Bhutan but elsewhere.

73. Though inflation is a major macroeconomic cause of the Indian rupee shortage, paradoxically, the Indian rupee shortage itself can lead to inflation. The causal relationship can be multidirectional. For example, the Indian rupee shortage led to a rise in food prices in 2012 as supply of imported foods and vegetables became temporarily restricted due to the scarcity and rationing of the Indian rupee.

74. Let us focus the explanation on inflation as a macroeconomic cause of the Indian rupee crisis rather than the Indian rupee crisis as the cause of inflation. Bhutan’s inflation has been about 9% since 2010. It was 9.17% in 2010, 8.45% in 2011 and 9.54%. As mentioned earlier, in 2013 it dropped to 8.5% and further down to 8% in 2014. This was partly due not to a general decrease in prices but to a change in the weights between food and nonfood components of the CPI made in 2013. Partly it was also due to a drop in fuel prices, as it will be explained shortly.

75. Note: Like the consumer price index (CPI), the gross domestic product (GDP) deflator is a measure of price inflation/deflation with respect to a specific base year. Similar to the CPI, the GDP deflator of the base year itself is equal to 100. Unlike the CPI, the GDP deflator is not based on a fixed basket of goods and services; the “basket” for the GDP deflator is allowed to change from year to year with people’s consumption and investment patterns. However, trends in the GDP deflator will be similar to trends in the CPI. The GDP deflator is calculated by dividing nominal GDP by real GDP and
By the end of last quarter of 2013, inflation has dropped to 8.5%. Inflation remained at about 8% in 2014. This general price stability at about 8%–9% inflation in recent years was due to the falling price of fuel. In 2014, fuel price drop was the main cause of stable inflation. A liter of petrol in Thimphu dropped from Nu 73 at the beginning of the year to Nu 59 at the end of the year.

However, it can be argued that the current method and weights attached seems to underestimate core inflation in Bhutan. This is due to weighted averaging across 438 items in the CPI. The problem with Bhutan’s CPI may lie in two areas. First, it has too many items. The basket needs to be pruned to a more sensitive list instead of broadening it to all things bought over a year from exotic drinks and foods to consumer durables. Secondly, weights should be reallocated among more representative but shorter lists. For example, bananas and chocolates have roughly the same weights of 0.24% and 0.22%, respectively, in the current CPI. Their relative weights do not seem unreasonable. But the weights attached to the cost of tertiary education at 0.39%, the cost of pre-primary and primary at 0.36% and the cost of cinemas and theaters at 0.34% when compared with the weights attached to chocolate and bananas might be debatable. People spend far more on children’s primary education than on chocolates. Far greater weight should be attached to educational expenditure. Suitability of relative weights can be judged from drinks and meat in the consumer basket. Beer gets 0.56% weight and fruit juice is given 0.64%. Domestic spirit, which is ubiquitously consumed, gets 0.65% light weight. Drinks seem to fare better in the CPI than meat. Chicken is given 0.57% weight while pork is given 0.50% weight, but beef gets a higher 0.98% weight. Potato, however, is mightier with 1.04% weight. Indian inflation, as measured by CPI, should be much lower than that of Bhutan. But due to the difference in weights and basket size, the inflation rate of Bhutan is implausibly close to that of India. Their comparison is deceptive. Wholesale price index of India, which includes some 600 items in the basket, is far less relevant for comparison though some offices such as the RMA regularly print wholesale price index of India for comparison.

Received soft copy of data from NSB. (K. Tshering, personal communication, July 2013)
CPI. In contrast, the CPI of the gigantic and diverse economy of India is based on far less number of items.  

78. Bhutanese inflation has been so high that in the last 12 years the ngultrum has lost 45% of its value. Because of transport, trading, and tax margins, the price level of imported goods will be obviously higher in Bhutan. But it cannot lead to sustained divergence in inflation between the two countries. A sustained divergence in inflation rates between India and Bhutan is primarily caused by either monetary or fiscal expansion or some combination of both. Such expansion has increased demand for traded goods, making the current account deficit worse due to increases in imported goods and imported labor. Current account deficit in 2011 was about Nu17.5 billion when exports and imports of all countries with whom Bhutan traded are estimated. But current account deficit with India was about Nu12.7 billion of this total of Nu17.5 billion for the same year. The scenario has not changed in 2013, the latest year of reliable data.

79. Increases in demand for imports by Bhutan cannot increase the prices of those goods in India. But fiscal or monetary expansion has raised the prices of domestically produced nontraded goods because of poor supply response. Although it is not discussed here, it should be emphasized that the exponential fiscal expansion since 2000 has been caused by upward shifts in wage and entitlement bargaining in the public sector employment as well as the expansion in the size of the public sector employment. It should be noted that there is no wage or salary index in Bhutan. However CPI includes rental cost that has 15% weight.

80. Higher prices should stimulate higher production of nontraded goods. In an open economy with easy access to sources from India, demand shifts toward imported substitutes of such nontraded goods because of their lower prices. An example may be the price of Tsirang (district)-produced vegetables going up by 15% every year while an Assamese vegetables’ price is going up by 5% a year. Such divergence in prices induces a continuously deteriorating BOP (with respect to vegetables imports in this particular case) and consequent running down of Indian rupee reserve. Under the fixed exchange rate between the two countries, this cannot go on forever; foreign exchange reserves will be depleted. Of course, it need not be depleted as long as there is increasing amount of grants from the Government of India flowing to support Bhutan in one form or another.

81. As the GDP of Bhutan increases, so has its propensity to spend on imports. Spending, as measured by GDP, on domestic goods rises but it rises less than GDP because part of GDP is saved although an overwhelming part of it is spent on imports. A small degree of import price increase does

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38 For nuanced effects of fiscal deficit and crowding out see Cook, S. T. & Jackson, P. M. (1979).
41 Annual growth of M2, broad money, has been sharp since 2006. Its annual growth rate was 39.7% in 2009 and 16.5% in 2010. Its growth decelerated to 4.1% in 2011 and 5.7% in 2012. M2 volume reached Nu43.8 billion in 2009, Nu51.1 billion in 2010, Nu53.2 billion in 2011, and Nu56.2 billion in 2012. Fiscal trend taken at face value is quite deceptive because hydropower investments and other corporate investments are excluded from budgetary accounts although their revenue and debt service payments are included in the government budgetary accounts. Even with this proviso applied to fiscal measurement, the total expenditure of the government grew at a yearly rate of 29.8% and reached Nu19.6 billion in 2008, 6.1% and reached Nu20.8 billion in 2009, 23.7% and reached Nu25.8 billion in 2010, 14.3% and reached Nu29.5 billion in 2011 and 28.4% and Nu37.8 billion in 2012.
42 See Trevithick, J. A (1981), especially chapter 7 for insightful analysis. He discusses how certain key groups of workers like civil service or DHI*spell out DHI** will leapfrog over others in their salaries and the rest will press for higher wages. The process causes spiraling wage-push inflation.
not exert expenditure switching effect in favor of domestic goods. The government often considers increasing import taxes as people’s income rises so that the price of imports rises relative to exports and import volume and value is lowered. Relative increase of prices of imports by imposing additional taxes could improve trade balance only if the sum of import plus exports elasticity exceeds unity. What is known as Marshall Lerner condition is most likely not satisfied in Bhutan economy. Rising import taxes will have a limited effect on improving trade balance under such circumstances. Further research with better data should reveal whether it is true or false. In any case, whether import tax increase improves trade balance also depends on how the government uses the revenue accrued from increased import taxes. If the government is able to use the revenue thus accrued to switch its expenditure to domestic goods more than the households sector, trade balance can improve. Short of this, restricting imports by imposing higher taxes will not meet the objective of improving trade balance fully though it will obviously improve revenue for the government.

82. Divergence of costs of goods produced in India and Bhutan and its effect on the Indian rupee was discussed so far. Higher wages (wage–costs inflation) in Bhutan is another contributory factor to the Indian rupee crisis, because it has led to import of cheaper labor for construction especially in the urban sector. An unskilled laborer from India is about Nu400 per day while it is about Nu500 minimum for a Bhutan. The growth of private housing in urban Bhutan relative to rural areas can be explained by two basic factors. The first is the allocation of credit to construction sector that happens mostly in urban areas. The second factor for the growth of urban Bhutan and its construction is ease of importing labor into urban areas relative to rural areas. In fact, there is no clear regulation allowing for importing cheaper labor from India for rural house construction. Since labor cost probably constitutes 30% of the construction cost, any labor cost differential due to labor import policy bias the investments. In the Bhutan economy, the difficulty of getting cheaper labor import permit for rural areas makes investments pay off in urban construction much more viable, and hence this also leads banks to investing in urban areas.

83. Major causes of loans or credit growth are construction booms, inflationary costs of construction materials, resultant trade deficit, and the Indian rupee shortage. This started with the greater Thimphu town declaration in 2005 that began to draw credit into construction several years later. The construction boom has continued in Thimphu and western Bhutan, compared to rest of the country. The abnormal growth of construction in the capital city just before the Indian rupee shortage struck is shown Figure 17. The construction loans would have been committed and disbursement continued in 2012 and 2013 when the Indian rupee shortage became acute.

84. There are now some 60 declared urban sites and their development will require credit. In 2011, officially classified credit to construction went up from Nu5.7 billion in 2008 to Nu14.5 billion in December 2012, corresponding to 30% to 27% of the total credit. It went further up to Nu15 billion in April 2013. By the end of June 2014 financial sector investment in building and construction has soared to Nu16.2 billion out of Nu63.3 billion total credit disbursed, which is 25% of total credit. Transport and construction loan together constituted 35% of the total credit in April 2013. The credit freeze toward construction that the RMA instituted in 2012 onward have slowed its pace, before allowing credit to resume in 2014.

Construction loan amounts exclude credit given by the National Pension and Provident Fund, which also provides construction credit. The actual amount could be higher as other credits used for construction might be disguised. It might be better to control this through administrative slowing down.
of urban plans. It would give space at the same time for aesthetic, architectural, and functional dimensions of urban planning to be improved. Administrative credit control by the RMA for construction might lead to many distortions. Control of vehicle loans had temporarily decreased the total credit to the transport sector as seen from a steady decline from Nu4.8 billion in 2012 to Nu2.4 billion in 2014. But building and construction loans have increased. The number of vehicles increased from 62,697 in 2011 to 67,449 in 2012, and the total number of registered vehicles as of 31 December 2014 had reached 69,60247 with a disproportionate number of vehicles—65%—registered in Thimphu. Disaggregated vehicle population shows that the number of light vehicle imported since 2011 have slowed down. Light vehicle imported decreased from 4,921 in 2011 to 3,104 in 2012.48 This trend is getting reversed as the ban on vehicle import licenses was partially lifted in mid-2014.

86. Foreign workers are mostly engaged in the construction sector. The Indian rupee outflow on account of foreign workers is substantial. In the BOP accounting, it is part of the invisible trade that contributes to current account deficit. In 2011, about Nu4.8 billion worth of Indian rupee has been paid as remittance on account of wages and salaries of laborers and professionals from India. It is obvious that about Nu5 billion of Indian rupee that is incurred in current account deficit can be reduced if Bhutan nationals can work in a similar tough working condition as Indian workers, but this is very unlikely to happen in the foreseeable future. For Bhutan citizens, the substitute effect of leisure seems to dominate income effect at the wage rate offered to workers from India. On the other hand, adaptation to working conditions in the construction project could be made attractive to prospective workers through training and better housing conditions. One part of the solution to the current state of underemployment will lie in creatively and proactively organizing a substantial number of Bhutan youth to work in the hydropower construction projects over the next decade. Their training has to precede hydropower investments.

5 POLICY IMPLICATIONS: LESSONS AND THE WAY FORWARD

5.1 Forecasting Balance of Payments

87. If the Indian rupee outflow were greater than inflow, after running low on foreign currency reserves, there will be two options to cope with the deepening current account deficit. First, increasing the borrowing of Indian rupee or hard currency to continue financing current account deficit. This will make future governments and society face a high mountain of debt and debt service. Second, the ngultrum can be devalued sharply against the Indian rupee to arrest the deficit from growing. If one-time devaluation does not eliminate the deficit effectively, a dirty floating exchange rate can be adopted. Devaluation will make imported goods overnight dear and choke import demand to an extent. It will be a painful process before the economy can be restructured. Not only will devaluation make inflation in Bhutan shoot up, devaluation will make the Indian rupee debt service grow overnight. Bhutan’s external debt is mostly in terms of Indian rupee, owed to the Government of India. The effect of devaluation on increasing Indian rupee denominated debt will be extremely serious. Devaluation by 20%, for example, will increase debt service liabilities for both the Indian rupee and dollar-denominated debts by that proportion because more ngultrum per Indian rupee or more ngultrum per dollar will have to be exchanged. As the level of debt service increases, revenue left for domestic expenditure will be less.

48 Road Safety and Transport Authority. (Personal communication, 6 August 2013)
88. Foreign reserves can be drawn down to pay for current account deficit when exports cannot cover them. The government meticulously maintains information on its debt service schedule for the next 5 years, but this information is not adequate if we wish to judge the expected level of stress on foreign reserves, for example, over the next 15 years. It is equally important to estimate the future stress on foreign reserves from multiple sources, including current account deficit.

89. In general, foreign reserve holdings can change due to combined changes among three factors:\(^49\) the current, capital, and financial accounts. Transactions on the current account means trade in goods and services. Foreign aid and hydropower investments affect capital account. Short-term external borrowing from e.g., State Bank of India is part of financial transaction account. By identity, the three different accounts should total up to reserve assets. A collation of three accounts can and does give a rough estimate but does not add up due to statistical discrepancies.

90. The time path of outflow out of foreign currency reserves needs to be methodically estimated by taking into account both the debt service and the likely size of deficit current account at any given point of time in future. Only when there are reliable estimates of the two streams of outflow out of foreign currency reserves can the comfortable level of foreign reserves be known. The current state of information maintained by the government should be improved to show the level of outflow in terms of the Indian rupee and dollars over a longer horizon over time. Currently, there is no systematic information on the scenario of current account deficit over the next 5 years although the RMA will be obliged to settle current account deficit. This deficiency in generating information over a longer period of time will compel the government and the RMA to undertake short-term reaction to the problem. They will have to borrow hastily to finance current account deficits; this became evident in the Indian rupee commercial borrowing in recent years, especially in 2012 and 2013.

91. The liabilities on level of international reserves arising from debt service payment in the next few years can be predicted. This horizon of debt service payments needs to be extended into the next decade a little more precisely and roughly over 2 decades. Moreover, we need to anticipate with greater salience the pressure on the currency reserves from the current account and financial transaction accounts, at least over the next 5 years. They have implications on international reserves level. Extrapolating from the past trend, imports of goods and services from India will place far more demand on Indian rupee reserves in the future than the country has been accustomed. Merchandize imports from India have grown at an annual average rate of 17% between 2001 and 2013. Indian rupee-denominated import increased from Nu 6.9 billion in 2001 to Nu 43.6 billion\(^50\) in 2013, which is a spectacular rise of imports resulting also from structural change in economy.

\(^{49}\) Clarifications on distinctions between the three accounts, as well as for other comments on the article (Hamid, R. PhD, personal communications, 23 July 2013).

\(^{50}\) See Bhutan Trade Statistics (2013), chapter on trade with India.
92. The time path of the Indian rupee earning and reserves should be foreseen for over a much longer period for two reasons. First, it will be useful to assess the capacity for Indian rupee debt service payment. Second, it will be useful to assess the capacity for Indian rupee financing of current account deficit. Forecasting is difficult yet necessary to do taking into account probabilities of various factors including the likely level of electricity tariff.\(^{51}\) Income in Indian rupee from electricity export adjusted for debt service repayment is a key element in export earnings. Changes in scenarios of future Indian rupee earnings and reserves level can be updated regularly by feeding information on changing circumstances bearing on many vital trends such as fuel and electricity prices and construction material costs.

93. In the long term, hydropower investments will earn Indian rupee and currency’s reserves will increase. But there is an overly optimistic view, without realistic quantitative assessment, about the extent of increase among decision makers. By how much and when Indian rupee earnings will increase from hydropower revenue should be quantified with realistic assumptions over a longer time horizon, also taking account 250% cost escalation over the detailed project report with their negative consequences on debt servicing. Net Indian rupee earnings from hydropower, by deducting the hydro debt service, should be carefully estimated for the fiscal and monetary planning to be more effective. In 2011, Indian rupee earnings from hydropower was Nu 9.8 billion while hydropower debt service payment was Nu3 billion. By 2014, hydropower export revenue reached just Rs10 billion, while petroleum products imports from India, which has to be paid in Indian rupee also reached Rs 8.4 billion (Kuensel 20 February 2015).

5.2 Arresting Terms of Trade Deterioration

94. While long-term structural conditions for earning Indian rupee are being improved through competitiveness, expenditure in general has to be redirected to domestically produced goods. Import intensive consumption component of the GDP have to be contained. Simultaneously, expenditure switching to domestic goods and expenditure reduction has to occur to bring both internal and external balance. Consumption, made up of government and private consumption, is growing at a conspicuous rate. It was about Nu 24.1 billion in 2006, rose to Nu 54.6 billion in 2011, and further to Nu78 billion in 2013.\(^{52}\) Investment dropped to Nu 49.3 billion in 2013 from Nu 63.6 billion in 2012 (National Accounts Statistics 2014).

95. To contain current account deficit, official policy has been to suppress import-oriented private consumption through taxation. But this is unlikely to be effective although this is the currently dominant view that shape decision. Private consumption is anyway not growing at a fast pace unlike government consumption and investment. Changing the size and direction of government consumption and government investment will be instrumental in containing current account deficits. Increasing import duties on certain imports will reduce current account deficits substantially if the

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\(^{51}\) An example of hazy view of future over the next 2 years is found in the RMA’s Monetary Policy Statement, June 2012, pp. 16–17. It should be substantial and predictive, but it leaves much to be desired. The numbers are all in percentage of GDP, which people do not know, instead of absolute figures. Absolute figures would be helpful for guidance. Furthermore, published GDP statistics comes out with a lag of 1 year or longer. The public has no access to absolute numbers until then. The estimates of GDP over the next plan period are done by the government’s Macroeconomic Coordination Committee of the Ministry of Finance. The framework is not accessible as it should be. For businesses and people to situate their plans better in the future, not only GDP but their compositional breakdowns would be useful.

\(^{52}\) However, the estimates in various agencies of the government need major improvement to have confidence in them. Statistical discrepancies in the estimates of consumption component of GDP from 2006 to 2010 are so large that interpretations have to be extremely cautious. For example, 2007 consumption level was estimated to be Nu28.9 billion but statistical discrepancy was a huge Nu13 billion.
goods have an elastic demand, i.e., price elasticity of demand is greater than one. It is doubtful whether this is the case with many of the privately imported consumption goods such as cars currently subjected to high import tax although it generates revenue for the government. Ultimately it is not import tax on selected goods imported by the private sector that will make a difference to the current account deficit but how the government expenditure in totality can be switched to domestic products. Government consumption is very high in the Bhutan economy. So the attention to fiscal policy in terms of expenditure efficiency, expenditure reduction, and expenditure switching to the domestically produced goods has to be the focus far more than how to raise taxes to match rising recurrent expenditure. This naturally takes the discussion to fiscal and monetary policies related to the Indian rupee shortage.

5.3 Curtailing Monetary Expansion

Monetary and fiscal policies to address macroeconomic stability including inflation and current account deficit seem ineffective. Cash reserve ratio for banks was raised for a short period to control credit directly and to control current account deficit indirectly. But it was not sustained. Cash reserve ratio fell from 23.1% in 2012 to 18.7% by December 2013. It was further brought down to 13.8% by the end of October 2014. However, cash reserve ratio cannot be a totally effective way to control credit, regardless of the rates, because the RMA permits the banks to buy government treasury bills using cash reserve ratio, if they wish. Thus the aim of cash reserve ratio to reduce money supply, control credit and inflation, and contain current account deficit is undermined.

But the issuance of treasury bills has raised money for the government. At the end of year, government borrowing in this manner stood at Nu3.1 billion in 2010–2011, Nu16.4 billion in 2012–2013 and Nu2.8 billion in 2013–2014 based on the revised figure provided in the national budget report 2014–2015. However, for the purpose of analyzing credit control, money borrowed by the government through treasury bills and debt outstanding at the end of the year, by not repaying it, is not an adequate and sensitive enough measure. The figures just reported give end of the year debt stock of the government to the financial institutions. What should be considered is the cumulative borrowing in a year even though they have been redeemed. The total turnover of treasury bills, which is several folds greater than the end of the year debt stock, makes an impact on M2 increase, and hence credit creation. Credit creation correspondingly has an impact on imports from India.

In Bhutan, one major area of investment through borrowing from the banks is the private sector urban housing construction. For the last 50 years of development, lending by the banking sector has been mainly toward urban growth. At present, the financial institutions supply only a negligible amount of credit to rural sector. Rapid urbanization came about due to two fundamental economic factors: easier credit and cheaper labor import that privileges urban areas compared to rural areas. As shown earlier, the Indian rupee shortage in 2012 was also caused partly by sudden boom in constructions of Thimphu city. According to the National Urbanization Strategy 2005, there are 60 urban sites throughout the country waiting for credit. The proliferation of designated urban sites will stimulate credit demand and import of building materials, which will undermine the Indian rupee sufficiency. The National Urbanization Strategy 2005 needs to be reexamined also from this perspective.

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53 Motor vehicle tax contributed revenue of Nu177.5 million in 2011–2012 up from Nu117 million in 2008, while the green tax imposed will add another Nu 3 million assuming 3,000 plus light vehicles are imported.

54 Credit disbursed to the agriculture sector has been usually about 2% of the total. It has been the lowest of all sectoral loans.
99. After the Indian rupee shortage emerged, measures taken have resulted in moderating growth of certain key monetary variables. The control of growth of M2, the measure of broad money, has been fairly effective. It has not grown much over the last 2 years. However, this has not translated equally into control of domestic credit and consequent solution to the Indian rupee shortage. A variety of instruments to control domestic credit have been applied. Yet domestic credit is on an upward trajectory. Domestic credit was Nu 53.4 billion in March 2013 up from Nu 45.3 billion in March 2012. Money supply is a product of money multiplier and high-powered money that includes reserves. Since money supply as measured by M2, or for that matter M1, has not increased significantly in the last 2 years, it is the money multiplier, along with the variables that affect it, that has to be targeted more clearly. Money multiplier depends on the behavior of the public and the banks. Much more quantitative work with a view toward building predictive frameworks and analytic interpretation of the data is needed for policy purposes.

100. Sterilization of inflow to temper temporary ups and downs in liquidity in the financial system is another measure than should be considered. When the stock of Indian rupee increases in the RMA’s reserves due to grants from India and hydropower investment, counter value in ngultrum is injected into the banking system. That will increase M2 components and domestic credit. To offset this monetary expansion, a certain amount of Indian rupee reserves, if it goes up for a short while abnormally, could be maintained outside the Bhutan banking system for a certain period by opening a subsidiary the BOB in India such as Delhi, and others in nearby towns of Siliguri and Bongaigoan. This will reduce M2 and domestic credit creation while the Indian rupee is easily available in the BOB subsidiary banks in India and can be used to settle transactions directly by account holders of the BOB. There are also other advantages of sterilizing and stabilizing by opening BOB subsidiary banks in India, compared to doing it in conventional way within the country.

101. Last, exercising control over monetary variables should involve close attention on the question of seigniorage profit, made by issuing currency, and inflation tax. The UN Department of Economics and Social Affairs economist Hamid Rashid had estimated that when seigniorage profit and inflation tax are added together, the percentage was as high as 7.26% of GDP in 2010–2011. Seigniorage revenue should be 3% to 4% of GDP. Excessive seigniorage revenue is a factor that can contribute to undermining of currency peg.

5.4 Containing Fiscal Expansion

102. In terms of fiscal expansion, the volume of government expenditure is likely to increase on average by about 15% or so annually, as has been the long-term trend. At the same time, hydropower investments, in the six projects, which are considered off budget, that have either started construction or are likely to begin construction soon will bring exponential rise in expenditure in the country. The exact amount invested each year in hydropower sector will depend on the number of projects that will begin every year. The total expenditure (government expenditure plus hydro-investment in any given year) can be calculated depending on the cost escalation and staggering of hydropower project investments.

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55 It is not so clear at this stage as to which measure of money fits the best definition of money in the context of Bhutan. Supply and demand functions for money have to be modelled to understand their behavioral functions in the context of Bhutan. Simple regression models can be tried to estimate the parameters of the relevant independent variables with the objective of leading us to better monetary planning and policy.

56 Gaudel (2003), to comprehend about monetary system of Nepal.
construction schedule.\textsuperscript{57} Such exercises should further inform decisions on the link between Indian rupee reserve scenarios and total expenditure in the economy.

103. An increase in expenditure (E) will lead to current account deficit of magnitude, depending on absorption capacity of the economy. Absorption capacity is identically equal to $E ≡ C+I+G$, where $C$ is consumption, $I$ is investment and $G$ is government consumption. Total spending is usually summed up in GDP though it would be preferable to use GDNI (gross disposable national income) in the case of Bhutan.\textsuperscript{58} Rearranging the identity, absorption rate is given by $E ≡ X-M$, where $X$ is exports and $M$ is imports of goods and services. As spending rises, spending on domestic goods rises but it rises at a rate far less than GDP. This is because part of income is saved but an overwhelming part of it is spent on imports.\textsuperscript{59} Expenditure increase will lead to GDP increase but given the high marginal propensity to import and high money multiplier, it will lead to current account deficit that will not be fully covered by grants and capital inflow in hydropower investments. If current account deficit and consequent Indian rupee shortage are to be alleviated, expenditure switching to domestic goods has to be pursued vigorously.

104. One of the main factors for the phenomenal fiscal expansion has been the increase in the size of civil service as well as the periodic pay rise of the civil service and public commercial corporations. The civil service size has grown by about 5% over the last 12 years. It seems modest on an annual basis but over that period, the size of civil service has more than doubled. The increase in wages and salary and ancillary expenditures has been largely responsible for the fiscal expansion that leads to wage push inflation. The reduction in recruitment of civil service, by right sizing, is a current initiative of the government. Control of wage–price spiral is another initiative that needs to be launched. If not public sector employment will continue to impose huge costs on society.\textsuperscript{60}

5.5 Addressing High Inflation

105. Inflation has had a corrosive effect on living standard. One ngultrum has lost 45% of its value in the last 12 years. The obvious implication of this inflationary effect is that to maintain the same real income level at the end of 12 years, nominal income has to increase by 45%. Inflation has a distorting effect on different strata of society and economic sectors because it affects are not equal. It has also had a disincentive effect on time deposits and savings. There has been no noticeable growth in the size of time deposits since 2010.

106. Transmission of inflation from India cannot explain the divergence in the core inflation between India and Bhutan. Excessive monetary growth on the one hand and huge fiscal expansion on the other have led to an inflationary situation. If the CPI were more sensitive,\textsuperscript{61} it would show that the

\textsuperscript{57} Different scenarios give us rise different policy options for debt stock, debt repayment, and revenue streams.

\textsuperscript{58} Though GDNI is the most appropriate measure of spending for Bhutan. GDNI is 11%-15% higher than GDP because of relatively large transfers to Bhutan. But let me use GDP in this example.

\textsuperscript{59} Bhutan’s GDP was Nu85 billion in 2011 when its current account deficit was Nu25 billion. GDP in 2013 rose to Nu104 billion with a current account deficit of about Nu22 billion, contained by ban on loan to personal vehicles and housing construction. Restriction on both of these items have been eased in mid-2014.

\textsuperscript{60} The pension system will become negative in 2033 under present system and a substantial injection of public resources will be needed to keep it operational. This was reported in the National Budget Report of June 2014 presented to the parliament.

\textsuperscript{61} The CPI is overly extensive in the breadth of the goods and services. Bhutan could do with far less items in the consumer basket. The Indian consumer basket for example takes only 260 items whereas Bhutan has 438 items. The overall effect of weighted averaging over so many items is that core inflation is most likely underestimated. Bhutan needs to reconsider the basket and weights so that changes in the cost of living is tracked appropriately and used also for policy purposes.
Current account deficit has grown due to a shift in the demand from nontraded goods to import substitutes, which are cheaper even after taxes, trade, and transport margins. Factors related to inflation and terms of trade deterioration should be addressed at a more fundamental level through broader economic planning. In support of assessing terms of trade deterioration, there is also a need to compose and launch an export price index and import price index to assess terms of trade. It can be done quickly for a small economy, by perhaps taking top 50 items each for export and import.

107. Neither inflation nor terms of trade deterioration is presently considered major policy objectives, as well as deeper structural causes of Indian rupee shortage. Inflation and wage spiral will make the economy uncompetitive. Wage-cost inflation has led to higher prices of export goods because of the high labor share of value added in any production of exported goods is quite high. Typical export goods from Bhutan consists of agricultural products, raw minerals, mineral-based products, and electricity. All of these export goods, except electricity, contain high labor share.

108. The Inflationary situation is the main bargaining point for higher wages especially in the public sector employment. And hike in wages in the public sector employment are being essentially paid for by hydro-revenue. The competitiveness of basic chemical industries like cement manufacturing or steel rolling have been gained by cheaper domestic electricity price for industries. Yet the prices of major exports have not been rising fast enough compared to the prices of major imports, leading to a severe deterioration in the terms of trade. As an example, the export price of a unit of electricity has not gone up much in the last decade although the price of fuel has gone up very sharply in the same period. The lessons for what can maximize export earnings is not necessarily to expand output but to pay much greater attention to value maximization. The basic thrust has to be improvement of labor productivity equally in the major sectors through introduction of technology as well as skill improvement. Productivity of labor can increase as a result of accumulation of manual experience and technological progress. Application of appropriate technology is vital to increase labor productivity. There is currently no adequate attention paid to the selection and diffusion of technologies that can enhance labor productivity in agriculture, manufacturing, and construction. There is considerable focus on the adoption of virtual communication technology. More focus ought to be given to machinery and tools that can enhance productivity in agriculture, small-scale artisan businesses, and construction sectors. The government’s recent establishment of Business Opportunities and Information Centre (BOIC) that gives loans for rural enterprises is a beginning in this direction.

6 CONCLUSIONS

109. Foreign currency reserves are affected by change in capital account, current account and financial transaction accounts. Better estimation of likely burden on foreign currency reserves arising from all three accounts over a longer period of time is desirable. So far the practice has been to estimate debt service payment on capital account only, usually over the next 5 years.

110. On capital account, the volume of inflow during the construction period of hydropower and the estimation of the construction cost needs to be sharpened. The amount of Indian rupee that will flow out to repay the debt contracted for hydropower projects will have a critical impact on the Indian rupee reserves as well as government revenue. It is not only the amount but also the time-path of outflows and inflows that matters. Mismatch between outflows and inflows have to be estimated on an annual basis, if not on a shorter period.
111. Current account balance has not improved. How much it will worsen should be forecasted and quantified, to find ways of controlling it. Assessing the size of the current account deficit has become a critical exercise to be undertaken. Macroeconomic difficulties the country will face arise from the high marginal propensity to import (about 0.63 according to this estimate) and the high money multiplier of 2.9 (according to the RMA estimate).\(^6\) It also arises from lack of competitiveness due to higher inflation, higher cost of production, higher capital costs, and lack of technology.

112. The government has been a major borrower from the banking system. Monetary and fiscal policy can be usually independent instruments. The distinction depends on whether fiscal deficit is financed by the sale of treasury bills to the public or by the sale of treasury bills to the banks via the RMA. It appears that there is not much distinction between monetary and fiscal policy when it comes to financing fiscal deficit in Bhutan. Banks are the main buyers of treasury bills, and thus budget deficit contribute to money supply and credit creation.\(^6\) In fact, a banks cash reserved ratio is used to buy treasury bills. The effect of borrowing through overdrafts and treasury bills was substantial. The government needs to lower its impact on the domestic credit market.

113. Budget deficit financed by borrowing from the banking system would have led to an equivalent loss of credit for private investors. Crowding out of the private sector is a reality also repeatedly attested by the complaint about lack of enough credit by the Bhutan Chamber of Commerce and Industry.

114. Over the last few years, credit indicators point to tight liquidity. Credit to asset ratio has jumped to 75% and credit to deposit ratio has exceeded 100% over the last few years. Credit to deposit ratio has been rising over the last decade. The growth of credit was matched by aggressive borrowing by several big investors since 2010. A lesson from the recent experience of Indian rupee shortage is that big projects, which depend on large volume of credit from the financial institutions in Bhutan, should not be concentrated over the same period as they will cause tight liquidity as well as Indian rupee shortage. Urban expansion, such as Thimphu city since 2010, which led to jump in lending for construction sector imports also contributed significantly to Indian rupee shortage. In an economy with a high marginal propensity to import, which is extremely open toward India, credit leads to imports and Indian rupee shortage.

\(^6\) But this estimation of marginal propensity to import is not completely reliable as there are data errors in trade statistics, most probably on the side of substantial underestimation of imports.

\(^6\) The stock of budget deficit measured at the end of budget year gives a different picture from the turnover of overdrafts the government took from the banks in a budget year. In the 2012-2013 budget, the deficit was about Nu4 billion, and this increases the government’s debt stock. However the amount borrowed through 90-day treasury bills from the banks and repaid in the budget year was nearly Nu13 billion, which is a huge amount in a total credit of Nu53 billion. Likewise in the latest FY2014-2015, the government had already borrowed Nu9 billion through 90-day treasury bills. The amount of Nu9 billion will re-repaid within the same fiscal year since it is borrowed for 1 year cash management purpose. In addition, it is projected that the government will borrow Nu4.8 billion from domestic banks. But this will not be redeemed in the same fiscal year. The combined effect of treasury bill operation in such large amount and borrowing for longer period is sufficient to impact domestic credit creation enormously.
GLOSSARY

M1 – All physical money, such as coins and currency, as well as demand deposits. M1 measures the most liquid components of the money supply, as it contains cash and assets that can quickly be converted to currency.

M2 – M2 means the total of currency outside the banks, demand deposits, saving deposits, time deposits, and foreign currency deposits held by foreigners, such as diplomats, allowed to hold their accounts in foreign currencies. They constitute together the supply of money.
REFERENCES


Bhutan’s Indian Rupee Shortage: Macroeconomic Causes and Cures

With over 74% of Bhutan’s trade taking place with India, ample holdings of Indian rupee reserves are critical for trade. In 2011, pressures on rupee holdings extended to levels unable to be matched by official rupee holdings, resulting in liquidity or rupee crisis. This chapter analyzes the causes and cures of the Indian rupee crisis and finds that excessive monetary growth, inflation differentials between India and Bhutan, and terms of trade imbalances were key factors in the Bhutanese liquidity crisis. It provides recommendations for the ongoing management of rupee reserve holdings.

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