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ROYAL GOVERNMENT OF BHUTAN

MINISTRY OF FINANCE

TASHICHHO DZONG

DEBT SUSTAINABILITY ANALYSIS REPORT 2023

2023 Bhutan In-House Debt Sustainability Analysis Overall Risk Rating	
Mechanical overall debt distress rating	**High**
Final overall debt distress rating	**Moderate**
Judgement was applied	**Yes**

Bhutan's risks of external and overall debt distress continue to be assessed as high mechanically because its external and total public debt indicators breach their respective thresholds and benchmarks under the baseline scenarios. However, judgement is applied to the unique characteristics of Bhutan's debt, which is dominated by hydropower debt extended by the Government of India (GoI) with several risk mitigating factors. As such, debt is assessed to have a ***moderate risk of external and overall debt distress.*** *The external debt indicators are most vulnerable to shocks to exports and depreciation of the currency. Furthermore, the low and declining level of international reserves adds to these vulnerabilities. On the contrary, factors such as the large share of electricity export earning under the long-term intergovernmental power purchase agreement, a ready market for growing electricity exports and revision of power tariffs every after three years help mitigate risks, keeping debt outlook sustainable. Rebuilding fiscal space, adopting revised public debt management policy covering domestic debt issuance, comprehensive direction on the issuance of government guarantees and on-lending to SOEs pay immediate high importance on the public debt management. Going forward, the baseline is subject to important risks, including uncertainties related to the pandemic and geopolitical tensions, further delays in the completion of hydropower plants, and the materialization of financial sector contingent liabilities. At the same time, assessing and targeting infrastructure projects with high growth and social returns and financing these with concessional financing would benefit debt sustainability. Increasing the export base, continuing to maximize the proportion of concessional loans and improving primary deficits would help to keep the debt burden contained. Similarly, a gradual fiscal consolidation and revenue mobilization, a stable peg with the Indian rupee, and reforms to improve productivity and competitiveness of the non-hydropower sector, could help support debt sustainability.*

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ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF FINANCE
TASHICHHO DZONG

FINANCE MINISTER

FORWARD

Bhutan has achieved remarkable socioeconomic progress since the launch of its first five-year plan in 1961. The country is now close to graduating from the Least Developed Countries (LDC) group, thanks to the visionary leadership of its monarchs and the contributions of bilateral and multilateral development partners. Grants, concessional borrowing, and commercial loans have been used to finance developmental economic activities and social infrastructure projects. However, these investments have also led to a surge in public debt levels.

Given Bhutan's resource-constrained economy, debt financing will continue to be necessary to meet the growing demand for infrastructure and human capital until the country can find independent sources of financing. If managed transparently and carefully, debt financing can promote socioeconomic development and wealth generation. Innovative financing options are also available to supplement conventional financing.

The main purposes of borrowing, as per Article 126 of the PFA 2007 (Amendment 2012), are to finance the budget deficit, maintaining credit balances, and on-lending to state enterprises and legal entities, among others. To ensure sustainable socioeconomic growth without falling into debt distress, it is important to periodically assess the risks of public debt. The Debt Sustainability Analysis (DSA) report is a tool to assess the sustainability of public debt, inform policy makers and the public, and revise the Medium-term Debt Management Strategy (MTDS) and the annual borrowing plan. This second series of in-house DSA publication by the MoF of Bhutan can be useful for domestic and international agencies to assess Bhutan's debt carrying capacity.

Namgay Tshering

THIMPHU, BHUTAN. Post Box No. 117, Ph: 322223, 322271,322514 Fax: 32315

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PUBLIC DEBT COVERAGE, COUNTRY CLASSIFICATION AND METHODOLOGY

1. The coverage of public debt in this DSA includes public and publicly guaranteed (PPG) debt. PPG debt covers debt contracted by the central government, central bank, and non-financial state-owned enterprises (SOE), both external and domestic. Since the coverage of SOE domestic debt is comprehensive, the default shock of 2 percent of GDP for incomplete coverage in the contingent liability stress tests has been removed.

2. The cut-off date for the debt data is 30 June 2022 and debt stock and debt servicing projections start from 1 July 2022. At present, there is no outstanding debt to the IMF.

Table 1: Coverage of Public Sector Debt

	Subsectors of the public sector	Check Box
1	Central government	X
2	State and local government	X
3	Other elements in the general government	X
4	o/w: Social security fund	X
5	o/w: Extra budgetary funds (EBFs)	X
6	Guarantees (to other entities in the public and private sector, including to SOEs)	X
7	Central bank (borrowed on behalf of the government)	X
8	Non-guaranteed SOE debt	X

3. Public sector debt is consolidated to remove intra-public sector lending (Table 2). This includes the National Pension and Provident Fund National (NPPF)'s holdings of treasury bills and bonds (US$ 46.4 million), a loan from the central government to Drukair (US$1 million), loans from the NPPF to non-financial SOEs (US$ 43 million), and RMA's holdings of bonds issued by Druk Holdings and Investments (US$ 539 million). The analysis excludes a SWAP Facility of INR 15,179 million with the RBI and deposit of Central Bank of Kuwait US$ 60 million for the purpose of reserve management. [1]

Table 2: Public Sector Debt Compilation

(in USD millions)	Central Government	RMA	NPPF	Non-financial SOEs	Consolidation	Public Sector
Assets						
Domestic	1	539	89		-629	0
External						0
Liabilities						0
Domestic	350	0		605	-629	326
External	2,723	89		102		2,914
Total	**3,074**	**89**	**0**	**707**	**-629**	**3,240**

4. Based on the country Composite Indicator (CI) classification, Bhutan's debt carrying capacity is strong. The CI is calculated based on the World Bank's Country Policy and Institutional Assessment (CPIA) score and the country's real GDP growth, remittances, international

[1] As per the DSA Guidance note of the joint IMF and World Bank.

reserves, and global growth rate as estimated in the most recent WEO vintage (DSA Guidance note, page 27). At present, the latest CPIA rating for Bhutan is 3.9 (2021), which combined with macroeconomic variables from the October 2022 WEO, leads to a score of 3.06 which is greater than CI >3.05.

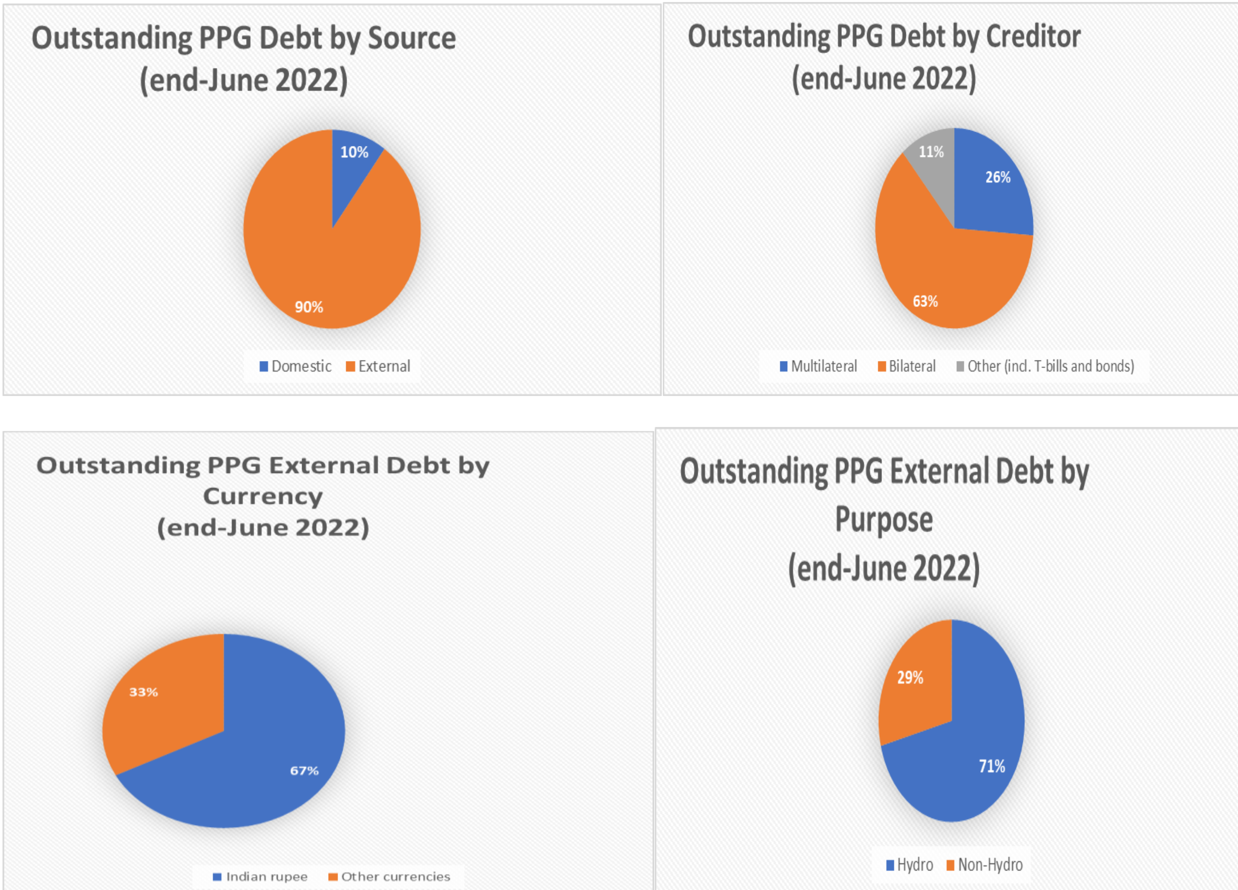
Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	3.900	1.50	49%
Real growth rate (in percent)	2.719	3.409	0.09	3%
Import coverage of reserves (in percent)	4.052	57.963	2.35	77%
Import coverage of reserves^2 (in percent)	-3.990	33.597	-1.34	-44%
Remittances (in percent)	2.022	3.294	0.07	2%
World economic growth (in percent)	13.520	2.898	0.39	13%
CI Score			3.06	100%
CI rating			**Strong**	

Table 3: Debt Carrying Capacity using CPIA and CI of the World Bank

5. ***Methodology:*** The DSA was conducted using the revised Debt Sustainability Framework for Low-Income countries (LIC- DSF) developed jointly by the IMF and the World Bank. The LIC DSF is a standard methodology for conducting standardized debt sustainability analysis, and it is anchored on debt burden indicator thresholds based on the country's debt carrying capacity, measured by a composite indicator (CI).

PUBLIC DEBT PORTFOLIO

1. The total public and publicly guaranteed (PPG) debt stock as of 30 June 2022 stood at Nu. 256,118.777 million. The debt stock comprises external debt of Nu. 230,360.211 million and domestic debt of Nu. 25,758.566 million. Scaled by GDP estimate for FY 2021-22, the total public debt stood at 133.7%.
2. The external debt accounts for 89.9 percent of total debt and the hydropower debt were the largest part of external debt, comprising 71.0 percent of the external debt stock in FY2021/22.
3. The Non-hydropower debt is predominantly owed to multilateral and bilateral creditors, with a small amount of guaranteed SOE debt. Overall, 63 percent of total debt is owed to bilateral creditors, 26 percent is owed to multilaterals, and remaining balance to domestic FIs.
4. Domestic debt was mostly in the form of treasury bills and bonds, held primarily by domestic financial institutions and some individuals.
5. Outstanding PPG debt by sources, creditors, currencies and purpose.



CONTEXT AND RECENT DEVELOPMENT

1. The pandemic has had a significant impact on the economy, reverting pre-pandemic gains in growth and poverty reduction. Prior to the pandemic, Bhutan had made substantial strides in improving per capita income and reducing poverty, gearing towards its smooth transition and graduation from the Least Developed Country (LDC) status in 2023. Going forward, along with the major transformation, Bhutan faces the persistent challenges of diversifying its economy and building back better from the adverse impact of the COVID-19 pandemic.

- **Economic Performance:** The economy grew at 4.1 percent in 2021, an increase of 14.1 percentage points compared to a decline of -10.0 percent in 2020 supported by expansionary fiscal policy, monetary support and progressive relaxation of pandemic containment measures. All the sectors exhibited a robust growth due to strong domestic demand and in tandem with the global economic recovery. Industrial output grew by 1.9 percent after an all-time low of -12.9 percent in 2020. With the gradual easing of mobility restrictions and resumption of economic activities, the service sector recorded a positive growth of 6.3 percent in 2021.

Agriculture growth decelerated to 2.1 percent in 2021 compared to 4.6 percent in 2020 attributable to reduced production in livestock and forestry sector.

2. This section describes the underlying assumptions used for the projection of key macro-fiscal indicators for the DSA. The projections are based on the 2nd quarter update for the FY 2022-23, which was endorsed by the Macroeconomic Framework Coordination Committee (MFCC).

- **Real Sector:** The economy is projected to grow by 4.5 percent in 2022 supported by expansionary fiscal policy, and accommodative monetary policy. With the resumption of economic activities, the industry sector is estimated to grow at 4.1 percent in 2022, an increase of 2.1 percentage points from 2021. With the revival in retail trade, hotels and restaurants, and other domestic businesses, the service sector is estimated to grow by 4.7 percent in 2022, contributing around 45.0 percent to the GDP. The resumption of tourism in September 2022 is also anticipated to spur growth in the services industry. Agriculture sector is projected to maintain a steady growth of 2.4 percent.

  Economic growth will follow a positive trajectory over the medium-term period supported by commissioning of various hydropower projects; Nikachhu hydro power (expected for December 2023), PHPA-ll (expected for December 2024) and PHPA-I (expected January 2028). With the tourism sector on its path to recovery, both international and regional arrivals is expected to increase contributing positively to the economic growth. With this, the economy is estimated to grow at 4.5 percent in 2023 and on average sustain a growth rate of 5.2 percent over the next five years.

- **Inflation:** Overall inflation for FY 2021-22 was recorded at 5.9 percent, a decrease of 2.3 percentage point compared to the last FY. The decline is attributable to slowdown in food inflation (primarily vegetables and meat) as price were regulated by the concerned authority, and also due to rationalization of customs duties for the imports from COTI. Under the baseline scenario, inflation for the FY 2022-23 is estimated at 4.4 percent and 3.9 percent in the next FY. Inflation is expected to decelerate gradually as global commodity prices moderate and slower currency depreciation eases imported inflation. However, as 80 percent of Bhutan's import is associated with India, any inflationary pressure in India is expected to transmit to domestic inflation though with a time lag. Thus, estimates of inflation remains highly uncertain and volatile.

- **Fiscal sector:** The domestic revenue will grow gradually over the medium-term period on account of broad-based improvement in all the sources. The revision of sales tax and customs duty on number of commodities and implementation of new Property Tax Act 2022 is estimated to bring in more tax revenue. Additionally, with the revival of tourism sector, the receipts from its allied sectors are estimated to return to pre-pandemic level thereby increasing the overall revenue. While the growth in external grants is estimated to be around 6 percent for the next five years and expected to decline gradually with the graduation of Bhutan from an LDC status.

Overall expenditure will also be on a rise to support various economic activities underpinned by persistent rise of inflationary pressure owing to supply chain disruption and higher commodity prices. Fiscal deficit will remain elevated as resource mobilization will be much lower compared to increased spending requirements. Therefore, to contain the fiscal path on a more sustainable level, fiscal consolidation measures are being pursued.

- **External sector:** With the resumption of economic activities, trade flows picked up surpassing the pre-pandemic level. However, the increase in imports was much high than the growth in exports leading to a huge trade deficit. With this, the current account balance (CAB) widened significantly from -11.9 percent of the GDP to -33.4 percent in the FY 2021-22.

  In the medium term, the balance of payment situation is expected to worsen as CAB remains elevated and export promotion/import substitution measures takes time to materialize. Further, the net financial inflows which are used to finance the current account deficits over the period has been decreasing due to limited inflows of grants and loans for new investments besides budgetary grants. As such, these external vulnerabilities could lead to further depletion of gross international reserves.

- **Monetary Sector:** The monetary and credit situation remained favorable supported by accommodative monetary and expansionary fiscal policies. With the relaxation of various prudential regulations in-terms of extension of loan tenure, enhancement of Loan-to-Value (LTV) and reduction of Loan-to-Income (LTI), the domestic credit witnessed a growth of 8.6 percent in the FY 2021-22 from 6.5 percent in the FY 2020-23. Going forward, domestic credit is projected to grow steadily in tandem with economic growth and supportive monetary measures.

  The claims of the private sector which form the majority of money supply will witness a positive growth over the medium-term. Since the construction sector is booming with the ease of labour import restriction, it has led to higher demand for private credit. Additionally, to promote homeownership, housing affordability and availability, the central bank has increased loan repayment tenure to 30 years from 20 years. These combined factors will lead to credit growth.

- **Main risks for macroeconomic outlook:** As the global growth slows down with growth forecast further downgraded by the IMF and WB, downside risks to growth in Bhutan are heightened. Many countries are facing the impact of central bank rate hikes, no signs of geopolitical conflict receding and the world's major economic engines sputter. In addition, considering the structural imbalance within the economy, risks to economic growth and recovery could emanate from both external and domestic developments. Besides the broad macroeconomic challenges such as economic diversification, vulnerabilities from climate change and unemployment, some of the possible risks and challenges to economic recovery based on the current update are listed below:

a. Widening current account deficit will put further strain on the overall reserves of the economy. As the economy returned to normalcy with the relaxation of pandemic containment measures, economic activities including public infrastructure as well as hydropower projects resumed resulting in significant imports. The growth in imports was much stronger than that of exports, leading to a marked deterioration of the trade balance and the CAB.

   As the financial inflows are not adequate to meet the current account deficit, the negative balance of payments will lead to depletion of overall reserve assets posing risk to the constitutional mandate of meeting 12 months of essential imports. The macroeconomic imbalance emanating from the external sector is likely to spillover to other sectors of the economy eventually impacting growth prospects.

b. The rising geopolitical tension will aggravate the already existing inflationary pressure. Against the already turbulent backdrop of global inflationary pressures following the COVID-19 pandemic, the war between Russia and Ukraine has exacerbated supply chain disruptions leading to a spike in commodity prices and broadening price pressures. The geopolitical conflict is likely to have a prolonged impact especially on food and energy prices leading to demand-supply imbalances.

   With the war-induced commodity price increase, the impact will be felt mostly through higher cost-push inflation weighing on all the economic sectors including households, businesses and government. As an import-dependent economy, higher energy and food prices will increase the import prices resulting in an increase in prices of domestic production. Therefore, surge in prices combined with low growth and high unemployment may lead to stagflation crippling the economy.

COUNTRY CLASSIFICATION AND SCENARIO STRESS TESTS WITH DEBT INDICATOR THRESHOLDS

1. The LIC DSF classifies a country's debt carrying capacity into three categories – Weak, Medium and Strong based on the CI score. The CI "captures the impact of different factors through a weighted average of the World Bank's CPIA score, the country's real GDP growth, remittances, international reserves and world growth".

2. As per the World Bank communication to the MoF in October 2022, Bhutan's debt carrying capacity for 2021 was classified as "STRONG". As such, following debt stock and debt servicing thresholds were applied for external DSA in current DSA. The benchmark for the public debt – PPG external debt plus PPG domestic debt for the country with strong debt carrying capacity is 70 per cent (PV of total public debt in percent of GDP).

Table 2: Applicable Thresholds

Debt Carrying Capacity	**Strong**		
Final	Classification based on current vintage	Classification based on the previous vintage	Classification based on the two previous vintage
Strong	Strong 3.06	Strong 3.07	Strong 3.08
EXTERNAL debt burden thresholds	**Weak**	**Medium**	**Strong**
PV of debt in % of			
Exports	140	180	240
GDP	30	40	55
Debt service in % of			
Exports	10	15	21
Revenue	14	18	23
TOTAL public debt benchmark			
PV of total public debt in percent of GDP	35	55	70

3. Stress tests are useful tools applied in the DSA to gauge the sensitivity of the debt burden indicators with respect to changes in assumptions used in the present DSA. The following six standardized stress test outlined in the LIC DSF were applied:

   i. **Real GDP:** Set to historical average minus one standard deviation, or baseline projection one minus standard deviation, whichever is lower for the second and third years of the projection period.
   ii. **Primary balance:** Primary balance-to-GDP ratio set to its historical average minus one standard deviation, or baseline projection minus one standard deviation, whichever is lower in the second and third year of the projection period.
   iii. **Exports:** Nominal export growth (in USD) set to its historical average minus one standard deviation, or the baseline projection minus one standard deviation, which ever is lower in the second and third year of the projection period.
   iv. **Other flows:** Current transfer-to-GDP and FDI-to-GDP ratios set to their historical average minus one standard deviation, or baseline projection minus one standard deviation, whichever is lower in the second and third years of the projection period.

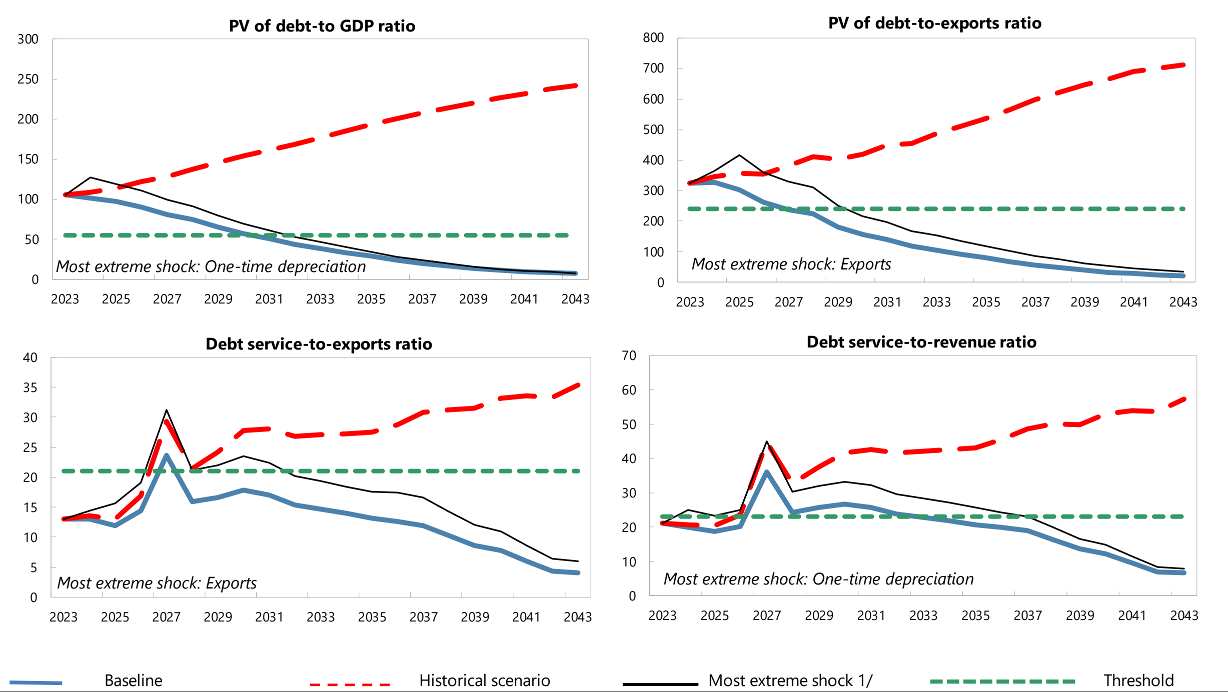
v. **Depreciation:** One-time 30 percent nominal depreciation of the domestic currency in the second year of the projection period, or the size needed to close the estimated real exchange rate overvaluation gap, whichever is larger.

vi. **Combination of i – v:** Apply all individual shock (i through v) at half of the magnitude.

ASSESSMENT OF RISK RATING AND RESULT

1. **External DSA:** The external DSA charts presents the evolution of Bhutan's external debt under four different debt indicators. All charts depict breach in their indicative debt thresholds under both baseline and stress test as presented below:

Figure 1. Bhutan: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2023-2043

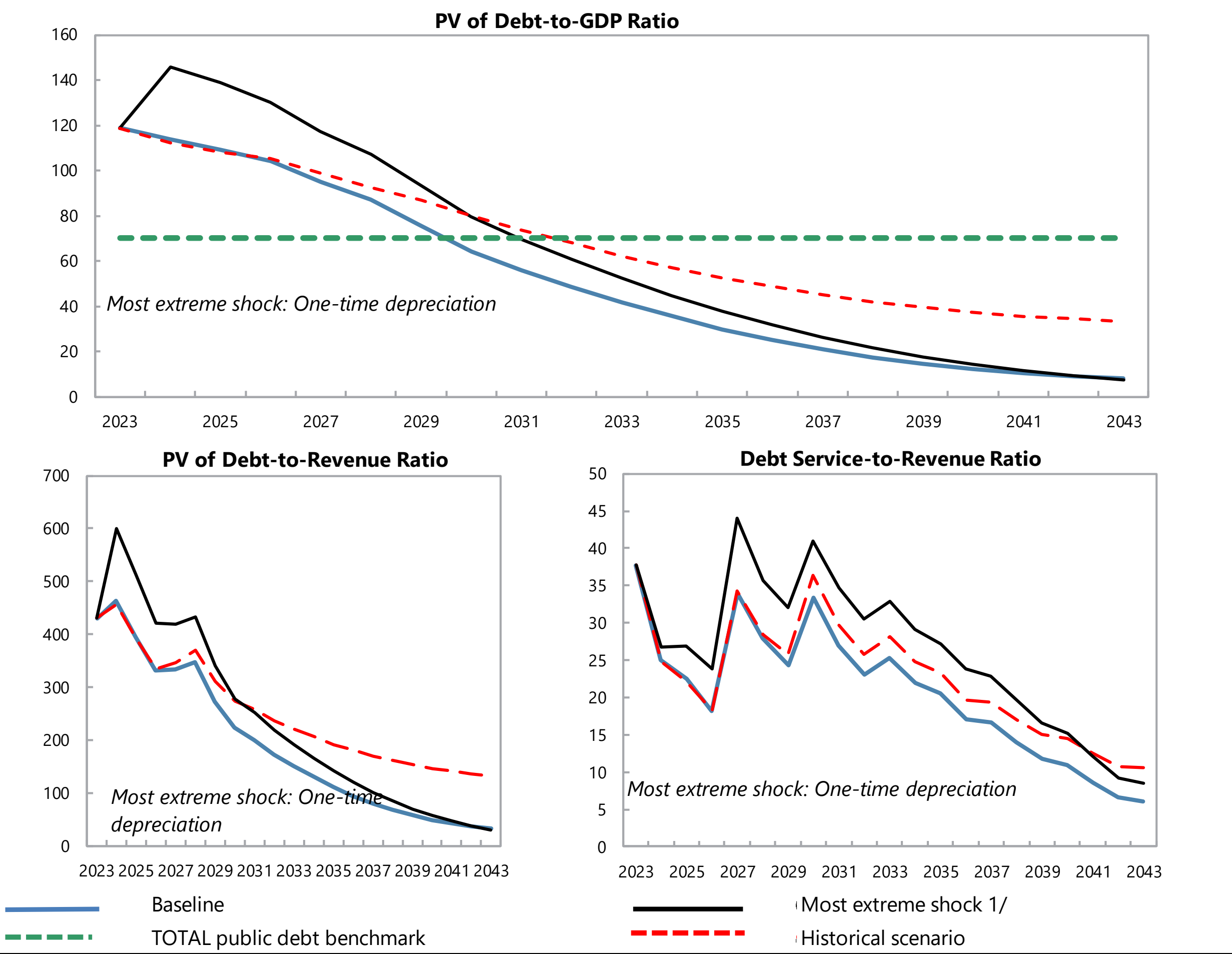


2. As resonated by the latest Article IV DSA, prepared jointly by the IMF and World Bank in 2022, all graphs depict under the stress tests show that the Bhutan's external debt is vulnerable to exchange rate and export shocks. At the current level of external debt and projected external borrowings, the PV of external debt-to-GDP ratio is projected to fall to the threshold level by FY2029-30 in the baseline, and remain below the threshold level thereafter. Similarly, the PV of debt-to-exports ratio could come below the threshold level by FY2027-28 in the baseline scenario, ahead of earlier indicator. The other two flow indicators – debt service-to-revenue, under the baseline scenario are expected to remain elevated and above the threshold up until FY2031-32 and fall below the thresholds thereafter. The other indicator – Debt Service to Export will remain foreseeable below the thresholds except one time breach in FY2026-27 in the baseline.

3. The most extreme stress test are depreciation and exports lead to a worsening of the debt dynamics but with the indicators falling below the thresholds only one or two years after they do so in the baseline. Other shocks would be also important such as growth and primary balance and would lead to similar result in terms of stress test. With the unique composition of external debt of Bhutan comprising mostly in terms of INR, which is pegged to the local currency, the depreciation shock looks less relevant.

4. **Public DSA:** The PV of public debt-to-GDP ratio also breaches the benchmark under both baseline and the stress test scenarios as presented in the chart below:

Figure 2. Bhutan: Indicators of Public Debt Under Alternative Scenarios, 2023-2043



5. As presented in the chart above, the PV of public debt-to-GDP ratio is projected to fall to the benchmark level of 70 percent by FY2029-30 under the baseline scenario. In tandem, under the extreme shock, the PV of public debt-to-GDP is projected to decline over the period going forward and fall below the benchmark level by FY2031-32.

6. **Final Risk Rating:** Despite the significant breaches in the baseline scenario for all indicators, a judgement is applied to arrive at the final ratings of ***moderate risk of external and overall debt distress*** owing to following reasons:

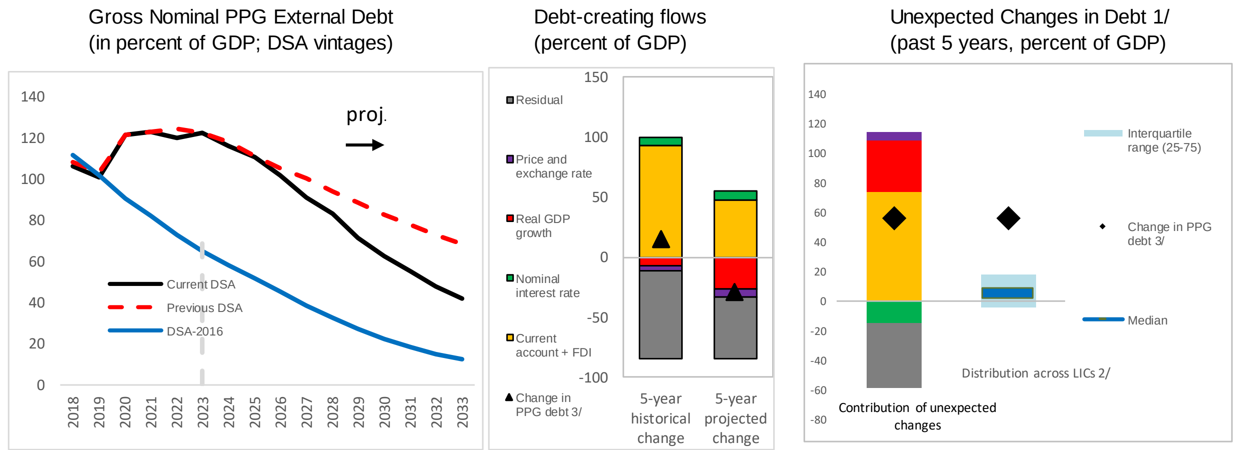
    - Most external debt is on account of hydropower projects which are deemed commercially viable, with a ready export market in India. These loans are governed by an intergovernmental agreement in which India commits to provide financing and to buy all excess electricity. In addition, more that 95 percent of the hydro debt is denominated in INR, which does not pose any exchange rate risks as Ngultrum is pegged at par with INR.
    - Hydropower debt carries low risk as debt servicing for hydropower loans from the India starts only a year after the commissioning of the project. This ensures revenue inflow before debt servicing starts, thus mitigating liquidity risk. And so, debt sustainability is not jeopardized in case of project delays.
    - The electricity export tariff is fixed based on the total cost of the projects plus some margin. It is set by considering the overall cost of the project, including the projected debt servicing cost and a profit margin. This implies that the revenue from the sale of electricity would provide adequate funding for debt servicing. Moreover, such tariff rates are revised every three years to incorporate changes in costs.
    - Hydropower projects are insured and reinsured against natural risks. So, the only remaining uninsured risk is hydrological (that is, if there is no enough water to produce electricity) and it is assessed to be low risk for the next two decade.
    - While the majority of domestic debt (mostly T-Bills) would be maturing within one year, the refinancing risks is low due to current liquidity position in financial institutions- the main investors of T-Bills.
    - Almost 98 percent of public debt is fixed rate debt. Similarly, all those external debts of CC denominated debt are concessional loans with nominal interest rates (from 0% to 1.5%), long grace periods (8 to 10 years), and repayment periods up to 40 years. The concessional nature of the CC-denominated debt has ensured that the impact of debt servicing on the government's cash flow and the forex reserve is spread over a long period, thus mitigating the liquidity risks.
    - One-time extreme shock of 30 percent depreciation in terms of domestic currency denominated is distorting the analysis. Since most debt is hydropower debt in INR which is pegged with the BTN and converting it to USD for DSA simulation and further shock imposition is making analysis challenging.

ANNEXURE 1: OUTPUT CHARTS FROM REALISM TOOLS

1. **Driver of External Debt Dynamics:** Following charts depicts the main drivers of external debt dynamics

Figure 3. Bhutan: Drivers of Debt Dynamics - Baseline Scenario

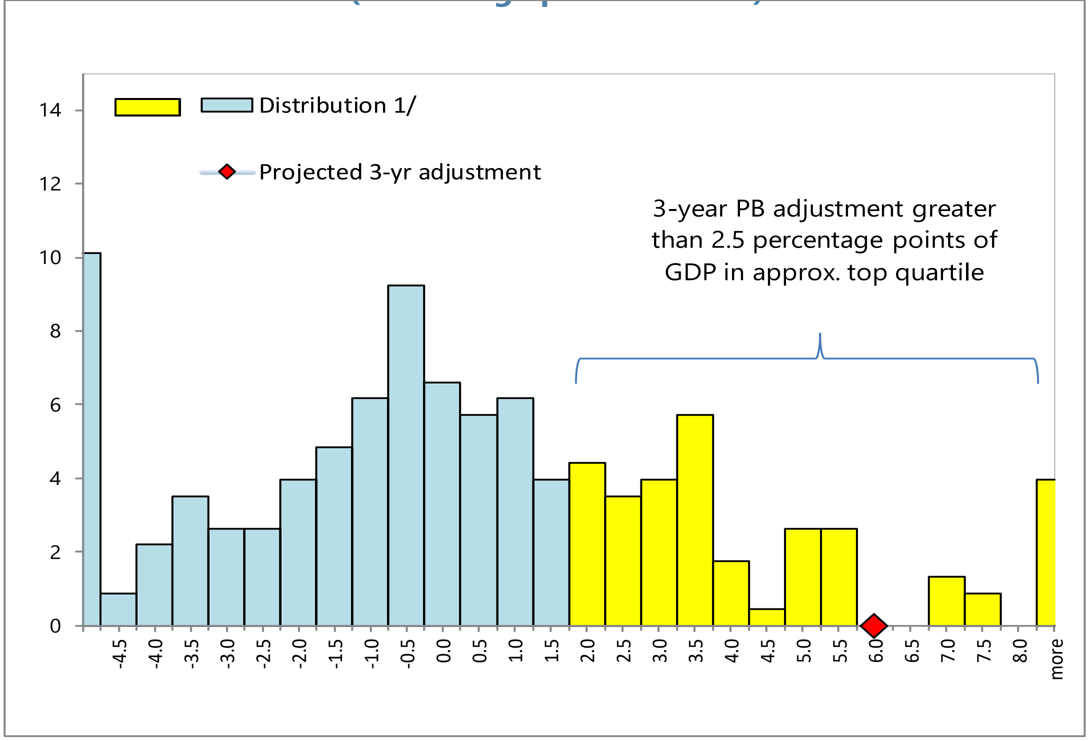
External debt



- In 2023, both the current DSA and previous DSA depicts external debt to GDP hovering around 120 percent with marginal differences where current DSA showing little uptick as compared to previous DSA. However, the DSA of 2016 had a much lower debt compared to current and previous DSA this is because during the 2016 DSA, there was less inclusion of pipeline new disbursement, meaning no much of new projects considered for future disbursement. At the same time, in the current and previous DSA there are latest updates in pipeline borrowings. All in all, going forward, all are showing a downward debt trajectory.
- Both the past 5 years and projected years presents the main driver of the external debt is associated with the current account and FDI. This directly explains Bhutan being import-driven country, any major economic activities take up could translate into imports and directly or indirectly, worsen external account of the balance of payments.
- On the contrary, the residual part in both past and projected years supports to improve the debt creation through on-lending mechanism and its net lending effects associated with the public corporations with high recovery inflows. At the same time, for the projected years, the real GDP growth is contributing to lowering of the debt-to-GDP ratio.
- Since Bhutan's economy is vulnerable to external shocks, the past unexpected change in debt was driven by worse than expected current account deficit.
- As compared to other LICs, Bhutan is much away from the 75-percentile change, meaning highest change in debt trajectory from initial projections.

Realism of Planned Fiscal Adjustment: The chart below shows the country's 3-year primary balance adjustment, compared to other low-income countries in the sample:

Figure 4: 3-Year Adjustment in Primary Balance
(Percentage points of GDP)



- The primary balance, as a percent of GDP, is expected to improve by more than 2.5 percentage points by 2023-24 compared to the primary balance in FY2021-22. Such a significant adjustment of 6 percentage point in upper quartile of distribution is a very large adjustment. With the end of 12 FYP in FY2022-23 and after the commencement of 13 FYP, in the beginning, beside spill over activities, new capital activities will be very limited, contributing to a substantial improvement in primary balance. In tandem, the nominal GDP is projected to grow with the continuous concerted efforts from the government to build back better as recovery mechanism from adverse effect of Covid-19. Furthermore, two hydropower projects – Nikachhu (Dec 2023) and Puna II (Dec 24) are expected to be commissioned before end of December 2024 with the drastic increase in electricity generation and exports, thus, resulting acceptable primary balance adjustment thanks to higher royalties and dividends paid to the government. Finally, as a tourism sector recovers, a collection from the SDF could increase significantly.

2. Public Investment-Growth Relationship

Figure 5: Public Investmet Growth Relationship

- Under both the DSAs – in previous DSA & current DSA, the private investment is dominating than government investment.
- With respective to the private investment, the previous DSA is showing marginally higher than current DSA and reaching to same level in 2024 hovering around 22.5 percent of GDP.
- Similarly, the government investment for current DSA is lower than previous DSA owing to outbreak of Covid-19 where capital activities could not pursue as planned.
- Historically, contribution from government investment is much higher than private investment.
- However, when compared between projection of previous and current DSA contribution, both presents a small contribution of government investment to growth.

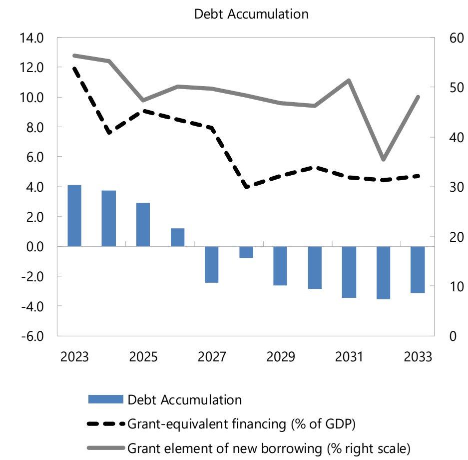
ANNEXURE II: BASELINE AND SENSITIVITY ANALYSIS SCENARIO TABLES

Table 1. Bhutan: External Debt Sustainability Framework, Baseline Scenario, 2020-2043

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 8/	
	2022	2023	2024	2025	2026	2027	2028	2033	2043	Historical	Projections
External debt (nominal) 1/	**123.7**	**122.4**	**116.0**	**110.7**	**101.8**	**91.0**	**83.3**	**42.1**	**9.7**	**111.9**	**82.2**
of which: public and publicly guaranteed (PPG)	**120.3**	**122.4**	**116.0**	**110.7**	**101.8**	**91.0**	**83.3**	**42.1**	**9.7**	**107.2**	**82.2**
Change in external debt	-3.3	-1.2	-6.4	-5.3	-8.9	-10.8	-7.8	-5.7	-1.2		
Identified net debt-creating flows	**28.2**	**20.9**	**14.3**	**4.8**	**-4.7**	**-6.7**	**-5.2**	**-4.9**	**-1.0**	**19.7**	**-1.0**
Non-interest current account deficit	**31.2**	**25.0**	**16.5**	**8.2**	**0.3**	**-2.6**	**-3.0**	**-5.0**	**-0.9**	**21.6**	**1.6**
Deficit in balance of goods and services	31.1	27.9	15.5	8.6	2.3	0.5	-0.6	-3.4	-0.6	**22.2**	**3.4**
Exports	31.6	32.6	31.2	32.0	34.5	33.9	33.5	36.5	34.1		
Imports	62.7	60.4	46.7	40.6	36.8	34.4	32.9	33.1	33.5		
Net current transfers (negative = inflow)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
of which: official	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other current account flows (negative = net inflow)	0.1	-2.9	0.9	-0.5	-2.0	-3.1	-2.5	-1.6	-0.3	**-0.6**	**-1.7**
Net FDI (negative = inflow)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Endogenous debt dynamics 2/	**-3.0**	**-4.1**	**-2.1**	**-3.3**	**-5.0**	**-4.1**	**-2.2**	**0.1**	**-0.1**		
Contribution from nominal interest rate	1.9	1.5	1.4	1.3	1.7	2.0	1.8	1.6	0.3		
Contribution from real GDP growth	-5.2	-5.6	-3.5	-4.6	-6.7	-6.1	-3.9	-1.5	-0.4		
Contribution from price and exchange rate changes	0.3	...	...	...	...	...	...	...	...		
Residual 3/	**-31.5**	**-22.1**	**-20.8**	**-10.1**	**-4.2**	**-4.0**	**-2.6**	**-0.8**	**-0.2**	**-16.1**	**-6.4**
of which: exceptional financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Sustainability indicators											
PV of PPG external debt-to-GDP ratio	**100.5**	**106.0**	**101.7**	**97.0**	**90.3**	**80.9**	**74.9**	**38.8**	**7.0**		
PV of PPG external debt-to-exports ratio	**318.0**	**325.1**	**325.9**	**303.2**	**261.4**	**238.5**	**223.8**	**106.3**	**20.4**		
PPG debt service-to-exports ratio	**14.7**	**13.0**	**13.0**	**11.9**	**14.3**	**23.7**	**15.9**	**14.7**	**4.1**		
PPG debt service-to-revenue ratio	**21.7**	**21.1**	**19.9**	**18.7**	**20.1**	**36.2**	**24.3**	**22.8**	**6.6**		
Gross external financing need (Million of U.S. dollars)	917.1	733.8	555.8	348.8	167.4	187.3	85.4	19.0	46.7		
Key macroeconomic assumptions											
Real GDP growth (in percent)	4.3	4.5	3.1	4.3	6.6	6.5	4.6	3.4	4.3	**3.4**	**5.2**
GDP deflator in US dollar terms (change in percent)	-0.3	-5.5	4.7	3.4	2.1	2.0	2.2	2.0	2.0	**0.4**	**1.7**
Effective interest rate (percent) 4/	1.5	1.2	1.2	1.2	1.6	2.1	2.1	3.5	3.2	**1.8**	**2.3**
Growth of exports of G&S (US dollar terms, in percent)	8.5	1.8	3.3	10.5	17.4	6.7	5.6	3.6	7.0	**1.4**	**8.5**
Growth of imports of G&S (US dollar terms, in percent)	55.4	-4.8	-16.5	-6.4	-1.3	1.5	2.3	5.6	6.5	**4.1**	**1.2**
Grant element of new public sector borrowing (in percent)	...	56.3	55.3	47.3	50.1	49.7	48.3	48.0	46.7	**...**	**48.6**
Government revenues (excluding grants, in percent of GDP)	21.4	20.2	20.3	20.3	24.6	22.2	21.9	23.5	21.0	**21.3**	**22.6**
Aid flows (in Million of US dollars) 5/	177.9	384.5	274.4	309.0	312.8	317.1	171.5	259.9	413.6		
Grant-equivalent financing (in percent of GDP) 6/	...	11.9	7.6	9.1	8.5	7.9	4.0	4.7	4.2	**...**	**6.6**
Grant-equivalent financing (in percent of external financing) 6/	...	77.6	73.9	83.0	83.5	82.3	81.7	94.3	94.0	**...**	**86.5**
Nominal GDP (Million of US dollars)	2,540	2,509	2,708	2,918	3,176	3,449	3,688	5,330	9,426		
Nominal dollar GDP growth	4.0	-1.2	7.9	7.8	8.8	8.6	6.9	5.5	6.4	**3.8**	**7.0**
Memorandum items:											
PV of external debt 7/	103.9	106.0	101.7	97.0	90.3	80.9	74.9	38.8	7.0		
In percent of exports	328.6	325.1	325.9	303.2	261.4	238.5	223.8	106.3	20.4		
Total external debt service-to-exports ratio	15.4	13.0	13.0	11.9	14.3	23.7	15.9	14.7	4.1		
PV of PPG external debt (in Million of US dollars)	2553.6	2658.5	2752.5	2831.3	2866.4	2789.3	2763.1	2068.1	655.5		
(PVt-PVt-1)/GDPt-1 (in percent)		4.1	3.7	2.9	1.2	-2.4	-0.8	-3.2	-0.8		
Non-interest current account deficit that stabilizes debt ratio	34.5	26.2	22.9	13.5	9.2	8.2	4.7	0.7	0.3		

Definition of external/domestic debt	**Residency-based**
Is there a material difference between the two criteria?	**Yes**



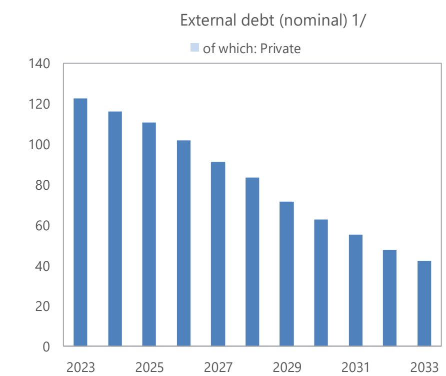


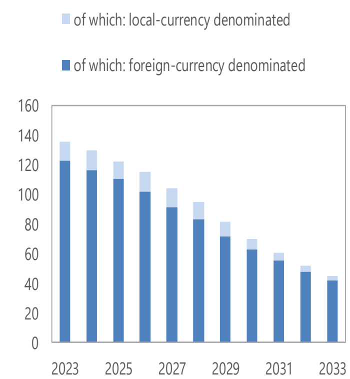
Table 2. Bhutan: Public Sector Debt Sustainability Framework, Baseline Scenario, 2020-2043

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 6/	
	2022	2023	2024	2025	2026	2027	2028	2033	2043	Historical	Projections
Public sector debt 1/	133.7	135.6	129.3	122.2	114.8	104.3	94.7	44.7	10.8	112.5	91.7
of which: external debt	120.3	122.4	116.0	110.7	101.8	91.0	83.3	42.1	9.7	107.2	82.2
Change in public sector debt	1.4	1.8	-6.3	-7.1	-7.4	-10.5	-9.6	-7.4	-1.2		
Identified debt-creating flows	7.5	-4.7	-2.7	-7.6	-7.1	-10.3	-9.3	-7.3	-1.1	-1.1	-8.3
Primary deficit	6.3	3.8	2.3	0.4	-0.8	-1.4	-2.7	-3.0	0.0	1.5	-1.3
Revenue and grants	28.4	27.6	24.6	27.7	31.5	28.4	25.1	27.9	25.0	30.3	27.8
of which: grants	7.0	7.5	4.3	7.4	6.8	6.3	3.1	4.4	4.0		
Primary (noninterest) expenditure	34.7	31.5	26.9	28.2	30.7	27.0	22.3	25.0	25.0	31.8	26.5
Automatic debt dynamics	1.2	-8.4	-5.0	-5.9	-7.5	-6.4	-4.1	-0.9	-0.3		
Contribution from interest rate/growth differential	-11.5	-8.4	-5.0	-5.9	-7.5	-6.4	-4.1	-0.9	-0.3		
of which: contribution from average real interest rate	-6.0	-2.7	-1.0	-0.6	0.0	0.6	0.5	0.8	0.1		
of which: contribution from real GDP growth	-5.4	-5.8	-4.1	-5.3	-7.6	-7.0	-4.6	-1.7	-0.5		
Contribution from real exchange rate depreciation	12.7	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	0.0	-0.1	0.0	-2.2	1.2	-2.5	-2.5	-3.4	-0.8	0.0	-2.1
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recognition of contingent liabilities (e.g., bank recapitalization)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Debt relief (HIPC and other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other debt creating or reducing flow (please specify)	0.0	-0.1	0.0	-2.2	1.2	-2.5	-2.5	-3.4	-0.8		
Residual	-6.2	6.5	-3.6	0.5	-0.2	-0.2	-0.3	-0.1	0.0	6.3	0.2
Sustainability indicators											
PV of public debt-to-GDP ratio 2/	117.6	118.9	114.0	109.4	104.1	94.9	87.0	41.8	8.1		
PV of public debt-to-revenue and grants ratio	414.2	430.4	463.0	394.6	331.1	334.0	347.1	149.7	32.5		
Debt service-to-revenue and grants ratio 3/	16.9	37.7	25.0	22.4	18.2	33.9	27.9	25.3	6.0		
Gross financing need 4/	11.1	14.2	8.5	4.5	6.1	5.7	1.8	0.7	0.7		
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	4.3	4.5	3.1	4.3	6.6	6.5	4.6	3.4	4.3	3.4	5.2
Average nominal interest rate on external debt (in percent)	1.6	1.3	1.2	1.2	1.7	2.1	2.1	3.6	3.2	1.9	2.3
Average real interest rate on domestic debt (in percent)	-0.4	1.2	1.6	1.8	2.3	2.6	2.5	1.3	0.8	0.3	1.7
Real exchange rate depreciation (in percent, + indicates depreciation)	11.4	...	...	...	...	...	...	...	...	1.5	...
Inflation rate (GDP deflator, in percent)	2.0	1.2	3.4	3.4	2.9	2.7	3.0	4.0	4.0	4.4	3.3
Growth of real primary spending (deflated by GDP deflator, in percent)	-5.6	-5.2	-11.9	9.2	16.1	-6.4	-13.4	3.4	4.3	3.6	2.6
Primary deficit that stabilizes the debt-to-GDP ratio 5/	4.9	2.0	8.6	7.5	6.6	9.1	6.9	4.4	1.2	-5.7	6.8
PV of contingent liabilities (not included in public sector debt)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Definition of external/domestic debt	**Residency-based**
Is there a material difference between the two criteria?	**Yes**

Public sector debt 1/



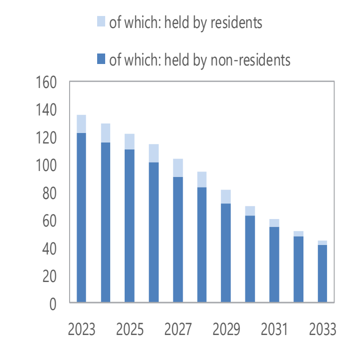


Table 3. Bhutan: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2023-2033

(In percent)

	Projections 1/										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
PV of debt-to GDP ratio											
Baseline	106	102	97	90	81	75	65	57	50	44	39
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	106	108	114	122	129	137	146	154	161	169	177
B. Bound Tests											
B1. Real GDP growth	106	107	108	101	90	84	73	64	56	49	43
B2. Primary balance	106	103	99	93	83	77	67	59	53	46	41
B3. Exports	106	105	105	98	88	82	72	63	56	50	44
B4. Other flows 3/	106	102	97	90	81	75	65	57	50	44	39
B5. Depreciation	106	127	119	111	99	92	80	69	61	53	47
B6. Combination of B1-B5	106	111	107	100	89	83	72	63	56	49	43
C. Tailored Tests											
C1. Combined contingent liabilities	106	104	100	93	83	77	68	60	53	47	41
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	55	55	55	55	55	55	55	55	55	55	55
PV of debt-to-exports ratio											
Baseline	325	326	303	261	239	224	180	155	140	119	106
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	325	347	357	355	380	411	403	419	448	455	485
B. Bound Tests											
B1. Real GDP growth	325	326	303	261	239	224	180	155	140	119	106
B2. Primary balance	325	330	311	268	245	231	186	161	147	125	113
B3. Exports	325	365	417	360	329	310	251	217	198	169	153
B4. Other flows 3/	325	326	303	261	239	224	180	155	140	119	106
B5. Depreciation	325	326	297	256	233	219	176	151	136	115	102
B6. Combination of B1-B5	325	348	302	313	286	268	216	186	168	142	127
C. Tailored Tests											
C1. Combined contingent liabilities	325	334	312	269	246	231	187	162	147	125	113
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	240	240	240	240	240	240	240	240	240	240	240
Debt service-to-exports ratio											
Baseline	13	13	12	14	24	16	17	18	17	15	15
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	13	13	13	17	29	21	24	28	28	27	27
B. Bound Tests											
B1. Real GDP growth	13	13	12	14	24	16	17	18	17	15	15
B2. Primary balance	13	13	12	14	24	16	17	18	17	15	15
B3. Exports	13	14	16	19	31	21	22	23	22	20	19
B4. Other flows 3/	13	13	12	14	24	16	17	18	17	15	15
B5. Depreciation	13	13	12	14	24	16	17	18	17	15	15
B6. Combination of B1-B5	13	14	14	17	28	19	20	21	20	18	18
C. Tailored Tests											
C1. Combined contingent liabilities	13	13	12	15	24	16	17	18	17	15	15
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	21	21	21	21	21	21	21	21	21	21	21
Debt service-to-revenue ratio											
Baseline	21	20	19	20	36	24	26	27	26	24	23
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	21	21	20	24	45	33	37	42	43	42	42
B. Bound Tests											
B1. Real GDP growth	21	21	21	22	40	27	29	30	29	27	26
B2. Primary balance	21	20	19	20	36	25	26	27	26	24	23
B3. Exports	21	20	19	21	38	25	27	28	27	25	24
B4. Other flows 3/	21	20	19	20	36	24	26	27	26	24	23
B5. Depreciation	21	25	23	25	45	30	32	33	32	30	28
B6. Combination of B1-B5	21	21	21	22	40	27	28	30	29	26	25
C. Tailored Tests											
C1. Combined contingent liabilities	21	20	19	20	36	25	26	27	26	24	23
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Threshold	23	23	23	23	23	23	23	23	23	23	23

Table 4. Bhutan: Sensitivity Analysis for Key Indicators of Public Debt , 2023-2033

	Projections 1/										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
PV of Debt-to-GDP Ratio											
Baseline	**119**	**114**	**109**	**104**	**95**	**87**	**76**	64	56	**49**	**42**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	**119**	**112**	**108**	**105**	**99**	**93**	**87**	**80**	**74**	68	62
B. Bound Tests											
B1. Real GDP growth	**119**	**121**	**125**	**120**	**111**	**104**	**93**	**81**	**73**	66	60
B2. Primary balance	**119**	**116**	**113**	**108**	**98**	**90**	**79**	67	59	51	44
B3. Exports	**119**	**115**	**115**	**109**	**100**	**92**	**80**	69	60	53	46
B4. Other flows 3/	**119**	**114**	**109**	**104**	**95**	**87**	**76**	64	56	49	42
B5. Depreciation	**119**	**146**	**139**	**130**	**117**	**107**	**93**	**80**	70	61	52
B6. Combination of B1-B5	**119**	**113**	**110**	**103**	**94**	**86**	**75**	64	56	48	41
C. Tailored Tests											
C1. Combined contingent liabilities	**119**	**118**	**114**	**108**	**99**	**91**	**79**	67	59	52	45
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL public debt benchmark	70	70	70	70	70	70	70	70	70	70	70
PV of Debt-to-Revenue Ratio											
Baseline	430	463	395	331	334	347	273	223	200	172	150
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	430	457	391	335	347	369	310	273	258	237	220
B. Bound Tests											
B1. Real GDP growth	430	488	436	373	382	409	327	276	256	230	211
B2. Primary balance	430	471	409	343	346	360	284	232	209	181	159
B3. Exports	430	469	414	347	351	366	288	237	214	186	164
B4. Other flows 3/	430	463	395	331	334	347	273	223	200	172	150
B5. Depreciation	430	600	512	421	420	432	340	278	251	218	190
B6. Combination of B1-B5	430	460	398	330	332	345	271	221	198	170	148
C. Tailored Tests											
C1. Combined contingent liabilities	430	481	410	344	347	362	285	233	210	182	160
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Debt Service-to-Revenue Ratio											
Baseline	38	25	22	18	34	28	24	33	27	23	25
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2023-2033 2/	38	25	22	18	34	28	26	36	30	26	28
B. Bound Tests											
B1. Real GDP growth	38	26	25	20	38	32	28	39	32	28	31
B2. Primary balance	38	25	23	19	34	28	25	35	29	23	26
B3. Exports	38	25	23	19	34	28	25	34	27	23	26
B4. Other flows 3/	38	25	22	18	34	28	24	33	27	23	25
B5. Depreciation	38	27	27	24	44	36	32	41	35	30	33
B6. Combination of B1-B5	38	24	22	18	34	28	24	33	27	23	25
C. Tailored Tests											
C1. Combined contingent liabilities	38	25	24	19	34	28	25	36	28	23	26
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

***************** THANK YOU *****************