



# BHUTAN

## SELECTED ISSUES

July 2014

This Selected Issues paper on Bhutan was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on May 30, 2014.

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May 30, 2014

### SUMMARY

The first chapter describes the current tax system and suggests options for tax policy reform in Bhutan. Though significant hydropower revenues are expected in the medium term as major projects come on-stream, reforms to the existing tax system in the interim will generate fiscal room and prevent recourse to domestic debt to finance development needs. Key reforms include reducing tax exemptions in the near term and introduction of VAT in the medium term.

The second chapter analyses the adequacy of international reserves in Bhutan using a customized risk-weighted metric. The results indicate that Bhutan's reserve levels are ample. Notwithstanding this adequate buffer, there are significant challenges to reserve management as hydro-related debt service is lumpy and there is a currency mismatch between the composition of reserves and that of trade and debt service flows which can create short-term pressures.

The third chapter looks at the prospects for diversification of growth in Bhutan. Dependence on hydropower is set to increase, and exports will likely continue to become less diversified. As well, employment gains from hydropower generation are limited. Potential alternative sources of growth to hydropower—such as tourism, agribusiness, and energy intensive activities—do exist, but require policy interventions addressing key structural deficiencies such as shortage of skilled labor and access to finance and an effort to address other business climate issues.

Approved By  
Asia and Pacific Department

Prepared By Adil Mohommad and Eteri Kvintradze.

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# OPTIONS FOR TAX REFORMS IN BHUTAN<sup>1</sup>

This chapter describes the current tax system and suggests options for tax policy reform in Bhutan. Though significant hydropower revenues are expected in the medium term as major projects come on-stream, reforms to the existing tax system in the interim will generate fiscal room and prevent recourse to domestic debt to finance development needs. Key reforms include reducing tax exemptions in the near term and introduction of a Value-Added Tax (VAT) in the medium term.

## A. Introduction

### 1. Bhutan has ambitious development goals and related expenditure plans in the medium term, in the context of the recently initiated Eleventh Five Year Plan (11<sup>th</sup> FYP). It

therefore needs to address resource constraints it is expected to face, given that external grant assistance is projected to decline with the increase in per capita income. Over 2003–12, budgetary foreign grants averaged 13.5 percent of GDP, accounting for 40 percent of total budgetary resources on average. However, official assistance from India and other countries is projected to decline to just around 7 percent of GDP by 2017/18 as per capita incomes rise, expected to be offset partially by increasing tax and non-tax revenues related to the new hydro power projects. Meanwhile, capital expenditure is expected to remain sizeable for most of the planning horizon.

Table 1: Bhutan Eleventh Five Year Plan Fiscal Projections

	2013/14	2014/15	2015/16	2016/17	2017/18	11th FYP Avg
	Budget	Proj.	Proj.	Proj.	Proj.	Proj.
	In percent of Nominal GDP					
<b>Revenue &amp; Grants</b>	<b>25.5</b>	<b>28.9</b>	<b>27.7</b>	<b>26.3</b>	<b>26.2</b>	<b>26.9</b>
<b>Domestic Revenue</b>	<b>18.9</b>	<b>18.6</b>	<b>17.9</b>	<b>17.7</b>	<b>19.3</b>	<b>18.5</b>
Tax revenue	13.4	13.7	13.5	13.6	12.6	13.4
Non-tax revenue	5.5	4.9	4.4	4.1	6.7	5.1
<b>Grants</b>	<b>6.6</b>	<b>10.3</b>	<b>9.8</b>	<b>8.5</b>	<b>6.9</b>	<b>8.4</b>
Project-tied Grants	5.2	9.0	8.7	7.5	6.1	7.3
Program Grants	1.4	1.3	1.2	1.0	0.8	1.1
Other receipts	0.0	0.0	0.0	0.0	0.0	0.0
<b>Outlay</b>	<b>30.0</b>	<b>29.6</b>	<b>29.2</b>	<b>28.5</b>	<b>22.3</b>	<b>27.9</b>
<b>Total Expenditure</b>	<b>31.6</b>	<b>31.1</b>	<b>30.6</b>	<b>29.7</b>	<b>23.3</b>	<b>29.3</b>
Current	16.2	17.6	16.9	18.3	15.1	16.8
Capital	15.4	13.4	13.8	11.5	8.1	12.4
<b>Net lending (NL)</b>	<b>-1.6</b>	<b>-1.5</b>	<b>-1.4</b>	<b>-1.2</b>	<b>-1.0</b>	<b>-1.3</b>
<b>Fiscal Balance</b>	<b>-4.5</b>	<b>-0.7</b>	<b>-1.5</b>	<b>-2.2</b>	<b>3.9</b>	<b>-1.0</b>
Borrowings	2.3	4.8	2.0	1.9	1.5	2.5
Repayments	2.3	2.2	2.2	1.8	1.5	2.0
<b>Resource Gap</b>	<b>-4.5</b>	<b>1.9</b>	<b>-1.7</b>	<b>-2.2</b>	<b>3.9</b>	<b>-0.5</b>

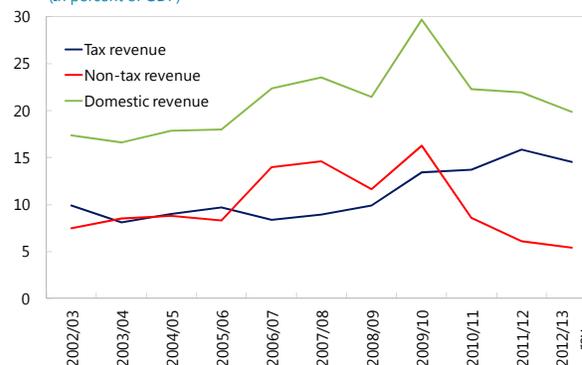
Sources: Royal Monetary Authority and Ministry of Finance, Bhutan

### 2. In addition to this projected decline in foreign grants, there are risks related revenue in the 11<sup>th</sup> FYP from new hydropower projects.

Domestic revenues have ranged between 16–30 percent of GDP over the past 10 years, exhibiting volatility particularly for non-tax revenues, as the share of profit transfers and dividends from hydropower entities fluctuated year-to-year. While several large hydro power projects are expected to come on-stream at the end of the medium term and their revenue impact is likely to be felt in the outer years of the 11<sup>th</sup> Plan, it is subject to risks of

#### Domestic Revenue

(In percent of GDP)



<sup>1</sup> Prepared by Adil Mohommed (APD).

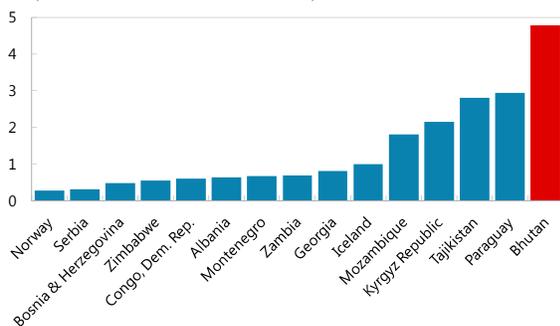
delayed project implementation. The medium term prospects are dependent on whether projected hydropower revenue streams come on-stream in the outer years.

**3. In this chapter we address the issues and options for tax policy that may help to achieve a more predictable fiscal path.** We will first examine the role of hydro power revenues in Bhutan, including its projected contribution to tax revenue. Secondly, we will examine the case for reducing tax expenditures, including tax holidays as well as exemptions. Finally, we will consider options for deeper tax reform, such as the introduction of VAT.

## B. Role of Hydropower

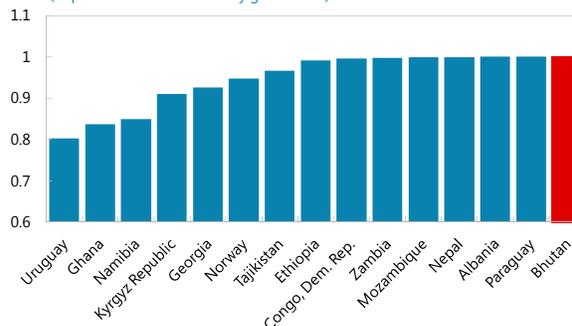
**4. Bhutan is among the most intensive producers of hydropower in the world.** In terms of share of total electricity generation, virtually all electricity is generated using hydropower. Hydroelectric production is also large relative to the size of the economy; the electricity sector has accounted for 20 percent of real GDP over the recent past. Hydro power potential is estimated at 30,000 MW, of which presently around 1,500 MW has been harnessed, bulk of which is exported to India. The stated policy goal is to achieve additional 10,000 MW of installed capacity by 2020, mostly with Indian assistance and collaboration.

**Hydropower Production in 2010 1/**  
(Annual kWh relative to GDP in U.S. dollar)



Source: World Bank WDI database.  
1/ Top decile in terms of the indicator.

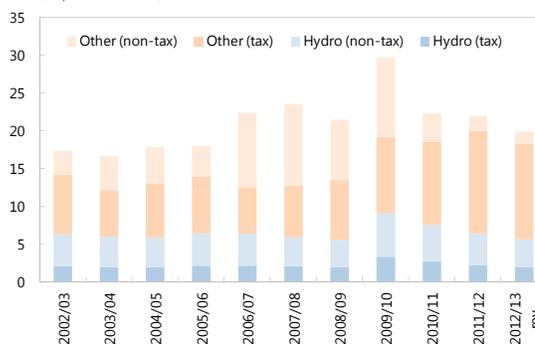
**Hydropower Production in 2010 1/**  
(In percent of total electricity generation)



Source: World Bank WDI database.  
1/ Top decile in terms of the indicator.

**5. Despite this predominance of the hydropower sector, its revenue generation capacity is constrained.** The export price per unit is fixed at between INR 1.80–INR 2 per unit<sup>2</sup>, while domestic sale prices per unit are also fixed. Thus, power sector earnings are capped in nominal terms at installed capacity times the negotiated price. As a result, tax and non-tax revenues from hydro power are also capped

**Composition of Domestic Revenue**  
(In percent of GDP)



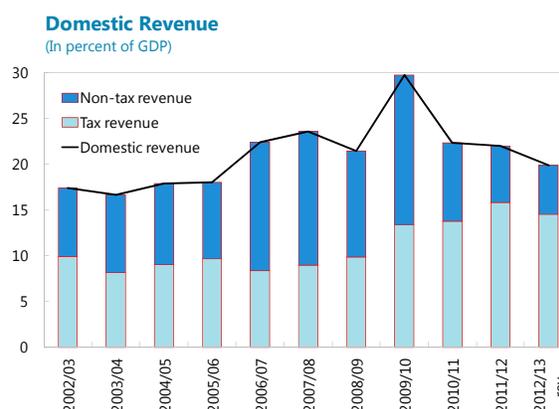
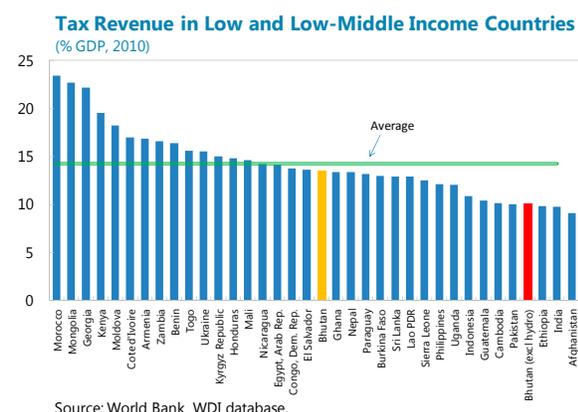
<sup>2</sup> INR = Indian Rupee to which the Ngultrum is pegged one for one. 1 unit = 1kWh.

(given installed capacity), resulting in a downward trend in share of total revenues as the economy grows.

**6. Revenue generation from hydropower stems from both tax and non-tax revenues.** The share of hydro revenues in total domestic revenues has declined recently, though is expected to rise as the large power projects under construction begin to come on-stream from 2016–17 onward. On average, the direct share of hydropower revenues in total revenues has been just over 30 percent, ranging between 25–35 percent over 2003–13. Thus, a significant proportion of total revenues are concentrated in a single sector of the economy.<sup>3</sup>

## C. The Current Structure of Taxes

**7. From a cross country perspective, Bhutan ranks below the average in terms of tax revenues from among a wide set of low and low-middle income countries.** Previous IMF studies<sup>4</sup> showed that while total revenue in Bhutan compared favorably with the average in the Asia-Pacific region, the share of tax revenue was relatively low, compensated for by higher non-tax revenues which are mainly attributable to the hydropower sector. Although the share of tax revenue has recently exceeded that of non-tax revenue, there is evidence to suggest there is room for Bhutan to improve its tax revenue performance.



**8. Domestic revenues are split between direct taxes, indirect taxes, and non-tax revenue.** Direct taxes consist of business income tax (BIT), personal income tax (PIT) and corporate income tax (CIT). Among indirect taxes, bulk of the revenue is generated by sales and excise taxes levied both at point of entry (POE) on imports and at points of sales (POS). As well, the excise duty refund received

<sup>3</sup> In comparison, Lao P.D.R., another landlocked country with large hydropower potential and relatively small installed capacity, receives only about 4.8 percent of total revenue from hydropower projects. Paraguay receives roughly 10–12 percent of total revenues from the Itaipu Dam on the Parana River.

<sup>4</sup> Aide Memoire of the 2009 FAD TA report on indirect taxes in Bhutan..

from India on Indian exports to Bhutan is an important source of indirect tax revenue.<sup>5</sup> Among non-tax sources, dividends from the major hydropower entities, Drug Green Power Corporation, and Druk Holdings and Investments are a key item (Table 2a).

**9. The structure of tax rates for direct and indirect taxes is shown in the table below.** There is a multiplicity of tax rates for indirect taxes, although previous studies show that bulk of the sales tax revenue at POE is collected in 5–15 percent slabs. About one-quarter of imports enter at a zero sales tax rate, and an equivalent amount is exempt from sales taxes at the POE. Secondly, most goods and services are exempt from POS sales taxes, barring 6 items (Table 2b).

**Table 2a. Structure of Taxes**  
(% shares in domestic revenue, 2012/13)

Direct	44.5
Corporate income tax	23.1
Business income tax	8.0
Personal income tax	5.3
Other	8.2
Indirect	28.4
Sales tax	10.2
Excise	16.5
o/w: excise duty refund from India	14.2
Import duty	1.4
Other	0.2
Non-tax	27.1
Dividends	14.4
Interest receipts from corporations	8.6
Profit transfers	0.0
Other	4.1

Source: Budget Report 2013/14, Ministry of Finance, Government of Bhutan.

**Table 2b. Structure of Tax Rates**

	Rates	Exemptions	Notes
<b>Direct Taxes</b>			
Business Income Tax	30 percent		Imposed on all non-corporate businesses
Personal Income Tax	Progressive slabs of 10, 15, 20, and 25 percent.	Each individual is entitled to Nu 100,000 basic exemption.	Imposed on wages, salaries, interest income, dividends, and other sources including sale of cash crops, hiring out equipment and private vehicles, and intellectual property. Capital gains are not taxed.
Corporate Income Tax	30 percent	Numerous tax holidays are in effect (see Table 3).	Levied on all income, including capital gains and intercorporate dividends.
<b>Indirect Taxes</b>			
Bhutan Sales Tax (BST)			
Point of entry (POE)	0, 5, 10, 15, 20, 30, 50, and 100 percent	1. Purchase of plant and machinery and accessories by manufacturing or service unit.  2. Raw materials imported by a manufacturing unit.	Most revenue is raised in 5, 10, and 15 percent bands. One quarter of value of imports estimated to enter zero-rated.
Point of sale (POS)	Rates applicable on 6 selected items: Cement (5%) Aerated water (30%) Beer manufacturers (50%) Beer importers (50%) Hotels and restaurants (10%)  Cable TV operators (30%) Cinema operators (30%)		
Customs	0, 5, 10, 15, 20, 30, 50, and 100 percent	Import duties are not imposed on India under FTA, preferential rates applied to SAARC countries.	Most items taxed at 10, 20 and 30 percent.
Excise	Excise on domestic alcohol (20 - 60%)		

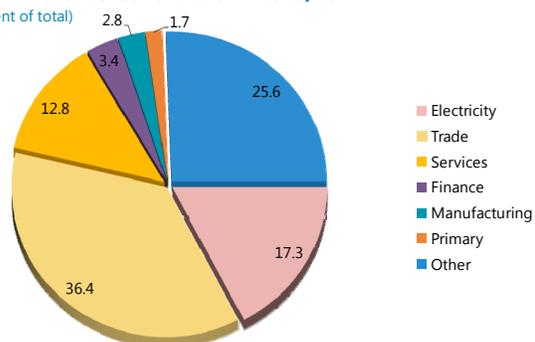
Source: Aide Memoire of 2009 Indirect Tax Reform mission, IMF.

<sup>5</sup> Under the Bhutan-India free trade agreement, the Indian government directly refunds excise paid on Indian exports to the government of Bhutan, rather than refunding the manufacturer.

**10. In terms of sectoral contribution to revenues, the top contributions arise from the trade related sector,** including excise duty refund from India<sup>6</sup>, sales tax collections from goods and alcohol products, customs duties, and corporate and business income taxes from entities involved in wholesale and retail trade, followed by electricity and manufacturing. Services (including hotels and restaurant) are also an important contributor, and relatively smaller contributions are from finance and the primary sector. Together these 6 sectors accounted for almost three-fourths of total revenues in 2012–13. Relative to its high imports, Bhutan receives a low share of tax revenue from customs. Since nearly three-quarters of total imports are from India, with which Bhutan shares a free trade agreement, and treats imports from the SAARC region preferentially, this is not surprising.

**Sector Revenue Contribution - 2012/13**

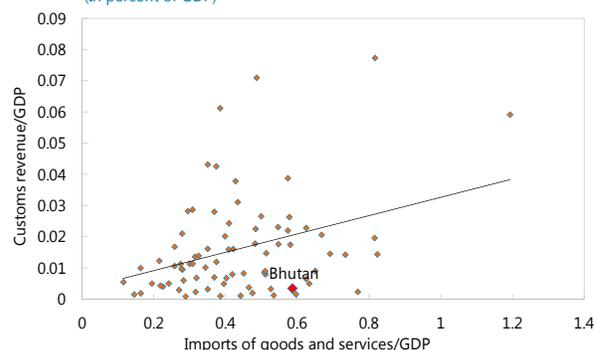
(Percent of total)



Source: National Revenue Report, 2012/13, Ministry of Finance, Government of Bhutan.

**Customs Revenue and Imports**

(In percent of GDP)



Source: World Bank WDI database.

**11. Previous IMF TA missions have identified issues arising from the existing tax structure, particularly for indirect taxes.** A summary of the key issues with the existing tax system is provided in the box below.

<sup>6</sup> As per the Agreement on Trade and Commerce between the Royal Government of Bhutan and Government of India (GOI), there is free trade and commerce between the two countries of goods produced in either country. Article VIII of the Agreement provides that: "Each of the Government agree to provide appropriate refund to be mutually decided annually in respect of excise duties on goods of its origin exported to another." In pursuance of the above provision, GOI has been annually paying refund of excise duties collected on goods exported from India to Bhutan.

### Box 1. Issues with Existing Indirect Tax System

The problems that can potentially arise from the existing system of indirect taxes are as follows:

- **Cascading:** Though there is an extensive system of exemptions in place to prevent cascading of POE taxes, but the exemptions are only partial. However, this is not considered to present a major issue as the effective import taxes paid by users of imported intermediate inputs such as hotels and restaurants appear to be quite low.
- **Protection:** This can arise when goods taxed at POE also have domestic producers who are tax-exempt. For example, certain types of steel produced in Bhutan are exempt from tax but Indian imports are taxed at 10 percent, which is contrary to the free trade agreement with India.
- **Multiple tax rates:** These can complicate tax administration by creating an incentive to misclassify goods. However, since in Bhutan's case POE sales tax collections arise from the lower (5, 10 and 15 percent) rates, this risk is somewhat mitigated.
- **Narrow tax base:** About one quarter of the value of imports are exempt from tax. Domestic value added is largely not taxed. Effective tax rates are estimated to be generally lower than the statutory rate in each slab.
- **Exemptions:** The existing set of exemptions in place to remove POE taxes on inputs is incomplete. Traders do not receive exemptions, the definition of plant and machinery is restrictive, and not all raw material imports used by manufacturing units are exempted. In combination with non-taxation of domestically produced inputs, this can distort production decisions by altering relative prices, which should be avoided to preserve the productive efficiency of the economy.

## D. Indirect Tax Reform

### Reducing exemptions and tax holidays

**12. Numerous exemptions and tax holidays are costly for Bhutan in terms of forgone revenue.** According to the 2011/12 revenue report, the total fiscal cost of tax holidays and tax exemptions amounted to more than Nu. 3 billion, equivalent to more than one-fifth of total tax revenue in 2011/12 or 3 percent of GDP (Table 3). Among possible tax policy reforms available to policymakers, reducing the number of exemptions and targeting/rationalizing the list of tax holidays would be a good starting point.

### The introduction of a VAT

**13. In addition to reducing exemptions and other improvements to the existing system of indirect taxation (e.g. narrowing the range of POE sales tax rates and expanding the POS tax base),** Bhutan should aim for a deeper overhaul of the existing tax system by introducing the VAT. Previous Fund TA has recommended the

**Table 3. Forgone Taxes**

(In millions of Nu.)

	Sales tax	Customs duty	Total
<b>Indirect tax exemptions</b>			
From India			
Raw materials	331.3		331.3
Plant and machinery	28.6		28.6
Vehicles	16.7		16.7
General goods	285.3		285.3
From other countries			
Raw materials	90.0	343.0	433.0
Plant and machinery	25.4	343.1	368.6
Quota vehicles 1/	167.7	275.6	443.3
General goods	267.6	778.5	1046.1
<b>Total indirect tax exemptions</b>	<b>1212.6</b>	<b>1740.2</b>	<b>2952.8</b>
<b>Forgone tax from tax holidays</b>			<b>74.4</b>
<b>Grand total</b>			<b>3027.2</b>

Source: National Revenue Report 2011-2012, Department of Revenue and Customs, Ministry of Finance, Royal Government of Bhutan.

introduction of the VAT set at a low rate in of around 10 percent, with a high threshold<sup>7</sup> (proposed at 2.5 million ngultrum), and limited exemptions (mainly limited to health and education sector), along with a few chosen excise taxes such as those imposed on alcohol.

**14. Using national income accounts and budget data for 2010, staff estimates suggest that assuming a C-efficiency ratio<sup>8</sup> in the region of 50–60 percent, a VAT rate of around 10–12 percent would be able to raise the entire indirect tax revenue collection in the same year.**

Moreover, it is likely that the such a rate would have a relatively small impact on prices (as most customs and sales tax collections occur in the 5–15 percent bracket), and such a rate would be competitive in the region given that most countries in the Asia Pacific region apply VAT rates ranging between 5–17 percent, at an average of just over 11 percent.<sup>9</sup>

**15. The choice of a threshold reflects the important trade-off between revenues and administrative costs.** Too high a threshold would compromise revenue collections though having lower administrative costs, whereas too low a threshold may make the VAT system too cumbersome to enforce and implement. Moreover, threshold setting can have important effects on firms' incentives to reveal their true size or break up firm activity into multiple firms of smaller size in an effort to minimize taxes.

**16. Based on available data on CIT and BIT paying firms, a threshold of 2.5 million ngultrum would bring all CIT filers within the purview of VAT.** While the smallest 60 percent of BIT filers (57.5 percent of all CIT and BIT filers) would be below the threshold, these account for only around 2.5 percent of total revenue generated by all CIT and BIT filers. Thus, significant scope may exist for savings on administrative costs without sacrificing too much revenue.

**17. The introduction of a modern VAT system could confer several benefits for Bhutan, including:**

- Reducing cascades by crediting taxes on inputs; thereby also reducing indirect taxation of exports.
- Reducing incentives for tax evasion, such as through under-invoicing of imports, as purchasers are incentivized to fully reflect dues for tax credit.
- Potentially higher revenue yields, ascribed to stronger enforcement mechanisms and lower economic costs which also allow for higher rates compared to turnover tax or retail sales tax.

<sup>7</sup> The threshold is a minimum turnover size that firms must meet to be registered in the VAT system. Firms with turnover below this threshold may be subject to alternative modes of taxation other than VAT.

<sup>8</sup> C efficiency = VAT revenue/(rate x consumption expenditure) is a diagnostic to assess the efficiency of VAT.

<sup>9</sup> Aide Memoire of the 2009 FAD TA report on indirect taxes in Bhutan.

- Potential increase in investment, as taxes on inputs and capital goods are removed.
- Anecdotal evidence suggests that a large number of commercial establishments in Bhutan are not in the habit of keeping sales records and receipts. The introduction of VAT would incentivize more careful record keeping.
- Though adoption of VAT typically entails significant setup costs for administration and taxpayers, compliance costs can be kept low by a well-designed VAT system. Moreover, the current indirect tax system has complicated procedures to prevent cascading, relying on numerous and narrowly differentiated tax rates, and by creating categories of goods such as “raw materials” and “capital equipment” that can introduce identification problems, open the system to abuse, and raise administration costs.

### ***Streamlining Direct Taxes***

**18. In addition to indirect tax reforms, the system of direct taxes could also be streamlined, by merging the PIT and BIT.**<sup>10</sup> The current system of taxing individual and business income gives rise to inequalities between taxation of salary and wage earners and business income earners, with the latter bearing a significantly higher tax burden. Merging these two taxes would eliminate the inequity and encourage better record keeping by business owners.

## **E. Summary and Conclusions**

**19. Bhutan’s tax system is characterized by a relatively narrow base and heavy reliance on the hydro power sector for a large share of its revenues.** While this is perhaps unsurprising given the small size of the economy and its emphasis on using hydropower development as the engine of growth, revenues from hydropower are not buoyant as electricity prices are fixed in nominal terms. Given the impending decline in grant assistance as Bhutan’s income rises, the need to generate adequate domestic revenue to make up the difference is key to financing its development plans in the context of the upcoming 11<sup>th</sup> FYP.

**20. Efforts to enhance revenues and improve the tax system should be multi-pronged.** These should focus on (i) rationalizing the system of tax holidays and pruning the list of exemptions in the near term, and (ii) reforming the system of indirect taxation in the medium term. In this context, introduction of a VAT, with its attendant advantages including increased revenue collection, should be seriously considered. In addition, the system of direct taxes could be streamlined by merging the PIT and BIT into a single tax.

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<sup>10</sup> FAD Tax Policy mission TA Report, 2003.

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## RESERVE ADEQUACY AND RESERVE MANAGEMENT IN BHUTAN<sup>1</sup>

*This chapter analyses the adequacy of international reserves in Bhutan using a customized risk-weighted metric, in addition to traditional metrics. The results show that Bhutan's reserve levels are high using traditional metrics. Notwithstanding this adequate buffer, there are significant challenges to reserve management as debt service is bulky and there is a currency mismatch between the composition of reserves and that of trade and debt service flows.*

### A. Introduction

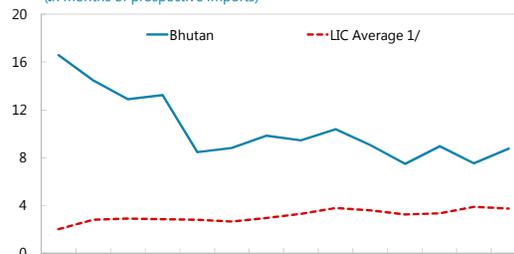
**1. Bhutan pegs the ngultrum to the Indian rupee at parity, an exchange rate arrangement which has served it well.** The peg has helped to underpin confidence in the ngultrum, facilitating Bhutan's trade relations and development partnership with India, including the large-scale construction of hydropower generation capacity. However, Bhutan faces recurrent pressures on rupee reserves stemming from a combination of a number of factors including loose macroeconomic policies, rapid credit growth, and time-inconsistency in lumpy hydro-related transactions. As a result, the authorities have had to resort to recurrent short-term borrowing of rupees from Indian commercial banks and the Government of India at considerable cost. A pronounced rupee shortage led the RMA to sell 20 percent of its U.S. dollar reserves in December 2011 and continued shortages led to the adoption of measures including banning certain imports in 2012. More recently, the RMA sold US\$200 million in June 2013 following the sharp depreciation of the rupee.

### B. Reserve Adequacy

**2. Bhutan's international reserves coverage has been comfortable in recent years based on traditional reserves adequacy metrics.**

Expressing reserves adequacy in months of import cover is the standard metric for countries with current account vulnerabilities and little access to international capital markets. This measure reflects the ability to maintain imports in the face of a shortfall of exports or an increase in imports or delay in aid flows. Bhutan exceeds the rule of thumb of 3-months cover by a wide margin, and is in a much stronger position than average for a

**Gross Official Reserves**  
(In months of prospective imports)



Sources: Country authorities and IMF, World Economic Outlook  
1/ LIC includes Bangladesh, Cambodia, Lao PDR, Mongolia, Myanmar, and Nepal.

<sup>1</sup> Prepared by Eteri Kvintradze (APD).

group of Asian low-income countries (LICs). Despite this, the reserve cover expressed in months of imports has been on a declining trend since 2003–2004, with a start of the construction of import-intensive hydro-power projects which has also been accompanied by rapid credit growth and a consumption boom.

**3. The size of Bhutan’s reserves expressed as a share of GDP is also strong compared to other Asian LICs.** However, this ratio has also been declining steadily, as reserve accumulation is slower than nominal GDP expansion, with real GDP growth averaging 8.7 percent in the past decade. This trend is opposite of that observed for other Asian LICs, which have been steadily retaining and building up their reserve buffers during this time.

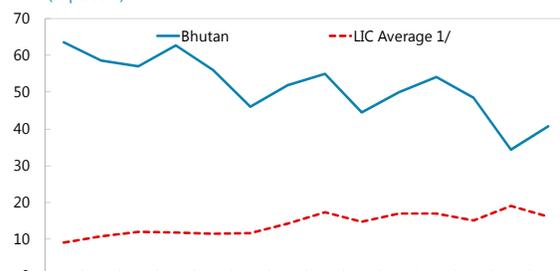
**4. The ratio of reserves to broad money is usually intended to capture the risk of capital flight.** This risk is an important given that many recent capital account crises have been accompanied by outflows of domestic residents’ deposits. Additionally, this may be useful for assessing reserve adequacy under fixed exchange rate regimes and as adequate reserves based on this measure may bolster the credibility of the exchange rate arrangement. So while Bhutan’s capital account is closed, this measure may also be useful. The accompanying figure shows that Bhutan meets and exceeds the 20 percent benchmark comfortably.

**5. In addition, the overall level of reserves is adequate to cover debt service payments.**

Indeed, Bhutan debt servicing capacity remains comfortable though the debt burden has been rising as repayments related to hydropower projects have increased. Moreover, sharp spikes in the debt service payments require careful reserve management to provision necessary foreign exchange in advance for meeting debt service obligations and at the same time accommodating other needs of the booming economy. In fact, spikes in hydropower-related debt service have placed Bhutan’s debt service to reserves ratio above the average for Asian’s LICs.

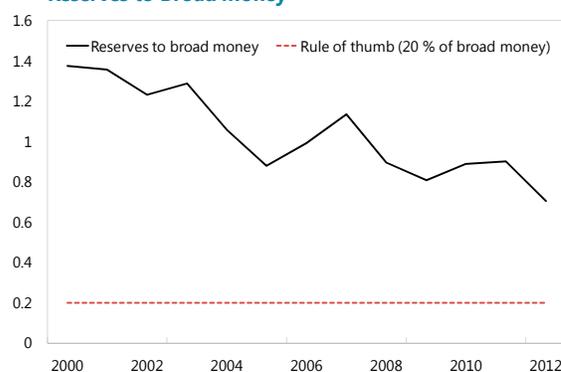
**6. The customized risk weighted approach reflecting the relative risk levels of different potential sources of balance of payments pressures show that coverage remains adequate,**

**Reserves Share in GDP**  
(In percent)

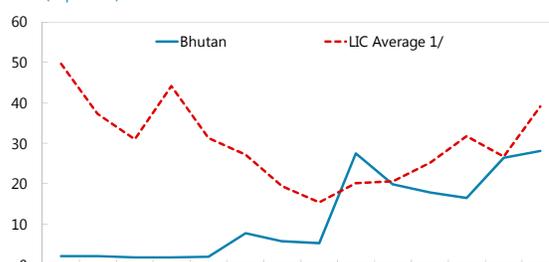


2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013  
Sources: Country authorities and IMF, World Economic Outlook  
1/ LIC includes Bangladesh, Cambodia, Lao PDR, Mongolia, Myanmar, and Nepal.

**Reserves to Broad Money**



**Debt Service Share in Reserves**  
(In percent)



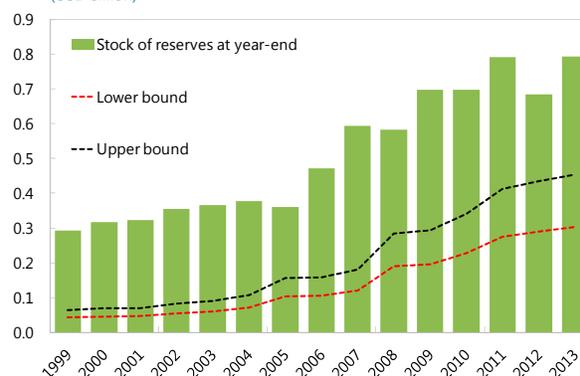
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013  
Sources: Country authorities and IMF, World Economic Outlook  
1/ LIC includes Bangladesh, Cambodia, Lao PDR, Mongolia, Myanmar, and Nepal.

**but carry risks to reserve management once bulky debt service is taken into account.** The composite metric is constructed by assuming that reserves have to fully cover the debt service requirements, part of the import bill and M2:

100% of DS + 10% of M2 + 10% of Imports<sup>2</sup>.

The estimated metric shows that current coverage is at the 150 percent range (upper bound) and is therefore adequate. During the past decade, it has stayed comfortably above this range. However, a fast build-up of debt service and imports have gradually eroded this cushion and it is getting closer to the upper limit of 150 percent.

**Reserves Against IMF's Risk-Weighted Metric**  
(USD billion)

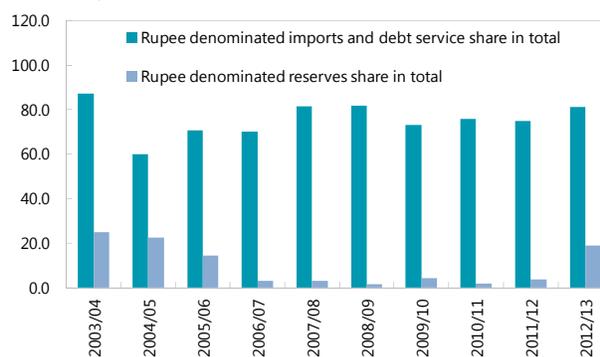


## C. Reserve Management Issues

**7. There is a mismatch in the composition of Bhutan's reserves and the structure of its international transactions.** The most important objective of reserve management is to maintain an

adequate level and an appropriate currency composition of reserves to facilitate international trade and debt payments. Most of Bhutan's reserves are in convertible currencies while it primarily needs rupees for trade settlement and debt service. The share of rupee-denominated imports and debt service has remained at around 80 percent for the past decade, while the share of INR reserves in total reserves on average fell to 3 percent in the past five years. The Constitution of Bhutan stipulates that reserves of at least one year's essential imports must be maintained, though it is interpreted as a requirement that has to be met in convertible currencies. As imports grew, the share of convertible currency reserves in the total reserves increased steadily to meet the constitutional requirement, while rupee reserve share has been eroded.

**Currency Composition of Reserves**  
(In percent)



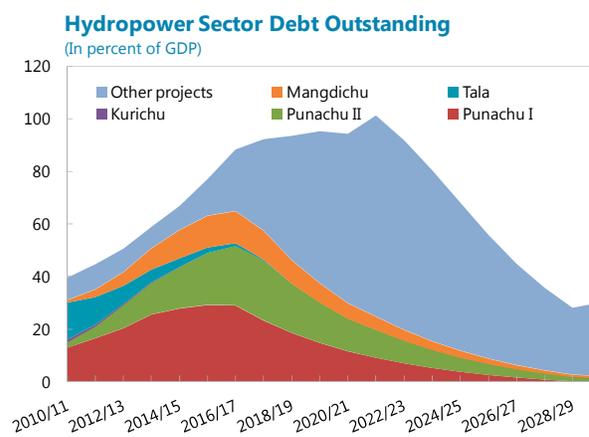
**8. Additional complications related to reserve management stem from the fact that hydro-related rupee denominated debt service payments are lumpy.** Combination of bulky debt

<sup>2</sup> For a comprehensive description of methodology and applications for LICs and EMs see "Assessing Reserve Adequacy", IMF 2011. The composite metric is constructed focusing on Bhutan's external vulnerabilities mainly stemming from spikes in the bulky debt service payments and high import volumes.

service payments with relatively low levels of rupee reserve holdings have resulted in repeated episodes of rupee shortage. The first episode was in 2006/07 when Tala hydroproject debt service started, followed by the second episode in 2011/12 related to servicing the short-term borrowing from India.

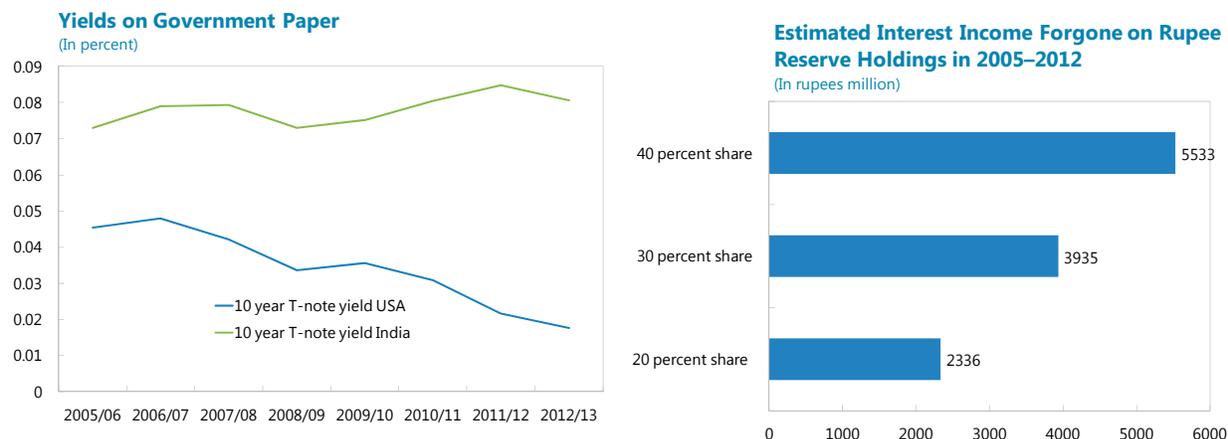
**9. While debt service is not the only component putting pressures on reserves in the overheated economy, spikes in debt service were associated with episodes of rupee shortage as adequate amount of rupee have not been provisioned in advance.**

The loans for the construction of the hydropower plants have a grace period for repayment until construction is finished but the interest is accrued and capitalized. The accrual of the interest on the loans for the hydropower projects currently is not recorded in the balance of payments during the grace period. As a result, the end of construction/grace period for each project is accompanied with a spike in the accrued and capitalized interest that was not built in the debt profile during the grace period. Recent Fund BOP technical assistance has recommended that accounting for the accrued interest for hydro loans during the grace/construction period would make the debt service profile smoother allowing for more gradual build up.



**10. Furthermore, there is timing mis-match in hydro-related rupee denominated inflows and outflows.** Debt service payments are mainly concentrated in January, while disbursements and export receipts from hydropower tend to peak around July-September. As a result, the authorities have had to resort to recurrent short-term borrowing of rupees from Indian commercial banks at considerable cost.

**11. The opportunity cost of holding convertible currency reserves as opposed to rupee reserves is significant.** This cost stems from the differential in government paper yields and short-term borrowing costs to meet demands on rupee reserves. The opportunity cost of holding reserves in convertible currency has been increasing over years, as share of rupee reserves has been eroded and interest rate differential between India and U.S. government bonds has widened, with yields on U.S. Treasury bills has been declining steadily over the past decade with close to zero return in most recent years. Back of the envelope calculations show that if Bhutan has invested on average 30 percent of its reserves in rupee denominated government bonds it would have earned net interest of Rupees 4 billion in 2005–2012 period, not accounting for unpredictable rupee liquidity needs. The actual interest cost of rupee overdraft facilities to which the RMA resorted to periodically has added to the cost of holding convertible currency reserves.



**12. The Fund TA mission in July 2013 concluded that the RMA needs to bring about wide-ranging improvements in the policy environment as also in the practices and procedure for its reserve management function.** To this end, it recommended that the RMA should adopt and implement a reserves management policy and a set of investment guidelines at an early date. It also concluded that, it is optimal for the external reserves of the RMA to have a currency composition resembling the currency diversification of the country's imports and external debt, especially since the RMA holds nearly all the external financial assets of Bhutan and since most of the inflows and outflows in foreign currencies eventually get routed through it. Specifically, the mission recommended that the RMA hold a much larger proportion of external reserves in rupee denominated assets, recognizing that this will happen only over a period time. To begin with, any excess of convertible currency reserves above the threshold determined by RMA's Reserve Adequacy Framework should be converted into rupees and managed in a liquidity portfolio. To prevent building of pressures, it also recommended that to effectively management of this liquidity tranche, the RMA should undertake monthly projections of rupee inflows/outflows for each of the next three months and the subsequent three quarters. This will enable it to build buffers and prevent the occurrence of shortages.

## D. Conclusions

**13. Bhutan's reserve levels are adequate albeit with significant risks to reserve management.** There is a mismatch in the composition of Bhutan's reserves and the structure of its international transactions. Most of its reserves are in convertible currencies while it primarily needs rupees for trade settlement and debt service. The opportunity cost of holding convertible currency reserves to meet constitutional requirements is considerable. The risks to the reserve management stem from the fact that hydro-related rupee denominated debt service payments are lumpy with mismatches in hydro-related rupee denominated inflows and outflows. This requires careful reserve management to provision necessary rupees in advance for meeting hydro related debt and import payments and at the same time accommodating other needs of the booming economy.

## References

International Monetary Fund, 2011, "Assessing Reserve Adequacy," IMF Policy Paper, February (Washington: International Monetary Fund).

International Monetary Fund, 2012, "Assessing Reserves Adequacy in Jordan", IMF Country Report No. 12/120, (Washington: International Monetary Fund).

## GROWTH AND DIVERSIFICATION IN BHUTAN<sup>1</sup>

*Bhutan has experienced rapid growth in the recent past, though accompanied by greater volatility in the hydropower sector. Diversification of the economy would help to sustain high growth and limit potentially higher volatility as the hydropower sector expands. Bhutan's exports have shown a lack of diversification and its export basket has a falling share in world exports. Required policy measures include addressing key structural deficiencies such as a shortage of skilled labor and access to finance, as well as encouragement of niche sectors such as tourism, agri-business, and energy intensive activities that could take advantage of access to cheap and clean power.*

### A. Introduction

**1. As a small, mountainous, and landlocked country, endowed with abundant hydropower potential, Bhutan faces a unique mix of development challenges and opportunities.** It benefits from its proximity to India, particularly in the development and export of hydropower, but it is also subject to volatile hydropower cycles that raise challenges for macroeconomic stability and management. In addition, it is heavily import dependent and has a small export base, with consequences for its external balance. Moreover, given that electricity export prices are fixed per unit, export revenues are set to decline as a share of GDP over time.

**2. Cross-country research suggests a positive link between trade and real sector diversification, and macroeconomic outcomes.** Real sector diversification, by channeling resources from more volatile (and correlated) sectors to less volatile sectors—such as from mining and agriculture to manufacturing— can increase stability. Trade diversification, in both partners and products, can dampen the impact of fluctuations in partner countries and volatility in terms of trade (to the extent that such fluctuations are uncorrelated across partners and product prices). It is estimated that diversification episodes are associated with a 17 percent reduction in output growth volatility; among LICs, the reduction in volatility is as high as 40 percent. The evidence also suggests that diversification episodes and growth accelerations are correlated.<sup>2</sup>

**3. Bhutan is likely to witness multiple growth spurts associated with construction of large hydropower projects and subsequent jumps in electricity generation.** Several large projects that will more than double current installed capacity are slated to begin generating power by 2017–18. However, there are pitfalls associated with growth deriving from a single sector, such as Dutch disease type effects that could negatively impact the relatively small export base, heightened volatility, and risks that accompany large hydropower projects, such as delays and cost escalations.

<sup>1</sup> Prepared by Adil Mohommad (APD).

<sup>2</sup> For details, please refer to IMF (2012).

Moreover, the hydropower sector is known to generate little employment, mostly using expatriate labor from India.<sup>3</sup> Therefore, diversifying growth is an important policy priority for Bhutan.

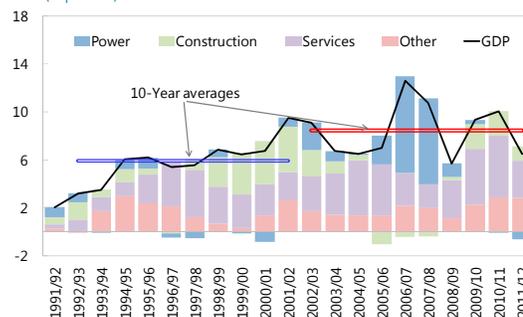
**4. This chapter is organized as follows:** Section B discusses trends in the domestic economy, including growth patterns, sector shares over time, and the impact of the hydropower sector. Section C discusses export diversification trends, and section D discusses policy options in light of evidence on Bhutan's structural needs and priorities.

## B. Domestic Economy and Growth

**5. Over the past two decades, Bhutan has shifted to a higher growth trajectory, albeit a more volatile one.** The average growth rate was about 6 percent during 1993–2002, increasing to 8.7 percent on average over the next ten years. The commissioning of the 1,020 MW Tala hydropower project (the largest to date) in 2006/07 drove up GDP growth to nearly 13 percent, and 10 percent the year after. Prior to the commission of Tala, surging construction activity also contributed to GDP growth. The contribution of the power sector to growth fell dramatically as Tala reached its peak production capacity. Also evident is the robust contribution of the services sector after 1996/97 to overall growth.

Contribution to GDP Growth

(In percent)

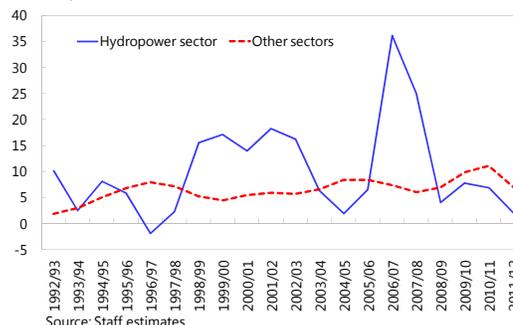


Sources: Royal Monetary Authority of Bhutan; and IMF Staff Estimates.

**6. At the same time, growth has become much more volatile.** In terms of volatility, although the standard deviation of growth increased from 1.8 to 2.2 percentage points over the two 10-year periods, the coefficient of variation actually declined from 0.3 to 0.25 in the second half given the much higher average growth rate. The stabilizing role is played by the non-hydropower real sector. Estimated hydropower GDP growth<sup>4</sup> appears more volatile than non-hydro related activity; moreover the coefficient of variation of non-hydro growth has declined from 0.4 to 0.2 between the two decades, whereas that of hydro-GDP has increased from 0.8 to 1.

Hydro vs. Non-hydro GDP Growth

(In percent)



Source: Staff estimates.

<sup>3</sup> See Kojo (2009).

<sup>4</sup> Hydro GDP growth is estimated as the weighted sum of construction and electricity sector growth. This is an indicative estimate as there are spillovers from the hydro sector, particularly during the construction phase, on to other sectors of the economy. However, we lack sufficient data to estimate growth attributable directly and indirectly to the hydropower sector.

**7. The structure of the economy shows steady transition away from agriculture and towards manufacturing and services.** Over the past 30 years, the share of agriculture has declined steadily from nearly 60 percent of GDP in 1980 to below 20 percent in 2011. The share of industry and services has steadily risen in the meantime. Within the industrial sector, electricity generation and construction activity account for nearly three quarters of industrial GDP, while in the services sector, government-related services dominate (Figure 1 in Appendix). Agriculture still employs a significant share (62 percent) of the workforce, with services in second place with 29 percent and industries with 9 percent.

**8. In comparison with other low- and lower-middle-income countries, Bhutan's economic structure compares favorably with its peer group,** with the relatively large share of income generated in the non-agricultural sector. However, the share of employment in agriculture remains large. Also, low productivity in agriculture raises the possibility of high levels of under-employment or disguised unemployment, despite the low official overall unemployment rate. Moreover, there is also a skills mismatch in the non-agricultural sector which has been identified as a key impediment to private sector development.

### C. Export Diversification

**9. In the medium term, correcting the wide trade imbalance is of vital importance, given that consumption levels are likely to rise and external assistance will fall with increasing per capita incomes.** As well, servicing hydropower related debt will absorb a part of the revenues from exporting electricity (although costs of repayment have been worked into the negotiated tariffs for projects under construction). While hydroelectric exports are likely to remain a key source of export revenue, diversifying the export base will be important for these reasons.

**10. The trends in export diversification are examined using various measures from the UN Comtrade database** (albeit with data gaps in 1994–97 and 2000–04). Table 1 looks at the evolution of Bhutan's top 7 exports in 1991 accounting for 90 percent of exports. Two decades ago, the export basket had a large share of agricultural and forestry goods, including fruits and vegetables, wood, and wood products, accounting for more than a third of total exports. Over time, the share of these 4 products has fallen around 5 percent. In addition, the share of non-metallic mineral products (largely mining related) has also dropped significantly. Barring electricity, all other goods have dropped in their share of total exports, to the extent that these 5 goods make up now make less than half of total exports, compared to 90 percent in 1991. Goods that have taken their place include ferro-alloys, non-ferrous metals, miscellaneous manufactured goods and crude fertilizers and other crude material.

**Table 1. Share of Selected Goods in Exports 1991 Onwards (%)**

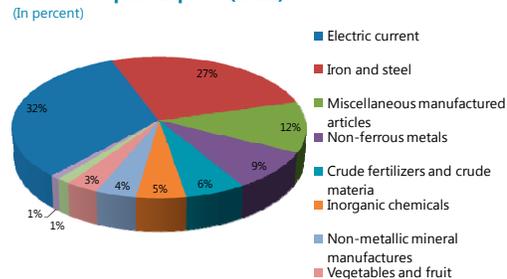
	1991	1999	2011
Electric current	26.9	40.5	31.1
Inorganic chemicals	19.6	10.8	4.8
Cork and wood manufactures (excl.furniture)	11.1	4.5	0.9
Vegetables and fruit	11.0	8.5	3.1
Non-metallic mineral manufactures	10.1	10.9	3.9
Cork and wood	6.7	1.6	0.1
Coffee,tea,cocoa,spices,manufacture	5.0	1.2	1.3
Share in total exports	90.4	78.0	45.3

Source: UN Comtrade Database.

**11. Since the commissioning of the Tala hydropower project in 2006, the extent of diversification in Bhutan's exports appears to have declined.** Looking more closely at the data, it appears that active export lines appear to have gradually risen from the early 1990s until 2005, but have fallen in subsequent years. However, there is a notable overall increase between 1991 and 2011. Similarly, the Herfindahl index, that provides a measure of concentration based on shares in total exports, also suggests concentration declined (lower values showing more diversification) coinciding with the peak of active export lines, only to reverse in the late 2000s with increased electricity exports (and possibly due to fewer export lines). Overall, between 1991 and 2011, the Herfindahl index suggests that export shares may have become more concentrated.

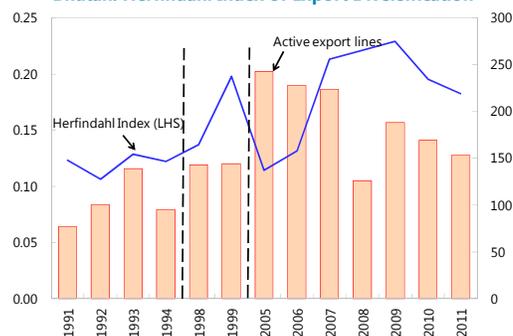
**12. The episode of diversification seen between 1999–2005 is associated with new product lines.** In contrast, the slight increase in diversification observed recently can be attributed to a more even distribution of shares within active product lines, even as the number of product lines has declined. The Theil index decomposes export diversification into an intensive margin (the degree of concentration in shares of active export lines) and an extensive margin (the emergence of new export lines) where lower values signify greater diversification. Cross-country evidence suggests that diversification is mostly driven by changes at the extensive margin, particularly for LICs with narrow trade structures<sup>5</sup>. While the experience up to 2005 would appear to conform to this pattern, the presence of a large hydropower export sector in Bhutan, including sizeable prospective electricity exports to India in the medium to long term imply that the pattern of increasing concentration is likely to continue, in the absence of measures to diversify the export base.

Share of Top 10 Exports (2011)

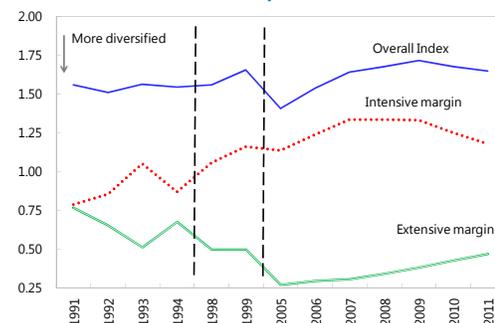


Source: UN Comtrade database. Items account for more than 95 percent of total exports.

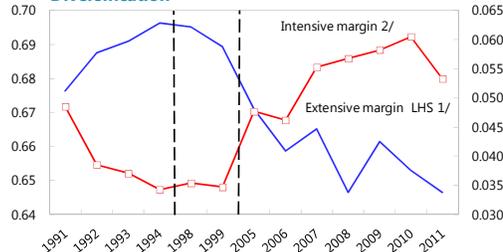
Bhutan: Herfindahl Index of Export Diversification



Bhutan: Theil Index of Export Diversification



Bhutan: Hummels-Klenow Margin of Export Diversification



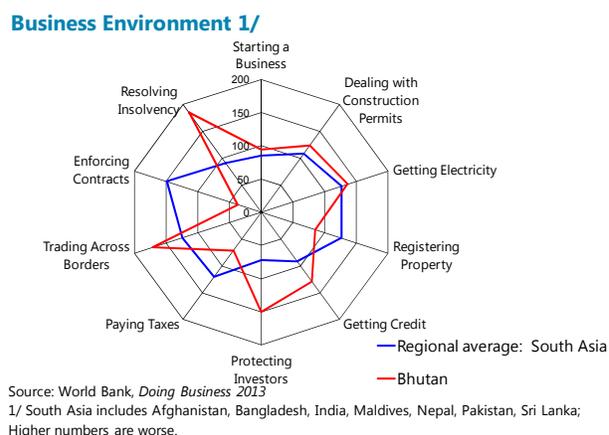
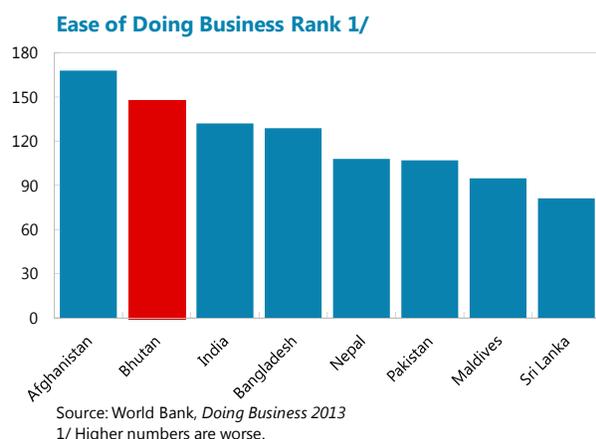
1/ Share of total world exports of Bhutan's export basket in total world exports of all goods.  
2/ Share of Bhutan's exports in total world exports of Bhutan's export basket.

<sup>5</sup> However, trade growth is primarily driven by the intensive margin; see Cadot et. al, 2012.

**13. Another useful perspective is provided by looking at the Hummels-Klenow index.** The intensive margin (IM) measures the share of a country’s export basket in total world exports of that basket. The extensive margin (EM) measures the share of total world exports of this basket in total world exports of all goods. IM is therefore a measure of a country’s market share, whereas EM measures the share of the basket; other things equal, it is preferable to have an export basket that has a rising share in world exports. While Bhutan’s exports are known to be small, the IM index (share in the basket constituted by its exports) was rising over time, barring a decline in 2011. However, it is also evident from the EM index that the export share of this basket of goods in total world exports is declining over time, and is quite small. Overall, this could be described as being a “small fish in a shrinking pond”; not only is Bhutan’s share in world trade quite small, it is a small exporter of the commodities in its exports basket.

### D. Policy Options

**14. In this section we discuss options for growth diversification and areas of structural reforms that would assist in achieving this objective.** The preceding analysis revealed that employment generation out of the agricultural sector has been low, and that export diversification has not increased over time, even though traditional primary exports have been replaced by metals and manufactured goods, along with electricity, as top export earners. Generating more employment and diversifying the economy are inter-linked as they would rely on developing Bhutan’s private sector. Various business and investment climate surveys of Bhutanese firms shed light on the main structural issues that need to be addressed in order to achieve this desired transformation.

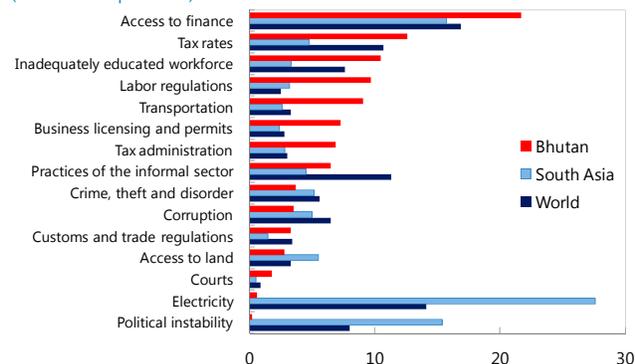


**15. Relative to its regional peers, Bhutan ranks low in terms of ease of doing business, and its rank has slipped from 142 in 2012 to 148 in 2013.** Along several dimensions, its rank is lower than the average for South Asian countries. In particular, investor protection, resolving insolvency, trading across borders, and obtaining credit appear to be lagging areas. In terms of infrastructure needs, the World Bank Investment Climate Assessment (2010) shows that land and transportation are among key problems faced by firms.

### 16. The 2009 Enterprise Survey enables us to identify key problem areas perceived by firms.

A fifth of surveyed firms reported access to finance as a significant constraint, along with several labor-related issues including inadequately skilled workforce. The Investment Climate Survey also notes difficulties in importing skilled workers as an additional labor market constraint. Transportation and tax related issues are other perceived major constraints. In comparison with South Asia and the world, Bhutanese firms seem to enjoy a high degree of political stability and easy access to electricity, the latter being a major constraint in other South Asian economies.

**Perceived Constraints of Private Sector Firms**  
(Percent of respondents)



Source: IFC - World Bank Enterprise Survey, 2009.

**17. Thus, improving firms' access to finance and enhancing the skills of the workforce and matching private sector labor requirements may be useful policy actions.** Although the education levels of the workforce rank well relative to other countries in the region,<sup>6</sup> the mismatch of skills and high unemployment among youth may prove to be major hurdles for growth and development of the private sector. Moreover, low wage work/underemployment may also be quite high: 30 percent of employed men and 70 percent of employed women attempted to look for additional jobs. Youth unemployment is as high as 8 percent for males and 7 percent for females in the age group of 20–24, and is generally high in the age-groups of 15–29 compared to the overall rate of 2.1 percent.<sup>7</sup>

**18. Addressing these structural issues would help to boost more rapid development of the private sector in Bhutan.** In addition, it may also benefit from developing certain niche areas in which it has a comparative advantage. These may include tourism, certain high value agricultural commodities and processed foods, electricity-intensive industries that could take advantage of the availability of cheap power, and information and communication technology (ICT)-related industries that may benefit from the relatively well educated labor force.

**19. Tourism has the potential to emerge as a major revenue earner for Bhutan.** Estimates by authorities place the GDP contribution of the "tourism sector" at around 6 percent of GDP (see Figure 2 in Appendix), quite low in comparison with other countries with significant tourism

<sup>6</sup> 40 percent of workers are estimated to have completed secondary schooling, while 15 percent had university education or higher. In comparison, India (2004) only had 16 percent of population aged 15 or higher with secondary education, and just 5.5 percent had higher degrees (World Bank, 2010).

<sup>7</sup> See Bhutan Labour Force Survey Report (2012).

revenues.<sup>8</sup> The number of arrivals is small (100,000 in 2012), and there are plans to increase it gradually to 200,000 by 2018. In terms of earnings per tourist, Bhutan ranks somewhat below the mean level of expenditure per tourist, taking into account the smaller size of the country.<sup>9</sup> This may indicate scope to increase tourism earnings by promoting more high-value tourism and by increasing the number of tourists.

**20. The key challenges facing development of tourism are the seasonality on account of the nature of tourism, and inadequate infrastructure.** Currently, tourism in Bhutan is centered on cultural events that occur at in the second and fourth quarter of the year. Thus, capacity lies idle in intervening periods and tourism remains concentrated in western Bhutan where these activities are centered. Moreover, geographical access is limited to a single airport in the west with a single operating airline and accompanying capacity constraints. The development of tourism must also accompany diversification and expansion of the domestic production base. At present, a large proportion of tourism revenue leaks out in imports; according to authorities' estimates, only \$65 out of the \$250 daily tourism royalty is retained.

**21. Some measures have been taken recently to improve the situation, such as introducing more flights, offering royalty-free hotel stays, and offering tax holidays to relatively under-developed tourism regions.** The Royal Institute for Tourism and Hospitality was established in 2010, to help standardize and quality control the hospitality sector. Finally, with expended credit card use facilities and the spread of internet, it may become easier to attract more high-value tourists throughout the year. In the medium term, the tourism sector can be boosted further by promoting more nature based and "wellness" based tourism in the country.

## E. Conclusions

**22. While growth has increased appreciably in the last decade,** Bhutan's economy is subject to higher volatility from the hydropower sector, and has so far been unable to generate adequate employment in the manufacturing and services sectors. Its export basket has not well diversified and its share in total world exports is steadily declining.

**23. Given the positive relationship between diversification and macroeconomic stability and growth,** Bhutan should continue to make efforts to encourage private sector development including with a view to diversifying its exports. Some key areas of improvement are (i) access to finance and (ii) labor market issues including skill enhancement and reducing youth unemployment.

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<sup>8</sup> Since tourism overlaps several domestic sectors including transport, communication, hotels and restaurants etc., its contribution to GDP is difficult to measure accurately. However, the Tourism Council of Bhutan is implementing Tourism Satellite Accounting (TSA) along with the National Statistics Board, which is still work in progress.

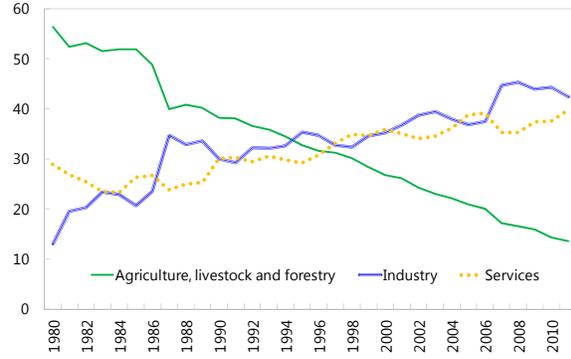
<sup>9</sup> From a set of 125 countries for whom data on tourist arrivals and tourism spending is available (for 2011) from UNWTO, we consider a smaller set of 63 countries with arrivals below the all-country median, given Bhutan's small size.

**24. Bhutan is in a good position to utilize abundant and cheap power to encourage the growth of certain industries,** particularly energy intensive manufacturing, tourism, niche agricultural products, and services sectors including tourism. Channeling the earnings from exports of electricity into addressing the structural challenges highlighted above would help Bhutan maximize the growth potential of its hydropower resources.

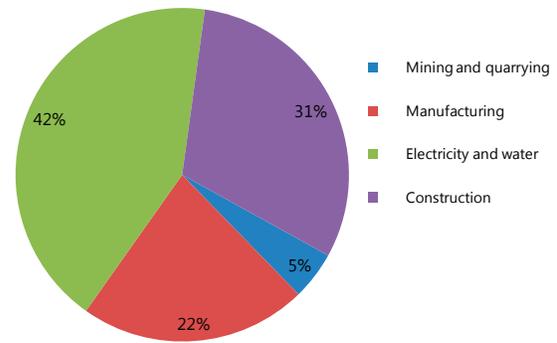
## Appendix

**Figure 1. Sectoral GDP and Employment**

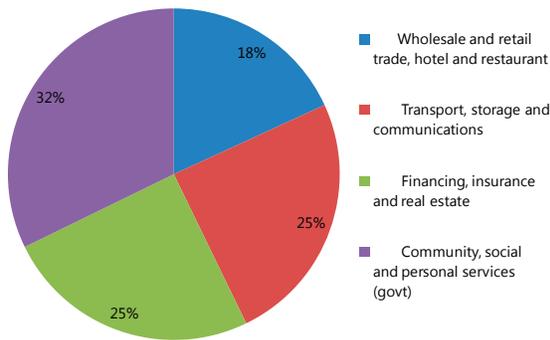
**Sector Shares in GDP**  
(In percent)



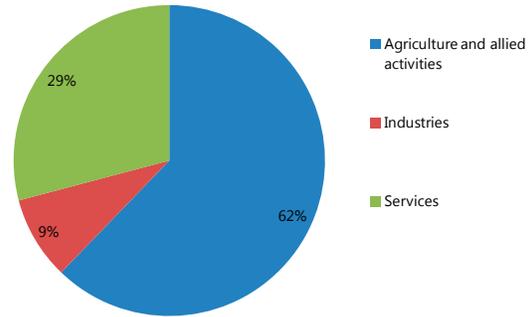
**Share in Industrial Sector**  
(In percent; 2011)



**Share in Services Sector**  
(In percent; 2011)

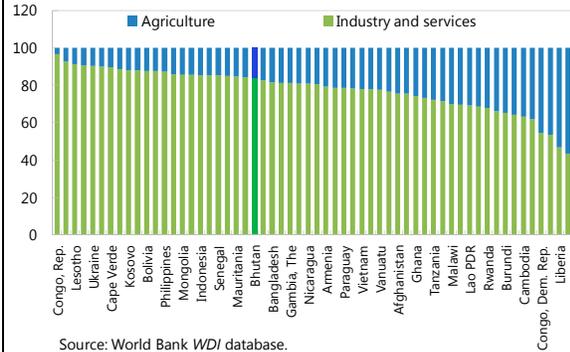


**Share in Employment**  
(In percent; 2012)



Source: Bhutan Labour Force Survey Report, 2012.

**Share in GDP**  
(In percent; 2011)



**Share in Employment**  
(In percent; 2009)

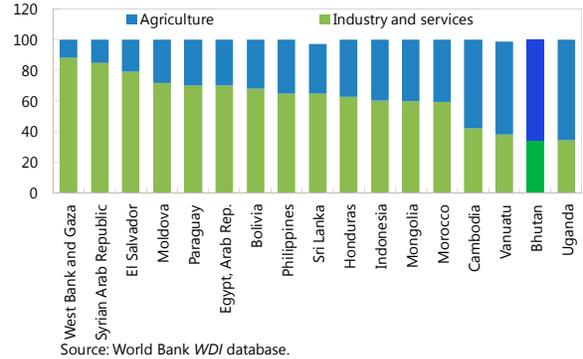
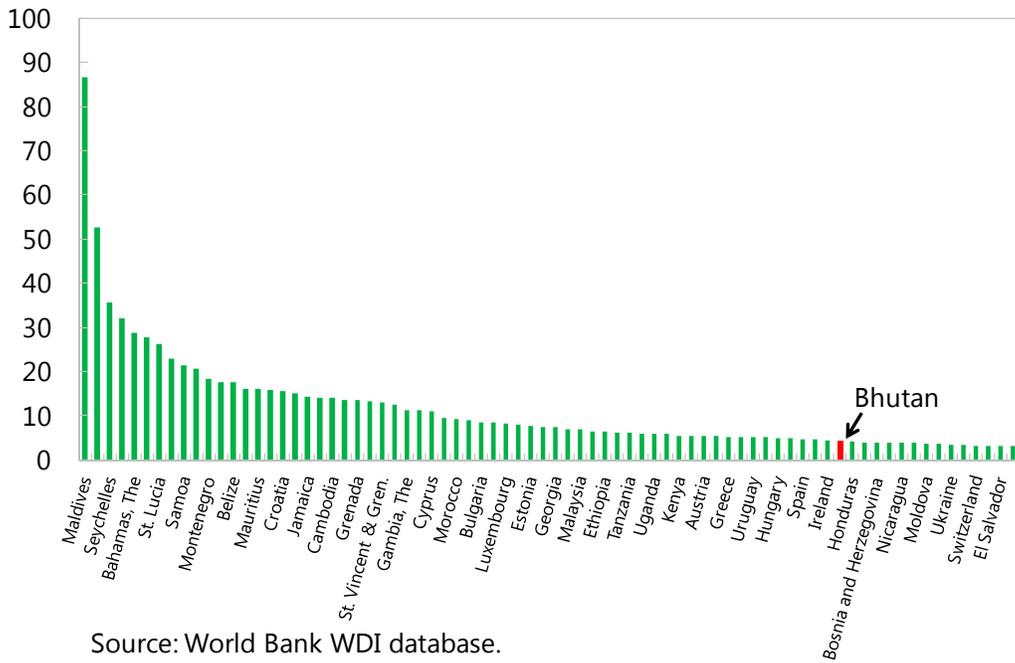


Figure 2. Tourism Earnings

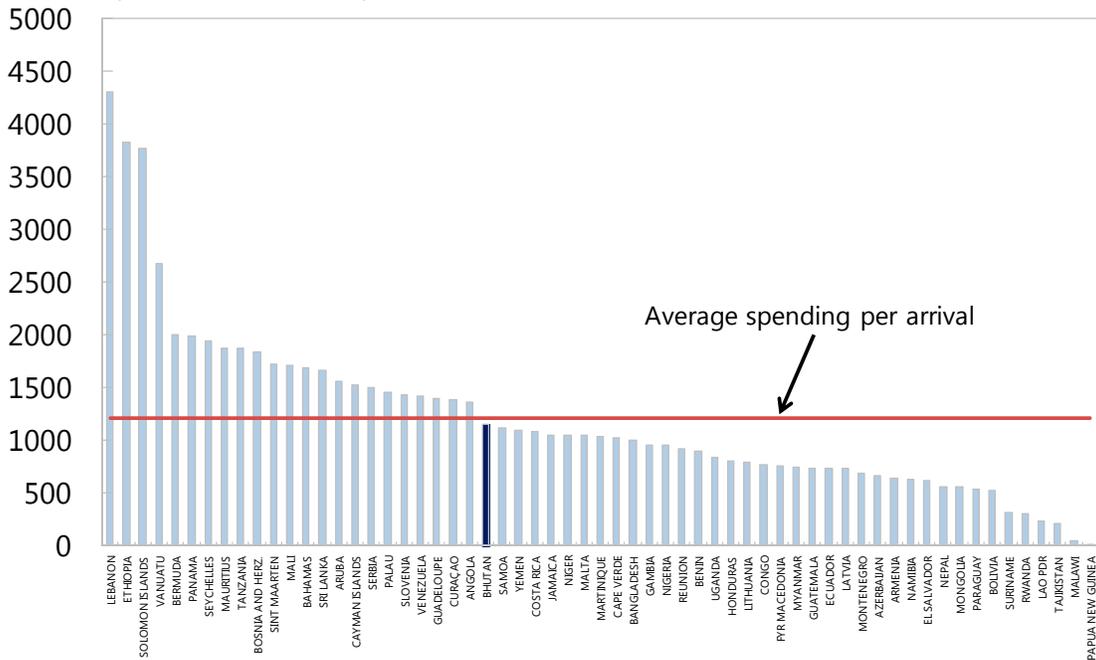
Tourism Revenues Share in GDP (2011)



Source: World Bank WDI database.

Expenditure Per Tourist Arrival

(In US dollars, 2011)



Source: UN World Tourism Organization database.

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