Understanding the Causes of the Rupee Shortfall:

A Macroeconomic Policy Challenge for Bhutan and the Way Forward

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The Rupee shortfall in itself does not represent an economic crisis for Bhutan. It underscores the need for prudent and active liquidity management and a pragmatic monetary policy framework, striking a balance between earning seigniorage and mitigating the direct and indirect costs associated with excess liquidity. A rapid expansion of the money supply created excess liquidity in the banking system, which in turn, created opportunities for rapid growth in credit for imports. The money supply growth could be contained with sterilization of some of the Rupee inflows, especially inflows that were earmarked for hydropower projects related imports. Effective sterilization of Rupee inflows and reducing the timing mismatches between inflows and outflows would help to reduce both the demand for Rupee and the current account deficits. Furthermore, the Rupee shortfall underscores the need for a more strategic management of Bhutan's international reserves, taking into account the size, timing and direction of its external financial obligations. This may require rethinking the level and composition of its reserves. A prudent management of banking sector liquidity and international reserves will remain critical for maintaining the sustainability of the Rupee-Ngultrum peg and ensuring the macroeconomic stability of Bhutan.

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I. Current Account Deficit and The Rupee Shortfall

Bhutan's current account deficit dipped to -22.2% of GDP at the end of 2010-11 fiscal year. This is, however, not the worst current account shortfall in Bhutan's economic history. During 2004-05, the current account had reached -32.4% (Chart I). In December 2011, the current account deficit unraveled in acute shortage of Indian Rupees (INR), requiring the Royal Monetary Authority (RMA) to sell USD 200 million of international reserves to meet current account payment obligations to India. In principle, RMA provides Bhutanese nationals with unlimited convertibility to Indian Rupee as a necessary pre-condition for maintaining the peg between Ngultrum and INR. As the Rupee shortfall became acute again by February 2012, RMA stopped replenishing Rupee requirements of commercial banks and introduced several administrative measures, including monitoring the Rupee demand, prioritizing Rupee spending and providing Rupee liquidity for essential imports and suspending imports of private vehicle and construction materials for new buildings. These measures, while containing the escalating demand for INR, have had some destabilizing effects on the market. Private sector generally reacted negatively, fearing that these measures will undermine growth and private sector development. More fundamentally, the recent episodes of the Rupee shortfall is raising concerns about the sustainability of the one-on-one peg between Ngultrum and INR, against the looming prospect of an unofficial currency market where Ngultrum is traded at a discount.

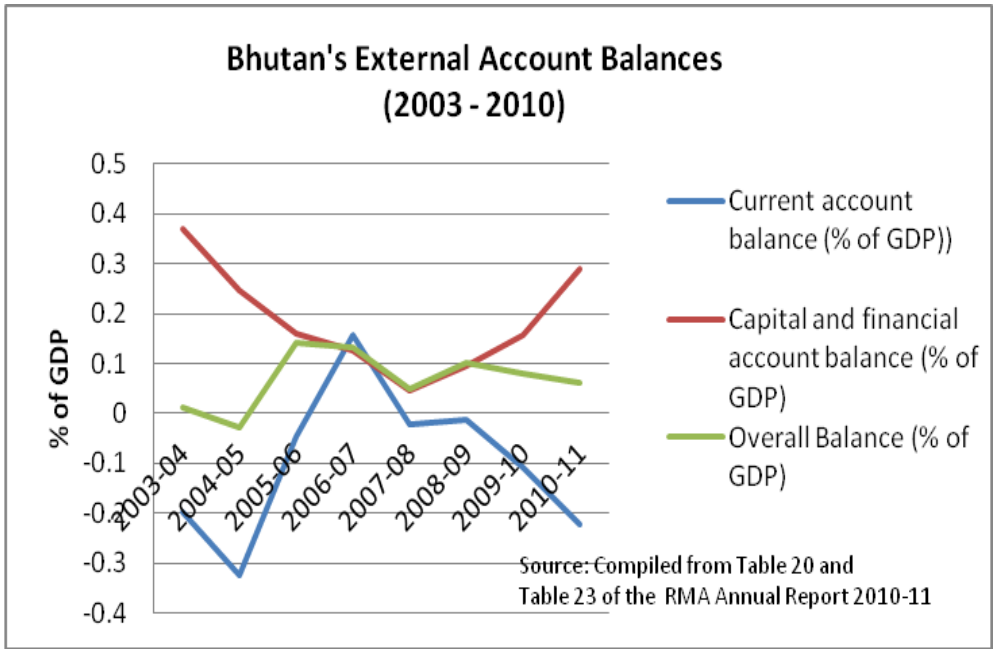

Chart I: Bhutan's External Account Balances – 2003-2010

Notwithstanding considerable swings in the current account balance, the Bhutanese economy grew at an average rate of 8.48% during 2001-10, making it one of the fastest growing economies in the world. During this period, Bhutan's international reserves increased by nearly three-fold from USD 366.6.4 million in 2003 to USD 1.002 billion in 2010. The annual growth rate of international reserves at 13.6% surpassed the GDP growth rate. . During the same period, the share of international reserves, as percentage of total external debts, increased from 75.4% to 111.6%.

Bhutan's current account imbalance is large by international standards, but it is neither unprecedented nor unexpected. The recent spike in the deficit is driven by a surge in the trade balance with India – Bhutan's largest trading partner. The trade balance was -32.5% of GDP in 2010-11 (Chart II), with net transfers, mostly grants from India for budgetary support, partly offsetting the imbalance. It appears that the episodic large current account coincides with the construction of hydropower projects, which requires Bhutan to import nearly all the construction materials from India. The current account deficit had ballooned in 2004-05 when Bhutan was implementing construction of the Tala hydropower project during 2004-2005. The recent surge in hydropower project related imports, which increased from Nu 640 million (1.3% of GDP) in 2007-08 to Nu 12.37 billion (17.07% of GDP) in 2010-11, explains as much as 70% of the current account shortfall. If there were no hydropower related imports during 2010-11, the current account deficit would have been within -6% of GDP. A rapid increase in private sector imports - mostly imports of automobiles, fuel and services – can explain the remaining 30 % of the current account deficit.

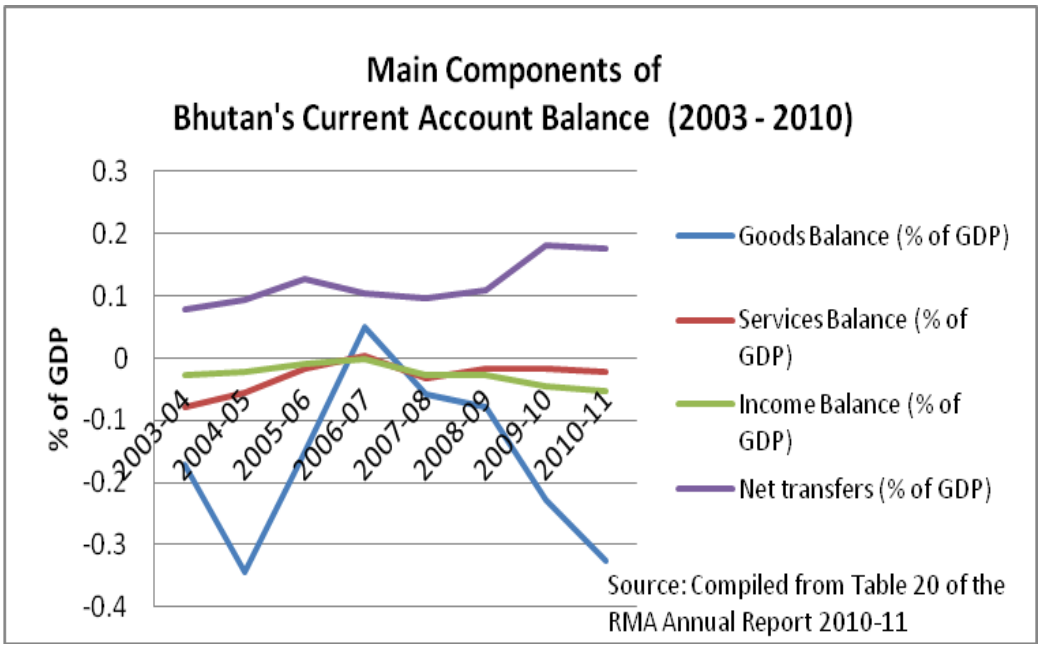

Chart II: Main Components Bhutan's Current Account Balance (2003 - 2010)

The import elasticity of GDP growth in Bhutan, though volatile, is not unusual by international standards. In most countries, growth in imports and domestic demand show considerable variations over time, but they usually move in the same direction and the swings in imports are typically more pronounced than those in domestic demand. As a rule of thumb, an elasticity of import of about 2 is observed across countries. In case of Bhutan, the import elasticity clearly fluctuates along the hydropower construction cycles. The elasticity rose over 2 during 2003-05 which coincided with the construction of the Tala hydropower project[2] but remained below 2 until 2009-10 when the new round of hydropower constructions began. In 2009-10, import elasticity jumped to 3.1 (Chart III).

[2] Also the purchase of the Druk Air aircraft

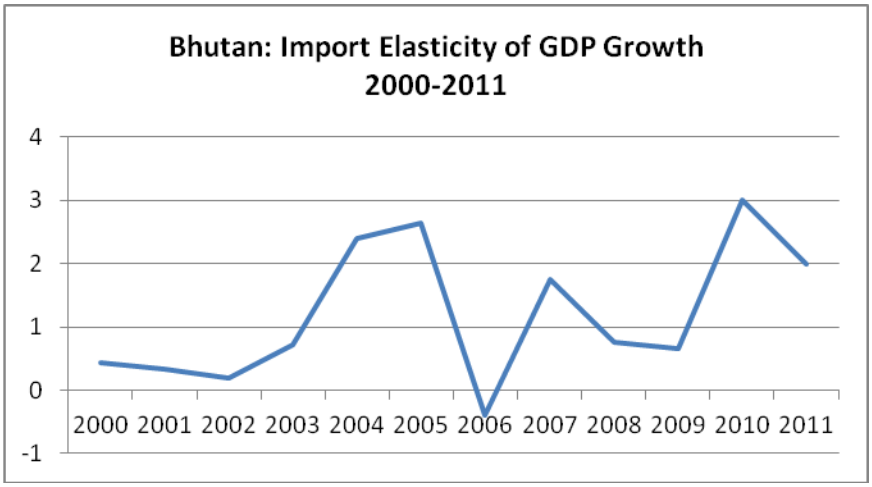

Chart III: Import Elasticity of GDP Growth in Bhutan: 2000-2011 (Source: RMA and WDI)[3]

This paper draws on the analysis and recommendations of the Royal Government of Bhutan Task Force Report (TFR) on *Balance of Payment With India and the Rupee Shortfall* and reviews Bhutan's recent experience with the Rupee shortfall, benchmarking comparable countries with similar economic structures, levels of trade-dependence and macroeconomic and exchange rate policies. Nepal, with its exchange rate pegged to the Indian Rupee and India as its largest trading partner, offers a good comparison for Bhutan but unlike it is for Bhutan, trade accounts for a significantly smaller share of Nepal's GDP (Table I). Maldives, on the other hand, closely resembles Bhutan in terms of the level of development and the size of trade relative to GDP, although India is not Maldives' largest trading partner and its currency is not pegged to the Indian Rupee. In our analysis, we include Namibia and Swaziland, with their currencies pegged one- on-one to the South African Rand. South Africa is the largest trading partner for both Namibia and Swaziland and they belong to a Common Monetary Area (CMA)[4], which is not a currency board, as is the case with Bhutan. Occasionally, we also present relevant data from Bangladesh and India to provide useful comparison.

	Bhutan	Maldives	Namibia	Nepal	Swaziland
GDP (current US$ million)	1,516	1,908	12,170	15,721	3,697
GDP per capita (current US$)	1772	5587	4096	438	2827
Average GDP growth rate - 2001-10 (annual %)	8.48	7.77	4.59	3.89	2.29
Trade (% of GDP)	104.30	146.57	113.46	46.77	128.04
International Reserves (% of GDP)	66.10%	19.09%	13.93%	18.61%	20.45%

Table I: Bhutan and a few comparable countries

[3] Data coverage varies in different charts and tables of this paper because of non-availability of data, differences in sources and mismatches between fiscal and calendar year data

[4] The CMA was established in April 1986, succeeding the Rand Monetary Area (RMA) that was created in December 1974. It is not a currency board, as a currency board is typically prohibited by law from acquiring domestic assets and all the currency it issues is automatically and fully backed by foreign reserves. CMA member central banks are allowed to hold domestic assets. As per Article 3 of the CMA Agreement, no restrictions can be imposed on the transfer of funds, whether for current or capital transactions, to or from any member country.

II. Why the Rupee Shortfall Rang an Alarm?

The Bhutanese economy is closely integrated with the Indian economy. India is its largest trading partner, accounting for 84.4% of exports and 75.6% of imports in 2010-11. The share of imports from India was 71.9% in 2009-10 and 79.5% in 2001-02. The share of services import from India is also very high – it was 68.6% in 2010-11 and remained within the 65-75% range during the past decade. The share of trade with India, both as percentages of GDP and of total trade volume, has remained fairly constant during the past decade.

In addition to being the largest trading partner, India is also the main development partner and bilateral donor of Bhutan. As much as 70% of budget related grants come from India. The budgetary support from India, as percentage of GDP, steadily increased from 8.2% in 2003-04 to 12.7% in 2010-11. Nearly 60% of Bhutan's external debt is denominated in Rupee, making INR the most important foreign currency for Bhutan. Furthermore, the total value of Rupee denominated transactions (total of inflows and outflows) in the current and capital accounts increased from 192% of GDP in 2003 to 242% of GDP in 2010. In 2010-11, total Rupee denominated transactions in current and capital accounts were nearly INR 175.4 billion (total inflow of INR 81.1 billion and a total outflow of INR 94.3 billion against a GDP of Nu 74.7 billion in 2010-11). Net inflows from India, however, sharply declined from -7.65% of GDP in 2009 to -18.2% of GDP in 2010. The average net inflow from India was +10.9% of GDP during 2006-2008 (Chart IV).

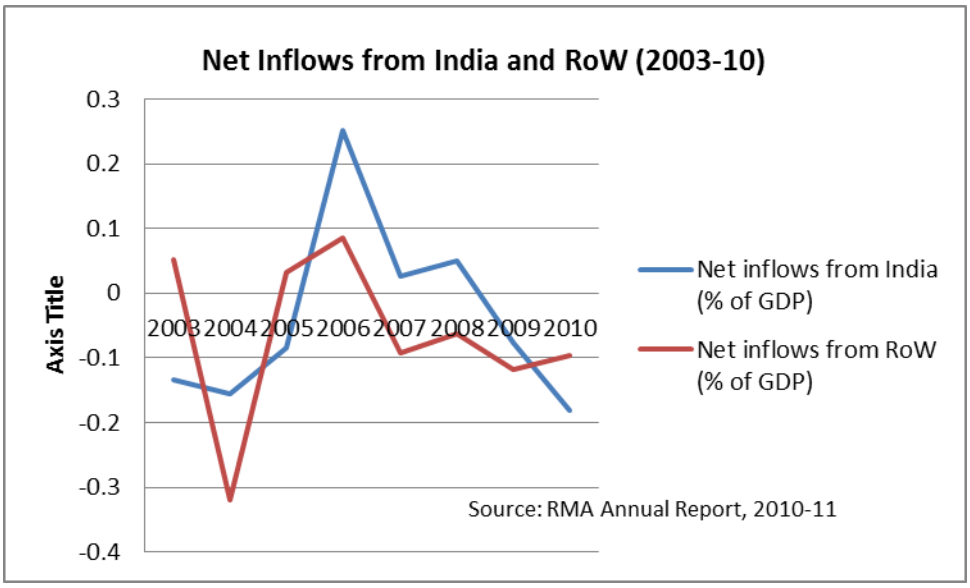

Chart IV: Net Inflows from India and Rest of the World (RoW)

While the demand for Rupee for current account related transactions significantly increased during the past decade, it appears that the share of INR in both international reserves of RMA and the total assets of the financial sector steadily declined since 2003-04 (Chart V). During this period, Bhutan's international reserves and total assets of the financial sector experienced nearly a three-fold increase. Possible explanations for this shift include the fact that Bhutan has limited capacity to earn convertible currencies, a rising trend in convertible currency imports, potential decline in convertible currency grants and the need to reduce the risk of holding a non-convertible currency. While this risk mitigation

effort makes sense, it needs to be carefully weighed against the direct and indirect costs of not maintaining a reasonable share of Rupee in international reserves.

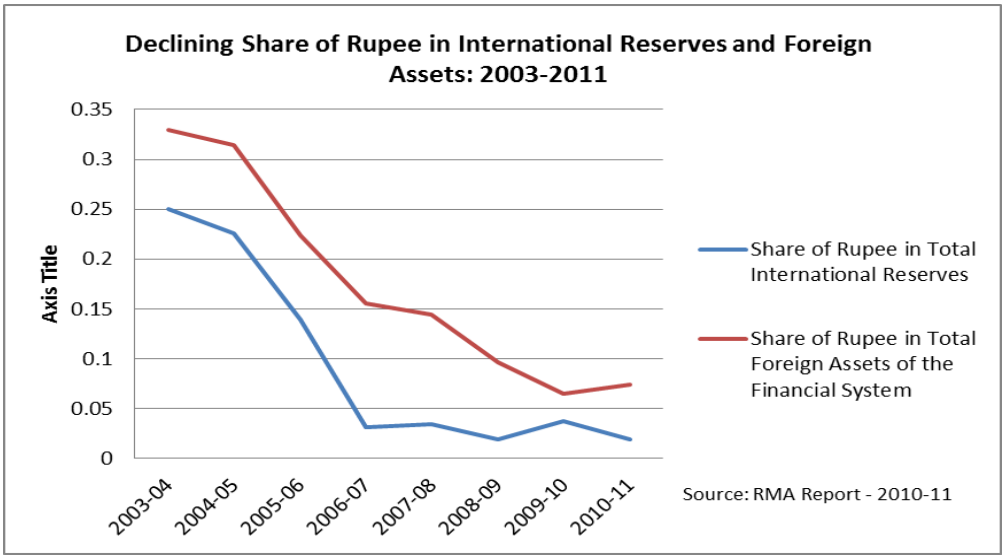

Chart V: Declining Shares of Rupee in International Reserves and Foreign Assets

A small open economy typically accumulates reserves to defend its currency against sudden depreciation and potential speculative attack. The reserve is accumulated in the currency that the country predominantly uses for its international transactions. In case of Ngultrum, the counterpart currency of international transactions is INR and maintaining a reasonable balance of INR in the reserves is clearly a necessary precondition for maintaining the Ngultrum-INR peg and ensuring overall macroeconomic stability. A sudden and rapid deterioration of the confidence in the peg cannot be ruled out and a sizeable INR reserve may help retain and restore confidence in the value of Ngultrum.

	Main Trading Partner	Share of Import from main trading partner	Share of Exports to main trading partner	Share of Main trading partners' currency in Int'l Reserves
Bhutan	India	75%	77%	1.90%
Maldives	India*	14.8%	4.8%	N/A
Namibia	South Africa	80%	29%	32.9%
Nepal	India	57.0%	49.0%	31.8%
Swaziland	South Africa	92.9%	45%	60%

Table II: Share of Main Trade Partner's Currency in International Reserves

The reserve management practices of other comparable countries can offer good benchmarks for Bhutan. Nepal Rastra Bank, for example, maintains about 30% of its reserves in Indian Rupees even when its trade and financial relations with India is less intensive than Bhutan-India bilateral relations. Swaziland, with unlimited convertibility facility for Rand, maintains 60% of its international reserves in the South African currency. The story is similar for Namibia, which imports 80% of its goods and services from South Africa and maintains over 30% of its international reserves in Rand (Table II).

RMA typically earns between 1.5% and 1.7% on its convertible currency reserves, which barely offsets the rate of inflation in the US. The real return on US treasury bills have been close to zero during the past few years. Maintaining USD as the sole reserve currencies would have made sense if Bhutan was conducting most of its international transactions in USD. While USD reserves offered near zero interests, its value relative to INR declined during 2006-2010, eroding the purchasing power of the USD dollar reserves maintained by RMA. A preliminary calculation, as presented below, suggests that RMA could earn as much as INR 5.5 billion during 2005-2010 in interest income alone, taking advantage of the interest rates differential between INR and USD denominated government bonds. In 2010-11, interest income alone from INR denominated reserves alone could reduce the current account deficits by almost 2% of GDP. This perhaps offers another justification for holding a reasonable portion of reserves in INR.

If Interest Rate Differential between INR and USD Bonds is	If 30% of International Reserves Held in Indian Rupee	If 35% of International reserves in Indian Rupee
6%	INR 3,536 m	INR 4,125 m
8%	INR 4,715 m	INR 5,501 m

Table III: Potential Interest Income on INR Reserves (Source: RMA, RBI and WDI)

It also appears that the international reserve, as percentage of GDP, is considerably high for Bhutan. As an economy with a large share of trade in GDP, Bhutan is expected to maintain a relatively high level of international reserve. But countries with similar level of trade dependence, maintains a significantly lower levels of reserves. For example, Maldives, with a trade to GDP ratio of 146%, maintains a reserve which is around 20% of GDP. Other comparable countries also maintain a fairly low level of GDP, without facing any balance of payment crisis (Chart VI).

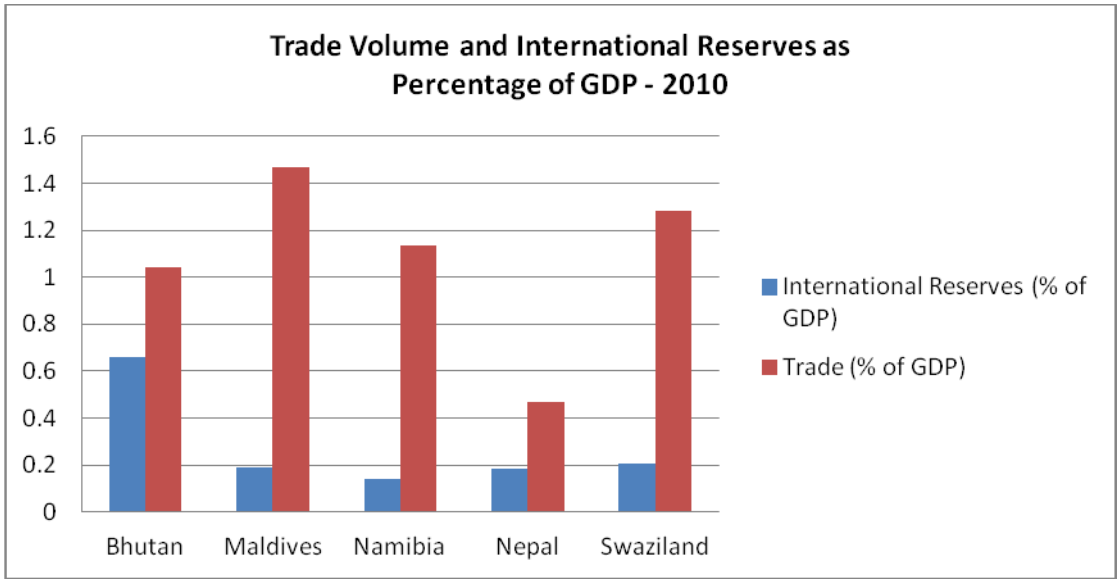

Chart VI: Trade and International Reserves as Percentage of GDP (Source: WDI)

The recent episode of the Rupee shortfall manifested itself as a full blown crisis largely because of the potential loss of confidence in the value of Ngultrum and the peg, which was perhaps trigged by

relatively and persistently low level of INR reserves. The previous episode of current account deficit during 2004-05 did not spread a panic perhaps mainly because the share of INR reserve as sufficiently large.

III. Credit Growth Triggered the Import Surge and the Rupee Shortfall but….

The Royal Government of Bhutan (RGOB) Task Force Report underscores, *"The current Rupee shortage in the country has been due to rising aggregate demand and supply side constraints. The increase in aggregate demand is triggered not only by public expenditure and growth in the auxiliary sector to support hydropower development but significantly by the growth in domestic credit mainly in the housing, manufacturing and service sectors."* While this is true, we need to take into account that both household and government final consumption expenditures, as percentage of GDP, is fairly low in Bhutan, suggesting room for increases in both public and private consumption expenditures (Chart VII). In a fast growing economy, households often finance their growing consumption demand through borrowing in anticipation of a rise in their future income. This can explain only part of the rapid increase in credit to the private sector in Bhutan in recent years, which largely imports from India to meet its consumption demand. It, however, appears that growth in household and public sector consumption expenditures have been relatively small compared to growth in investments and fixed capital formation in both public and private sectors. Gross fixed capital formation, as percentage of GDP, averaged 49.6% during 2000-09, growing at an annual rate of 11.2%. This is high by international standards. Fixed capital formation in the private sector averaged at 31.1% during 2000-09. Reinvestment of a significant portion of increased national income is necessary for Bhutan to sustain and accelerate the growth momentum and also to reduce its external debts, which is projected to increase to 90.1% of GDP in 2014-15.

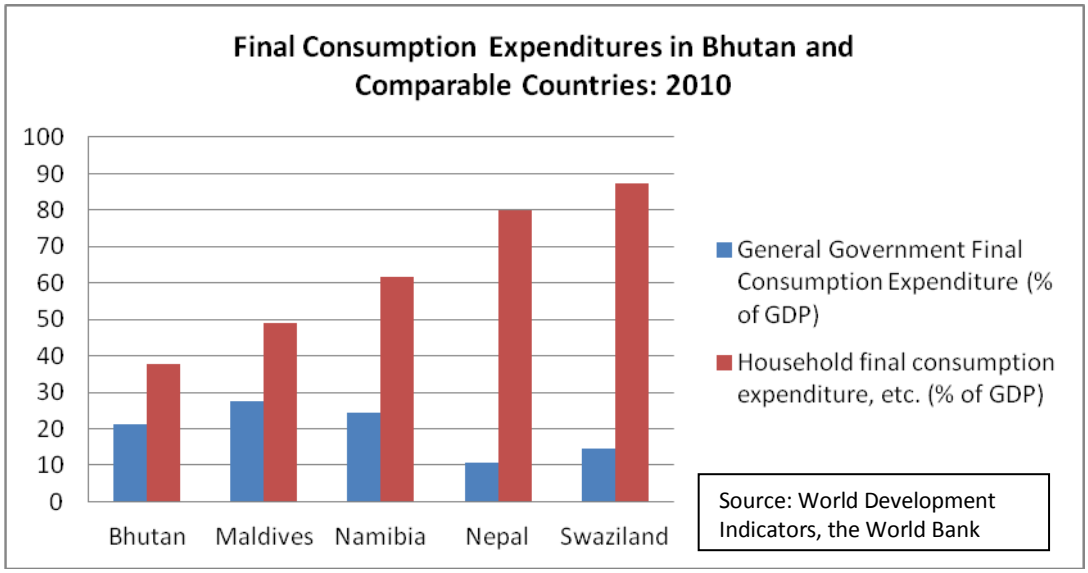

Chart VII: Household and Government Final Consumption Expenditures as % of GDP

The Task Force Report (TFR) recognizes that financing of large SOE projects such as Tashi InfoComm, Druk Ferro Alloys, Druk Deothjung Resorts, Bhutan Concast and Drukwang Fello Alloys, and several others contributed to the domestic credit growth and increased the Rupee demand. It also highlights that constructions of Dungsam Cement (DCCL) and Dagachhu hydropower projects contributed to the credit growth as part of the projects are financed through domestic credit.

While domestic credit financed a significant portion of these large projects, it had multiplier effects on private sector aggregate demand. On the supply side, commercial banks – with excess liquidity and almost no opportunity for short-term investments in government securities – found it profitable to respond to growing consumption demand and rapidly expand their consumer and household loans portfolios. It is, however, important to note that the recent trend in credit growth is not higher than the growth rates observed during the previous half decade. The growth rate of total domestic credit averaged 41.8% during 2006-2010, compared to an average of 44.1% during 2001-2005. But the average growth rate of private credit was 29.4% during 2001-05 compared to an average growth rate of 36.3% during 2006-10 (Chart VIII), confirming that private sector credits dominated the current surge in overall credit. Net credit to the government declined from Nu -6.89 billion to Nu – 2.71 billion between 2008 and 2009, which appears in the data as a credit growth of Nu 4.1 billion between 2008 and 2009. It is important to note that the growth rate of credit to the private sector has been fairly stable during 2002-10, although the overall credit growth demonstrated considerable volatility. This is largely because of net credit position of the Government. RGoB has been a net lender to the banking sector during 2002-10 but its net lending position varied considerably during these years.

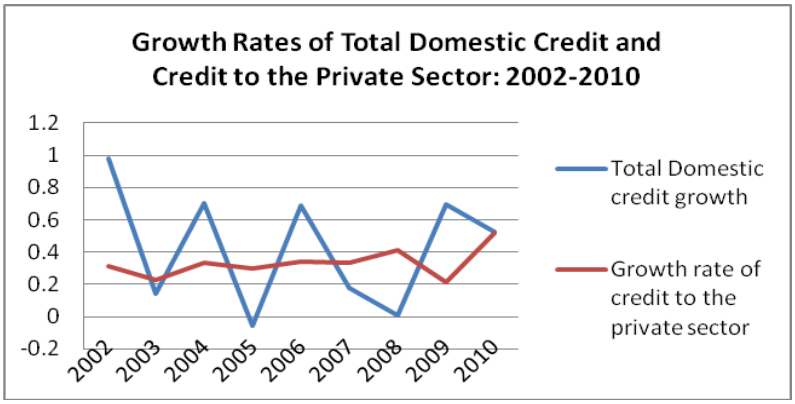

Chart VIII: Growth Rates of Total Credit and Credit to the Private Sector (Source: RMA)

Despite the rapid growth during the past decade, domestic credit to GDP ratio – one of the indicators of financial development – is still very low for Bhutan (Chart IX). In our set of countries, only Swaziland has a credit to GDP ratio that is lower than that of Bhutan but the Swazi private sector is can meet its credit demand borrowing from the South African banks, which is not the case for the private sector in Bhutan.

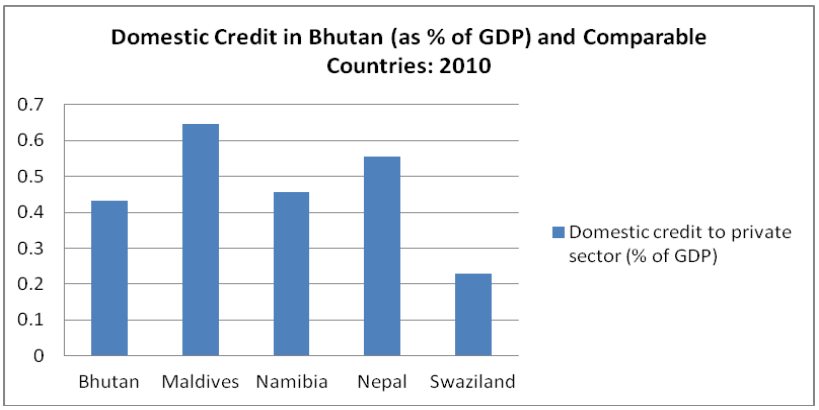

Chart IX: Domestic Credit in Bhutan and Comparable Countries (Source: WDI)

Neither the growth rate of credit to the private sector nor the overall volume of private sector credit as percentage of GDP can fully explain the acute Rupee shortfall. Total credit (or claims against) to the private sector is an end of the period stock variable. It does not reflect the cumulative amount of credit extended by the banking sector in a given year. The data on credit flows will confirm that not just the overall level of credit (relative to GDP) increased but the number of credit transactions also increased manifold, contributing to cumulative increase in the demand for Rupee. The credit growth during 2001-05 did not result in a massive Rupee shortfall partly because of adequate amount of Rupees in international reserves. During that period, the share of INR in international reserves averaged 20.5% compared to an average of 2.8% during 2006-2010. It is also because the share of demand deposits – short-term liquidity – was significantly lower during 2001-05. Short-term liquidity in the form of demand deposits can provide incentives for short-term credit, while longer-term deposits can incentivize long-term loans. As Bhutanese banks accumulated a large share of demand deposits in recent years, it appears that these deposits were used to create short-term loans. The share of demand deposits in total deposits of the banking system increased from 21.5% in 2001 to 51.5% in 2010 (Chart X). This is very high compared to other similar economies (Chart XI)

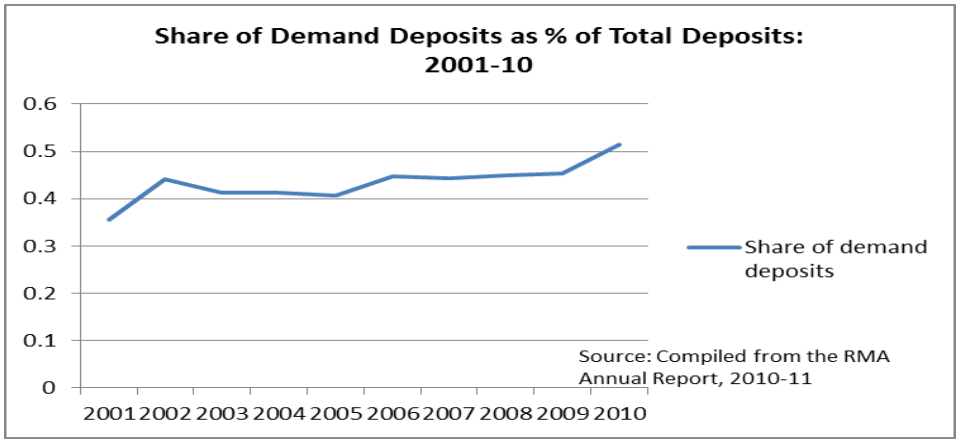

Chart X: Share of Demand Deposits as Percentage of Total Deposits

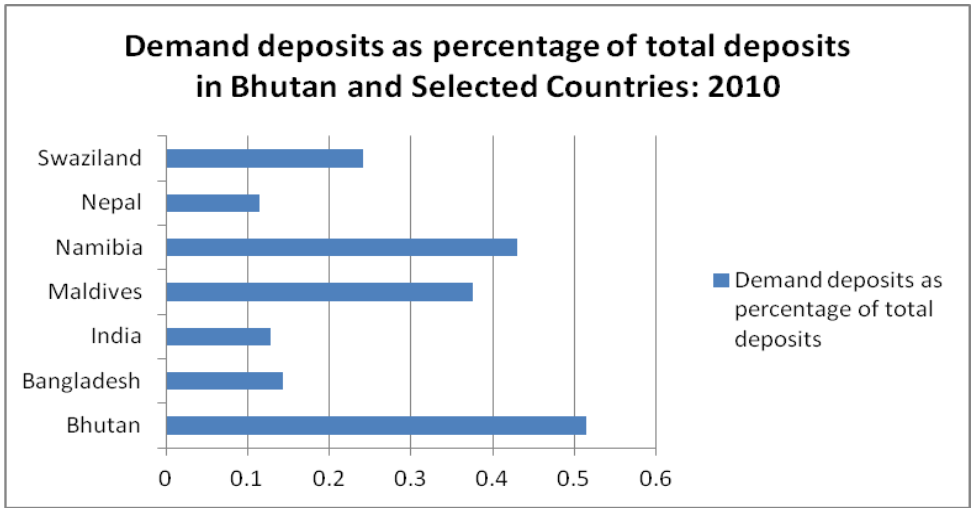

Chart XI: Demand Deposits as Share of Total Deposits (Source: Relevant Central Bank Reports)

IV. Excess Liquidity and the Credit Growth

It appears that banks in Bhutan are awash with liquidity – mostly deposits that government receives as grants and also proceeds of hydropower sales – that earn very little or no interests. Total liquid assets, as percentage of banking sector assets, was as high as 71.6% compared to 5.6% in Namibia, 10.7% in Nepal and 12.7% in Swaziland (Chart XII). The preponderance of demand deposits, as a share of total bank deposits, suggests that most of these deposits belong to the government and government-owned Druk Holdings and Investments (DHI) as it is learnt that Government and state-owned enterprises are generally required to keep their revenues in demand deposits accounts. Private sector entities and households are unlikely to keep their income in interest free demand deposit accounts. In other comparable countries, demand deposits that offer no interests, account for less than one third of total deposits.

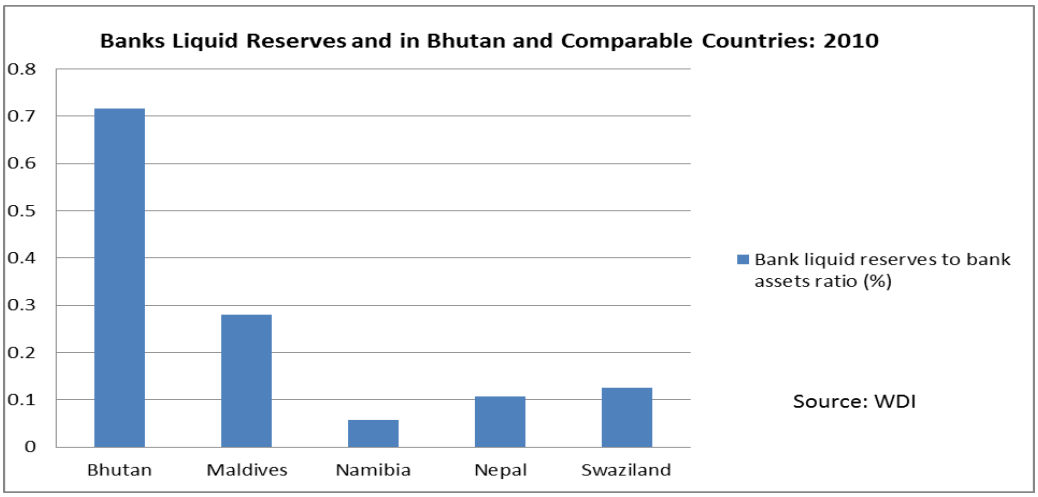

Chart XII: Bank Liquid Reserves in Bhutan and Comparable Countries, 2010

Credit growth in recent years was largely fuelled by excess liquidity in the banking system. The 2011 IMF Article IV consultation with Bhutan recognized excess liquidity in the banking system as a serious problem and advised RMA to reduce liquidity to contain credit growth. The Article IV report, however, cautioned that this would reduce the profitability of RMA, *"as the monetary authority would have to bear the interest cost of mopping up the excess liquidity."* RMA had earlier addressed the problem of excess liquidity by raising Cash Reserve Requirements (CRR) from 13% to 17% in 2007, which apparently had a very limited impact on liquidity growth. RMA also enforces a Statutory Liquidity Ratio (SLR) of 20%. Together, CRR and SLR are expected to reduce liquidity by 37%. The TFR, however, notes that since SLR is maintained with the banks themselves, there are possibilities that banks do not maintain the required reserve levels on a day to day basis.

While meeting the CRR and SLR requirements, banks can still create a large number of short-term loans, taking advantage of the mismatch in the maturity of claims and obligations. This is highlighted in the TFR, which, for example, cites that Rupee earnings from the exports of electricity are received throughout the year, which is absorbed within the banking system but most of the payments on Rupee denominated loans are made in January every year. Time lags in grants and loans disbursement also explain mismatches between the monthly inflows and outflows of Rupees. There are significant time lags between when a grant is deposited in a bank account and when a payment is made against that

grant. According to the TFR, the average time lag between inflows and outflows ranges between four to six months.

The mismatches between inflows and outflows, the availability of low cost demand deposits and the absence of any investment instruments – namely government bonds and securities - provide banks with opportunities to issue short-term loans. To illustrate this, let us suppose that RGoB receives INR 100 million as grant from India and against this grant RMA, deposits equivalent Nu 100 million in RGoB's demand deposit account in a bank. The bank, based on past information it had on fund utilization trends, can assume that the government would keep the money as demand deposit for at least six months. If the bank had an option to invest in risk-free government securities, it would have used this deposit to capture a decent risk-free. In the absence of investment opportunities, the banks are likely to consider short-term loans for imports as relatively risk free, as these loans are typically collateralized and recouped at relative ease. It will then create a short-term loan, or multiple short-term loans, against this deposit of Nu 100 million. But the total amount of loan at any given time, against this deposit, will need to be Nu 63 million or less because the bank will need to send Nu 17 million to RMA to meet the CRR requirement and set aside Nu 20 million as SLR. Should the bank find multiple customers who are ready to take short term loans – say loans for two months or less or overdraft loans to import from India – the bank will then be able to create 3 (three) consecutive loans, each for an amount of Nu 63 million. If the loan will be for import from India, the bank will request RMA to provide equivalent INR 63 million for loans, placing a total demand of INR 189 million for these three loans. . At the end of the six month, when RGoB will be ready to utilize the grant, it decides to use – let us assume Nu 60 million for import from India and Nu 40 million for local expenditures. The bank will then request RMA for an additional INR 60 million to finance the RGoB import from India. By the end of six months, RMA will be required to meet a Rupee demand of INR 249 million (INR 189 million against demand for private imports and INR 60 million for RGoB import) against an original receipt of INR 100 million. This simplified explanation illustrates the multiplier effect of inflows on money creation and credit demand.
Although the TFR maintains that hydropower related inflows (also grants) have no direct impact on rupee demand, the indirect effects of these inflows, via the channels of money creation and credit growth, are considerably huge. The money multiplier effect on credit creation is evident in the data. In 2009-10, Rupee inflows increased by only 6% but M2 (which is composed of cash in circulation, demand deposits and savings and time deposits) increased by 41.2%, with commensurate credit growth of 69.5%. The total volume of Rupee related transactions (both import and export) increased from INR 86.5 billion in 2006-07 to 175.3 billion in 2010-11.

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Growth rate of Rupee inflows	26.3%	14.4%	10.5%	11.7%	58.0%	11.4%	9.1%	6.0%	30.1%
Growth rate of M2	33.0%	-1.5%	20.6%	11.3%	35.5%	11.6%	12.7%	41.2%	17.0%
Credit growth	98.0%	14.0%	70.0%	-5.5%	68.6%	17.6%	1.0%	69.5%	52.7%

Table IV: Multiplier Effects of Rupee Inflows

Much of this credit growth could be avoided if part of the inflows, especially inflows belonging to RGoB, were kept outside the reach of the banking system. While it is generally true that under a pegged exchange rate regime, the monetary authority has very few policy instruments at its disposal, it may still be able to influence money supply and credit extension to the private sector through sterilization operations, capital controls and regulatory barriers. To contain money and credit growth, a significant portion of Rupee inflows, especially inflows that came in the form of project grants and loans, could

have been sterilized and kept outside the banking system. This would have helped to contain the money growth and the consequent multiplier effect on the demand for Indian Rupee.

V. Can Seigniorage Explain the Rapid Growth in Money Supply?

When a country pegs its currency to an anchor currency, it is expected to maintain a reserve of the anchor currency equal to the total amount of currency (notes and coins) it issues. As there were some concerns in Swaziland about sustainability of the one-on-one peg its currency with Rand last year, the Governor of the central bank had to publicly confirm that the total Rand reserves was Rand 3 billion against a circulation of Lilangeni 438 million, which amounts to a Rand reserves ratio of about 600% relative to Lilangeni in circulation. In case of Bhutan, the total amount of money in circulation in 2010-11 was Nu 5.6 billion against a total Rupee reserve of 774 million, which represented a Rupee reserves ratio of less than 14% relative to Ngultrum in circulation. Even if one takes into account the Rupee denominated assets of the entire financial system, the coverage fell short by at least INR 1.0 billion. The shortfall conveys a signal about the value of Ngultrum vis-à-vis Rupee and raises question about the sustainability of one-on-one peg of the currency.

	Currency in circulation (as % of GDP)
Bhutan	7.74%
Namibia	2.69%
Swaziland	0.11%

Table V: Currency in circulation as percentage of GDP (Source: Relevant central bank reports)

During 2009-10, Bhutan's monetary base (M0) grew by 39.9%, compared to 14.1% growth during 2008-2009. Total Ngultrum in circulation was as high as 7.74% of GDP in 2010. Deposits of commercial banks with RMA (CRR) – the main component of the monetary base – increased by 43.4% during 2009-10. This is a very large expansion of the monetary base by any standard, particularly given the fact that every new Ngultrum emitted to the financial system is expected to stay in the system only for a short period of time before returning to RMA to demand an almost equivalent unit of INR for imports. This is confirmed by very low money multiplier (2.57 in 2010-11, increasing from 2.0 in 2007-08) and income velocity of money (GDP/M2 ratio of 1.43 in 2010-11, which declined from 1.92 in 2007-08) numbers for Bhutan. Taking into account that most of the new Ngultrum created by RMA belongs to RGoB and given that RGoB needs most of these Ngultrum to import hydropower project related goods and services from India and to service Rupee denominated debts, RMA could avoid placing these inflows in the banks and injecting such large quantities of Ngultrum into the system, which banks used to create short-term loans. The round-tripping of Rupee to Ngultrum and back to Rupee, however, offers significant amount of seigniorage revenue to the Royal Government of Bhutan.

The available data suggests that the Government of Bhutan is collecting a very large seigniorage. Total seigniorage excluding inflation tax was as high as 4.6% of GDP in 2010-11. It inflation tax is included in the calculation, seigniorage becomes as high as 7.26% of GDP. 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. Given that Bhutan is a small economy, it is difficult to explain how it can continue to earn this large seigniorage without undermining the value of its currency. In the short-run, the direct cost of this seigniorage is the rising demand for INR and consequent interest payments on INR borrowings from

Reserve Bank of India (RBI) and State Bank of India (SBI), which increased to INR 292.6 million in 2010-11 from INR 4.85 million in 2006-07. The interest expense on SBI loans was 3.9% of GDP and 84% of the seigniorage (without inflation tax) in 2010-11. More importantly, the indirect costs of this is, of course, the unsustainability of the one-on-one peg. The seigniorage through the creation of excessive Ngultrum will eventually undermine the one-on-one peg with the Indian Rupee, which is critical for Bhutan's macroeconomic stability in the foreseeable future. If the peg is broken and Ngultrum is devalued, it will not only make imports from India more expensive, it will also increase Bhutan's external debt burden which is mostly denominated in Rupees. The seigniorage income needs to be weighed against the direct costs of chronic Rupee shortfalls and rising interest expenses on short-term borrowing and the indirect costs of current account imbalance and macroeconomic instability and uncertainty.

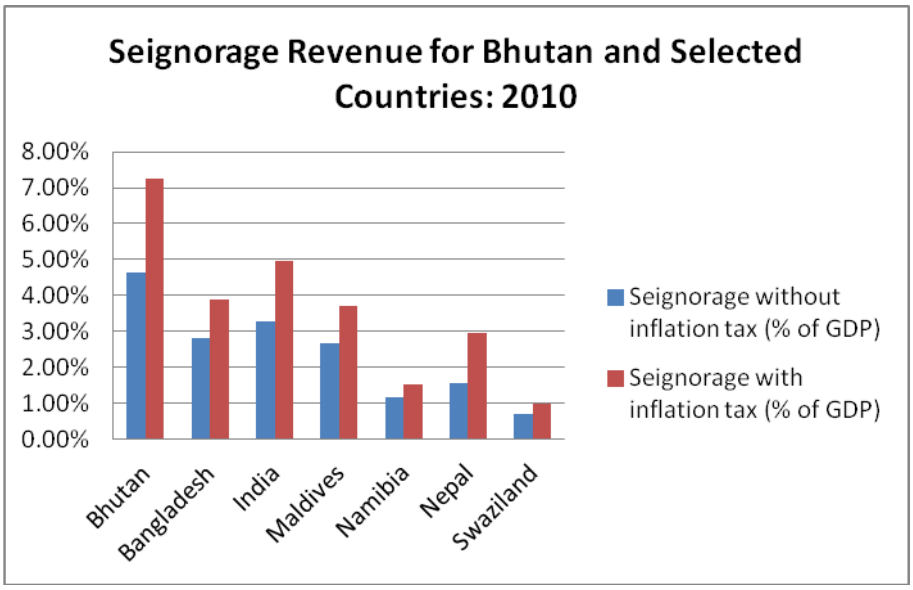

Chart XII: Seigniorage Income of Comparable Countries (Source: Relevant central bank annual reports)

VI. The Way Forward:

RGoB may consider changing the composition of its international reserves and maintaining about 30-35% of its reserves in Indian Rupee. A rupee reserve of INR 15 billion (USD 300 million) will give sufficient coverage to Ngultrum issues and convey a strong signal that the Bhutanese currency is fully backed, not only by USD but also by Indian Rupee, which is necessary to restore public confidence in Ngultrum.

While increasing the share of INR in the reserves will help restore confidence in Ngultrum, it will not necessarily reduce excess liquidity in the banking system. Instead of sterilizing inflows *ex post* through CRR and SLR, RMA may adopt an *ex ante* sterilization mechanism and keep the inflows, especially grants and hydropower project related Rupee inflows, outside the banking system. It makes little economic sense to convert those inflows into Ngultrum when they will immediately be re-converted to INR to pay for imports from India. A stabilization fund, outside the banking system, may be put in place to receive INR inflows coming to the Government of Bhutan, make payments for INR denominated imports, service INR debts and surrender INR to RMA after netting out inflows and outflows. This is consistent with the TFR recommendation to ring-fence adequate Rupee reserves for INR debt servicing.

A stabilization fund may help sterilize the inflows belonging to RGoB, but it will not be sufficient to reduce liquidity in the banking system. RGoB may institute a liquidity management system in MoF to reduce the mismatches between Rupee inflows and outflows. There can be specific disincentives for government agencies to discourage accumulation of demand deposits. Alongside, RGoB may issue short and medium term Ngultrum denominated bonds to offer a range of savings instrument to the private sector. Banks may be required to hold SLR specifically in government bonds, which will give RGoB access to private sector savings while reducing liquidity and increasing domestic savings rate. RGoB may consider inflation or GDP indexed bonds to make them attractive to the private sector. Interest incomes on bonds may be made tax exempt to further incentivize bond-holding. The issuance of bond will allow RMA to increase its holding of domestic assets, which is currently very negligible.

RGoB may also explore the option of issuing Rupee denominated bonds to increase the supply of Rupees. These may be revenue-linked and tax-exempt bonds, backed by current and future hydro-power revenue. Along the lines of the TFR recommendation of debt-equity swap for DCCL, RGoB may also sell minority stakes in several concerns of DHI to increase FDI and INR flows. It may prioritize FDI which will provide DHI access to better management techniques as well as skills and knowledge accumulation to enhance the productivity of Bhutanese state owned enterprises.

RMA may adopt a set of micro-prudential regulations to increase the usage and demand for Ngultrum. Instead of directly restricting access to INR for imports, it may make reserve requirements for import-related credit significantly higher than credit for exports and domestic economic activities, especially for SMEs. Similarly, RMA reduce reserve requirements for credit going to sectors identified as priority sectors for economic development. While asset based reserve requirements may be necessary to incentivize banks to extend credit to priority sectors, it may not be sufficient as banks can simply pass on the higher cost of funds to the borrowers, when the reserve requirements are increased for import related credit. In addition to introducing asset based reserve requirements, RMA may also introduce interest rate caps on lending to selected priority sectors. It may also provide guidelines to banks to ensure that their loans are distributed across various geographic regions of the country to increase the demand and usage of Ngultrum.

RMA may strengthen its capacity for treasury management to maximize returns on both Rupee and USD denominated reserves. As and when RGoB issues bonds, RMA will also need to build capacities for open market operations. IMF and the World Bank may be approached for necessary technical training for treasury management and open market operations to enhance the capacity for reserve management.

Under the current surveillance system monitoring the demand for Rupee, RMA may take a full count of INR in circulation in Bhutan. Following the arrangements between South Africa and Namibia (or Swaziland), RMA may enter into an arrangement with RBI to split the INR seigniorage in Bhutan. Namibia receives compensatory payments from South Africa on a yearly basis as a return on the South African Rand circulating in the country. The rate of return is calculated as two-thirds of the average annual yield on South African Government bonds, with an outstanding maturity of 15 years or more. Following the arrangements between Namibia and South Africa, RGoB may initiate a discussion with the Government of India to gain interest free access to INR as and when the INR reserves fall below a pre-specified threshold. Namibia and Swaziland enjoy unlimited access to Rand, as part of the Common Monetary Area agreement. RMA may also enter into an “put option” contract with RBI to sell INR for USD at a pre-specified rate and secure access to a convertible currency in the event Bhutan would need an unanticipated amount of convertible currency to meet its current account obligations to a third country.

RMA may consider sending a technical team to Namibia to learn, first hand, about its monetary policy management, especially how it uses sterilization to influence money and credit growth and policy rates to influence household savings and investments. It appears that the central bank of Namibia uses its limited set of monetary policy tools effectively to ensure macroeconomic and financial sector stability and promote stable growth. UN-DESA stands ready to facilitate cooperation between RMA and the Bank of Namibia.

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