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NEPAL

JOINT WORLD BANK-IMF DEBT SUSTAINABILITY ANALYSIS

Approved by:

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NEPAL: JOINT BANK-FUND DEBT SUSTAINABILITY ANALYSIS	
Risk of external debt distress	Low
Overall risk of debt distress	Low
Granularity in the risk rating	No Applicable
Application of judgment	Yes

Both external and overall public debt in Nepal are assessed at low risk of debt distress.[1] Present value (PV) of external debt-to-exports ratio breaches the indicative threshold under an export and a combined shock scenarios, suggesting a mechanical rating of moderate risk of debt distress. Still, similar to last year's DSA, staff has applied judgement to assess external debt to be at low risk of debt distress due to Nepal's unusually high level of remittances, making exports—and hence debt-to-exports ratios—a less relevant indicator than for most economies. Remittances are the major source of foreign exchange earnings in Nepal, which along with concessional external financing, help the country maintain an adequate level of reserves and meet its debt obligations despite a sizeable trade deficit. All other external debt indicators are below their respective indicative thresholds in all stress-tests. The PV of public debt-to-GDP ratio does not breach the indicative threshold under any scenario. Public debt stood at 44 percent of GDP in FY2020/21: lower than projected in the last year's DSA due to higher-than-projected GDP growth and better-than-expected fiscal outturns. The debt is projected to peak at 50 percent of GDP in FY2025/26 and gradually subside afterwards. The assessment nevertheless is contingent upon prudent execution of the medium-term fiscal consolidation strategy (as envisaged in the ECF-supported program), including tax revenue and spending reforms, and continued utilization of external borrowing at concessional terms as envisaged in Nepal's Medium Term Debt Management Strategy (MTDS).

[1] Nepal's debt carrying capacity remains strong, based on Nepal's composite indicator (CI) score. The CI is calculated at 3.17, based on the October 2022 World Economic Outlook (WEO) and the 2021 World Bank Country Policy and Institutional Assessment (CPIA) index.

The assessment also stresses the importance of reforms to diversify Nepal's exports, improve productivity and competitiveness, and enhance resilience to shocks, in particular natural disasters.

PUBLIC DEBT COVERAGE

1. **Public debt in this DSA comprises debt from general government, central bank (borrowing on behalf of the government), as well as government's guarantees** (Text Table 1). Nepal's provincial and local governments have no debt, but their borrowing is now regulated by the Public Debt Management Act, enacted in October 2022, and should be monitored carefully. The social security fund and extra budgetary funds currently are not allowed to borrow and thus do not have debt either. IMF disbursements in 2020-2022 were used for direct budget support, and bond issuances by the central bank were only for the purpose of monetary policy operations. The government has provided guarantees for the debts of State-Owned-Enterprises (SOEs), and the current stock of guarantees—totaling NPR 34 billion (0.8 percent of GDP)—is included in the debt stock. SOEs cannot borrow externally. On domestic borrowings by SOEs, the majority of the medium- and long-term loans are from the central government, and thus are already covered under central government debt. SOE liabilities not covered by public debt are part of the contingent liability stress test as the government is working to improve its debt statistics, including that of SOEs.

2. **Public debt is defined in the LIC DSF to include the negative balance of the Treasury Single Account (TSA).**[2] According to the Government Finance Statistics Manual and Public Sector Debt Statistics Guide, the negative cash balance of the TSA should be considered as government gross debt. While there are positive cash balances in other bank accounts under the control of the Financial Comptroller General Office (FCGO) and the net balance across all government accounts was positive, those other cash balances cannot be used to offset the negative cash balance of the TSA for the purposes of measuring gross debt in the LIC DSF. The negative TSA balance is estimated at 1.2 percent of GDP in FY2021/22, down from 2.6 percent of GDP in FY2020/21.

Text Table 1. Nepal: Public Debt Coverage

	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	

1	The country's coverage of public debt	The general government, central bank, government-guaranteed debt	
		Default	Used for the analysis
2	Other elements of the general government not captured in 1.	0 percent of GDP	0
3	SoE's debt (guaranteed and not guaranteed by the government) 1/	2 percent of GDP	2
4	PPP	35 percent of PPP stock	2.11
5	Financial market (the default value of 5 percent of GDP is the minimum value)	5 percent of GDP	5
	Total (2+3+4+5) (in percent of GDP)		9.1

1/ The default shock of 2% of GDP will be triggered for countries whose government-guaranteed debt is not fully captured under the country's public debt definition (1.). If it is already included in the government debt (1.) and risks associated with SoE's debt not guaranteed by the government is assessed to be negligible, a country team may reduce this to 0%.

[2] Negative TSA balance is not part of the public debt as reported by the authorities.

3. The contingent liability stress test is based on the default setting and includes contingent liabilities stemming from SOE debt (2 percent of GDP), PPP projects (2.1 percent of GDP) and financial market (5 percent of GDP). PPP projects have not been formally compiled by the government. According to the PPI database of the World Bank, Nepal's PPP contracts are estimated to account for 6 percent of GDP as of 2021. Already incorporated in the baseline debt figures is the Net Acquisition of Financial Assets (NAFA), which represents mostly loans and capital injections to SOEs from the government. The NAFA has averaged 1.5 percent of GDP annually since 2009 and the program baseline assumes NAFA of this size will continue in the foreseeable future. The stress test on contingent liabilities from SOE debt is thus in addition to the NAFA assumed in the baseline. The size of SOE sector in Nepal is comparable to other middle-income countries, but the SOE debt risks may extend beyond those explicitly guaranteed or covered under the central government debt—for example, an SOE defaulting on a loan from an extra budgetary fund—so the contingent liability tailored test still includes the standard SOE default risk of 2 percent of GDP. The SOE risks have been rising in the last few years and need to be carefully monitored, but the standard default risk is appropriate at this stage, as it covers about a fifth of total financial liabilities in all non-financial SOEs.[3] Likewise, Nepal's private credit-to-GDP ratio is above the average among middle-income countries, and the financial sectors risks are showing signs of increase. Those risks should be monitored, but given that Nepal's banks are adequately capitalized at the moment, the standard financial market default risk of 5 percent of GDP remains appropriate.

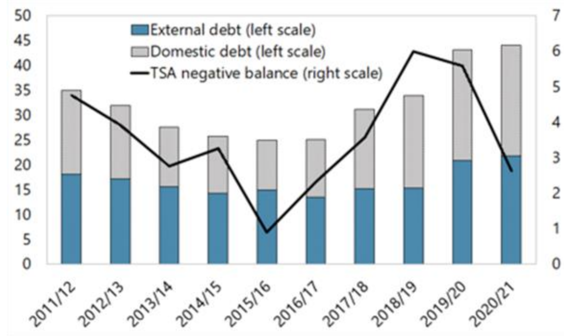
4. The Public Debt Management Act is an important step to improve the debt management practices, but there is still ample space for progress. The act further consolidates debt management functions in the Public Debt Management Office (PDMO), including taking over the front-office functions for domestic debt from the Nepal Rastra Bank (NRB) within two years. The act also establishes a legal framework for borrowing operations by sub-national governments and SOEs, and it sets a limit on external debt (at 33 percent of GDP). Despite the progress, further strengthening fiscal risk and public debt management remains critical, including through the development of a fiscal register to identify, disclose, and manage fiscal risks, including those emanating from SOEs and guarantees, and through strengthening the financial oversight of SOEs. The middle and back-office functions could be improved too, including annual updates of Medium-Term Debt Strategy, and publishing annual borrowing plans and forward-looking debt maturity profiles.

[3] For more details on SOE risks in Nepal, see background paper on "Public Enterprises and Fiscal Risks".

BACKGROUND ON DEBT

5. **Nepal's total public debt has been increasing over recent years, particularly in FY2019/20 due to the COVID-19 pandemic (Text Figure 1)**. Following a gradual decline in the early 2010s, and against the background of the country's transition to fiscal federalism and the need to rebuild after the earthquake of 2015, Nepal's public debt has risen over the last five years. Debt has increased from 25 percent of GDP in FY2015/16 to 44 percent in FY2020/21, with the largest increase in FY2019/20 as the pandemic begun.

Text Figure 1. Evolution of Public Debt
(In percent of GDP)



Sources:Nepal authorities, and IMF staff estimates

6. **External public debt is owed to official development partners at concessional terms**. Multilateral creditors, such as the World Bank's International Development Association (IDA) and the Asian Development Bank (ADB) represent most of Nepal's external debt (87 percent of the total external debt). Their loans have low interest rates (1 percent on average) and long maturities (around 36 years on average). The net present value (PV) of external debt is estimated at 13.1 percent of GDP in FY2021/22, reflecting a high degree of concessionality. For the bilateral loans, Japan was the largest bilateral creditor, followed by India, China, and Korea (Text Table 2).

Text Table 2. Nepal: Decomposition of Public Debt and Debt Service by Creditor, 2021-23

	Debt Stock (end of period)			Debt Service					
	2021			2021	2022	2023	2021	2022	2023
	(In million US$)	*Percent total debt)*	*(Percent GDP)*	*(In million US$)*			*(Percent GDP)*		
Total[1]	15,767	100	44.0	2,310	611	691	6.45	1.7	1.93
External	7,813	49.5	21.8	266	304	315	0.74	0.85	0.88
Multilateral creditors[2]	6,871	43.6	19.2	231	254	265	0.65	0.71	0.74
IMF	274	1.7	0.8						
World Bank	3,938	25.0	11.0						
ADB	2,456	15.6	6.9						
Other Multilaterals	202	1.3	0.6						
Bilateral Creditors	942	6.0	2.6	35	50	49	0.10	0.14	0.14
Paris Club	408	2.6	1.1	1	15	15	0.00	0.04	0.04
o/w: JICA	344	2.2	1.0						
EXIM Bank of Korea	55	0.3	0.2						
Non-Paris Club	534	3.4	1.5	33	35	35	0.09	0.10	0.10
o/w: EXIM Bank of China	261	1.7	0.7						
EXIM Bank of India	257	1.6	0.7						
Bonds	0	0.0	0.0	0	0	0	0	0	0
Commercial creditors	0	0.0	0.0	0	0	0	0	0	0
Other international creditors	0	0.0	0.0	0	0	0	0	0	0
Domestic	7,955	50.5	22.2	2,044	307	376	5.70	0.86	1.05
Held by residents, total	7,955	50.5	22.2	2,044	307	376	5.70	0.86	1.05
Held by non-residents, total	0	0.0	0.0	0	0	0	0	0	0
T-Bills	2,343	14.9	6.5	1,770	0	0	4.94	0.00	0.00
Bonds	4,363	27.7	12.2	274	307	376	0.76	0.86	1.05
Loans[3]	1,248	7.9	3.5	0	0	0	0	0	0
Memo items:			0.0						
Collateralized debt[4]	0	0.0	0.0						
o/w: Related	0	0.0	0.0						
o/w: Unrelated	0	0.0	0.0						
Contingent liabilities	288	1.8	0.8						
o/w: Public guarantees	288	1.8	0.8						
o/w: Other explicit contingent liabilities[5]	0	0.0	0.0						
Nominal GDP	35,841								

1/ As reported by country authorities according to their classification of creditors, including by official and commercial. Debt coverage is the same as the DSA. Debt levels in this table may differ from those in other tables as the calculations here are based on US$.

2/ Multilateral creditors" are simply institutions with more than one official shareholder and may not necessarily align with creditor classification under other IMF policies (e.g. Lending Into Arrears)

3/ Loans here refer to the negative Treasury Single Account (TSA) balance and SOE debt guarantees

4/ Debt is collateralized when the creditor has rights over an asset or revenue stream that would allow it, if the borrower defaults on its payment obligations, to rely on the asset or revenue stream to secure repayment of the debt. Collateralization entails a borrower granting liens over specific existing assets or future receivables to a lender as security against repayment of the loan. Collateral is "unrelated" when it has no relationship to a project financed by the loan. An example would be borrowing to finance the budget deficit, collateralized by oil revenue receipts. See the joint IMF-World Bank note for the G20 "Collateralized Transactions: Key Considerations for Public Lenders and Borrowers" for a discussion of issues raised by collateral.

5/ Includes other-one off guarantees not included in publicly guaranteed debt (e.g. credit lines) and other explicit contingent liabilities not elsewhere classified (e.g. potential legal claims, payments resulting from PPP arrangements).

7. **Domestic public debt has been increasing faster than external debt in recent years**. Domestic public debt rose from 10.1 percent of GDP in FY2015/16 to 22.2 percent in FY2020/21. This increase is larger than the increase in external public debt from 14.9 to 21.8 percent of GDP over the same time period, and with most of the increase during the first wave of the pandemic in FY2019/20. About one-third of domestic debt is in short-term treasury bills with a maturity of up to 1 year, and close to sixty percent of domestic debt is in medium- to long-term development bonds with maturities of 3-15 years (Text Table 2). The debt is held mainly by domestic financial institutions. The negative TSA balance was estimated at 5.5 percent of GDP by the end of FY2019/20, but has substantially declined since then to 2.6 percent of GDP in FY2020/21, and estimated at 1.2 percent of GDP in FY2021/22. As all domestic public debt is held by residents, it is unlikely that there would be a material difference between currency- and residency-based measures of external debt.

8. **The stock of private external debt in Nepal is relatively low, but has been on the rise lately**. While the government and the NRB are encouraging commercial banks to access external loans to alleviate Balance of Payments (BOP) pressures, bank external borrowing has been constrained by limited access and high relative cost, and regulations by authorities, such as a maximum spread limit on banks' foreign loans and limits on the set of potential lenders. Apart from trade credit, the external debt by banks and other sectors in FY2019/20 was relatively low at about 0.5 percent of GDP, but the external borrowing picked up in FY2020/21 and FY2021/22, with the debt reaching estimated 1.8 percent of GDP in FY2021/22, driven by the NRB's monetary policy tightening and increased cost of funding in Nepal versus the rest of the world. Reflecting this recent trend, private medium-and long-term external debt is assumed to increase to 3.3 percent of GDP in the long term, with the total private external debt (including trade credit) reaching 5 percent of GDP. Most of the private external borrowing so far has been by banks and hydropower projects, which is likely well-covered in the standard contingent liabilities stress test for financial market and PPPs.

BACKGROUND ON MACRO FORECASTS

9. **Just as Nepal began recovering from the COVID pandemic, the country was hit by another major shock—Russia's invasion of Ukraine—and is facing significant structural challenges going forward**. The direct spillovers from the war have been small, but oil and food imports have almost doubled in FY2021/22 due to a surge in commodity prices, exerting significant BOP pressures on top of those induced by domestic factors, such as accommodative monetary policy and rapid credit growth. The external pressure subsided later in the year and in the first half of FY2022/23, thanks in part to monetary policy tightening, but inflation remains elevated. Macroeconomic challenges posed by the pandemic and later by the war were compounded by Nepal's structural constraints such as slow domestic job creation, vulnerability to natural disasters including those caused by climate change and environmental degradation, and large infrastructure gaps.

10. **The Extended Credit Facility (ECF) is designed to support Nepal's post-COVID recovery and adjustment to the recent BOP shocks in the near term and to pave the way for sustained growth and poverty reduction over the medium term**. The ECF and financing from other development partners, particularly the World Bank and the ADB, will help fill the external and fiscal financing gaps that have

emerged due to the pandemic and the war. The ECF accommodates spending to support to the economy, and to protect the most vulnerable, with fiscal deficits gradually declining to stabilize public debt and create fiscal space for public investment in education, health, and infrastructure and for strengthening the social safety net. The program also supports a comprehensive fiscal structural reform agenda, particularly in the areas of revenue mobilization and public financing management. The program follows a carefully sequenced strategy to further strengthen financial sector regulation and supervision.

11. Growth and inflation: Despite the global challenges, the economy grew faster than anticipated a year ago—at 4.2 percent in FY2020/21 and estimated at 5.8 percent in FY2021/22 —buoyed by lifted pandemic containment measures, partial recovery in tourism, as well as booming domestic demand amid accommodating monetary policy and strong credit growth (Text Table 3). Inflation has picked up too - from 3.6 percent in FY2020/21 to 6.3 percent in FY2021/22 - and peaking 8.4 percent in September 2022, as the booming domestic demand combined with the global surge in commodity prices. Authorities responded by tightening monetary and prudential policies, and staff now estimate inflation to subside to 7.8 percent in FY2022/23, and further moderate to around 5.4 percent in FY2027/28. In turn, growth is projected to slow down to 4.4 percent in FY2022/23 - amid tighter credit conditions and a worsening global economic outlook.

12. Medium term growth drivers. Growth is projected to gradually revert back to around 5.2 percent over the medium - to long-term. The growth forecast is contingent upon Nepal's steady progress on structural reforms, including those envisaged by the ECF, as well as adequate take-up of concessional external financing to boost the level of high quality social and capital spending. Drivers of growth in the medium term include further expansion of hydroelectric power generation. As significant installed capacity becomes available, the comparative advantage of the country is expected to shift as firms and households throughout Nepal benefit from access to more reliable electricity provision. The opportunity to export electricity seasonally during the monsoon season is a further boost to the country's exports and the country's trade balance. A second driver of growth is the continuation of robust remittance inflows in the medium term. Outmigration by Nepali workers has gained steam following the COVID-19 pandemic movement restrictions, with the number of Nepalese receiving permits for foreign employment surging 57 percent in the first seven months of FY23. In addition to funding a large share of Nepal's trade deficit, analysis points to important welfare gains from remittances inflows among households. Remittances directly accounted for 27 percent of all poverty reduction from 1996 to 2011.[4] A key challenge ahead remains low labor productivity across sectors; boosting productivity would enable the economy to grow faster and more equitably.

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[4] World Bank Group, 2021 "Risks to Poverty, Vulnerability, and Inequality from COVID-19: Nepal Light Poverty Assessment

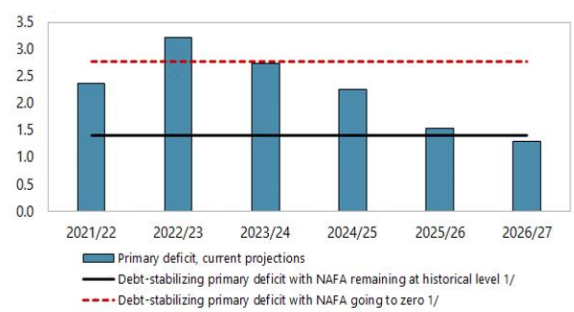
Text Table 3. Nepal: Selected Macroeconomic Assumptions 1/

	Previous DSA 2/			Current DSA				Current vs. Previous	
	20/21	**MT**	**LT**	**20/21**	**21/22**	**MT**	**LT**	**MT**	**LT**
Real growth (%)	2.7	5.3	5.2	4.2	5.8	5.0	5.2	-0.3	0.0
CPI (period average, %)	3.6	5.7	5.0	3.6	6.3	6.0	5.1	0.3	0.1
Revenues and grants (% GDP)	24.2	26.5	26.8	23.7	23.5	23.7	25.4	-2.8	-1.4
Grants (% GDP)	0.7	0.9	0.7	0.9	0.5	1.0	1.0	0.0	0.2
Primary expenditure (% GDP)	27.6	29.7	28.9	26.9	25.8	25.9	26.8	-3.8	-2.1
Net acquisition of non-financial assets (% GDP)	5.5	6.1	5.8	5.4	4.5	5.7	5.9	-0.3	0.1
Primary balance (% GDP)	-3.4	-3.2	-2.1	-3.2	-2.4	-2.2	-1.5	1.0	0.7
Net incurrence of liabilities (% GDP)	7.6	5.4	4.2	7.9	6.0	4.8	3.8	-0.6	-0.4
Net domestic financing (% GDP)	4.5	3.0	2.8	4.4	3.8	2.6	1.8	-0.4	-1.0
Exports of G&S (y/y growth)	-17.5	19.2	9.5	-17.5	46.0	10.9	8.5	-8.4	-1.0
Imports of G&S (y/y growth)	22.0	4.7	6.6	22.0	24.2	3.0	5.7	-1.7	-0.9
Remittances (y/y growth)	8.2	3.3	5.8	8.2	2.1	5.3	4.5	2.0	-1.3
Current account balance (% GDP)	-8.2	-6.0	-1.6	-7.8	-12.9	-4.7	-2.7	1.3	-1.1

Note: MT (medium term) is the average over the next 5 years, and LT (long term) is the average over the following 6-19 years.
Sources: Nepalese authorities; and IMF staff estimates
1/ Nepal's fiscal year starts in mid-July. For example, FY2020/21 runs from mid-July 2020 to mid-July 2021.
2/ Previous DSA refers to ECF Request IMF CR 22/024.

13. Fiscal: The primary deficit in FY2020/21 came in at 3.2 percent of GDP, down from 4.7 percent in FY2019/20, reflecting stronger-than-expected revenue collection and a moderate spending increase compared to the last year DSA's projection. The deficit is estimated to have shrunk further to 2.4 percent in FY2021/22, as import-related tax revenue overperformed amid booming domestic demand, and capital spending significantly underperformed. In FY2022/23, the revenue growth is projected to moderate amid slower economic growth and declining imports, and the deficit is projected to increase to 3.2 percent of GDP, before gradually subsiding over the medium term to 1.3 percent of GDP—consistent with the consolidation path set out in the ECF program framework (Text Figure 2). The improvements in fiscal balances are contingent upon continued revenue mobilization efforts by the government—guided by the revenue mobilization strategy, under preparation by the authorities as agreed under the ECF arrangement—and less duplication of spending responsibilities across levels of government, while capital spending is projected to pick up over the medium term. The debt dynamics of the existing debt stock and the fiscal path suggest a debt-stabilizing primary deficit of around 2.8 percent of GDP, but the continuation of the sizeable NAFA implies a much lower level of about 1.3 percent. The proposed fiscal path is expected to stabilize public debt

Text Figure 2. Debt-Stabilizing Primary Deficits
(In percent of GDP)



IMF staff estimates
1/ Average of FY2008/09-FY2021/2022

assuming the NAFA remains at historical average—consistent with the levels observed in the last few years (net of the changes in the TSA balance).

14. **External sector**: The current account deficit deteriorated from 7.8 percent of GDP in FY2020/21 to 12.9 percent FY2021/22 - significantly more than anticipated last year - reflecting primarily a substantial increase in imports, amid booming domestic demand and the surge in commodity prices. Remittances grew only by 2 percent after the outward migration was brought to a halt by the pandemic; and exports, while growing fast, remained an order of magnitude smaller than imports. The current account is projected to revert to 5.2 percent of GDP in FY2022/23—amid tighter monetary policy and declining imports, as well as buoyant remittances—and moderate gradually to 4.1 percent by FY2027/28. Exports as a share of GDP are expected to gradually recover to around 7.8 percent of GDP, with over forty percent of these being tourism services.[5] Remittances are expected to decline as a percent of GDP—including because of growth underperformance in migrant-hosting countries, return migration, and fewer new workers traveling abroad— but will remain sizeable at about 19 percent of GDP over the medium term. International reserves are projected to remain stable in the medium term at about 6.1 months of prospective imports.

15. **Financing**: The current account deficit increase in FY2021/22 was largely financed by reserves, which went down by almost US$2 billion or 0.8 months of prospective imports over the course of one year. External financing did not grow much, and official loan disbursements even decreased by 7.4 percent. Yet, concessional loans from development partners, mainly multilateral development banks, are expected to remain the key source of funding to cover the BPO and fiscal financing needs next year and in the medium term, as envisaged in the Medium-Term Debt Strategy (Text Table 4). As Nepal gradually deepens its financial markets, domestic borrowing is projected to cover about half of fiscal financing needs over the medium and long term, while remaining a costlier alternative to the concessional funding from abroad. Reflecting an uptick in inflation and consequent monetary policy tightening in FY2021/22, the interest rates on the new domestic borrowing are projected to increase by 6 percentage points in FY2022/23 compared to FY2020/21, then gradually decline, but still remain 1 percentage point higher than in FY2020/21 - in line with the projected inflation and the assumption of financial market deepening. About a third of the newly-issued domestic debt is assumed to be short-term—in line with the recent trend and current government practices, and subject to a significant refinancing risk.

[5] A one-off projected reduction of 2 percent in FY2022/23 is due to a halt of palm oil re-export because of the change in trade tariffs between India (final palm oil importer) and Indonesia (original exporter).

Text Table 4. Nepal: External Borrowing Program, FY2021/22

PPG external debt contracted or guaranteed	Volume of new debt, US$ million 1/	Present value of new debt, US$ million 1/
Sources of debt financing	1,125	593
Concessional debt, of which 2/	939	463
Multilateral debt	760	380
Bilateral debt	179	83
Non-concessional debt, of which 2/	186	130
Semi-concessional debt 3/	186	130
Commerical terms 4/	0	0
Uses of debt financing	1,125	593
Project financing	780	
Budget financing	345	
Memorandum items		
Indicative projection FY2022/23	1,186	636
Indicative projection FY2023/24	1,472	809

Sources: Nepalese authorities; and IMF staff estimates.

1/ Contracting and guaranteeing of new debt. The present value of debt is estimated using the terms of recent individual loans and applying the 5 percent program discount rate.
2/ Debt with a grant element that exceeds 35 percent.
3/ Debt with a positive grant element which is lower than the minimum grant element of 35 percent.
4/ Debt without a positive grant element.

16. **Realism of the baseline is corroborated by the realism tools (Figures 3 and 4)**. The debt-creating flows over the next five years are similar to the 5-year historical average, with a larger current account deficit covered by a residual (the drawdown in reserves), and future GDP growth being somewhat higher considering that the 5-year historical average includes the pandemic. Unexpected changes in debt over the last five years are well within the 25-75 interquartile range in the distribution across LICs. The projected 3-year fiscal adjustment is within the 25-75 interquartile range too. The projected fiscal adjustment in FY2021/22 and expansion in FY2022/23 largely reflect cyclical fluctuations in imports and import-related tax revenue, and hence are projected to have little impact on economic growth. Finally, the projected impact of public investment on economic growth is more conservative than what has been likely the case historically.

COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

17. **Nepal's debt carrying capacity is strong**. A composite indicator (CI) is used to capture the different factors affecting a country's debt carrying capacity. The CI is a weighted average of the World Bank's Country Policy and Institutional Assessment (CPIA) score, the country's real GDP growth, remittances, foreign exchange reserves, and world growth. The calculation of the CI is based on 10-year averages of the variables, across 5 years of historical data and 5 years of projections. Nepal's CI score is calculated at 3.17, based on the October 2022 World Economic Outlook and the 2021 World Bank CPIA index, which lies in a range of a *strong* rating (Text Table 5).

18. Tailored stress tests: The revised LIC-DSF includes stress tests to assess the sensitivity of projected debt burden indicators to adverse changes in the baseline projections as well as to materialization of contingent liabilities. All stress tests were kept at their default settings. In addition, to reflect Nepal's vulnerability to natural disasters, such as the 2015 earthquakes, a natural disaster shock was applied as one of the stress tests. A one-off shock of 10 percentage points of GDP to the debt-to-GDP ratio in the second year of the projection period (FY2021/22) is assumed, and real GDP growth and exports were lowered by 1.5 and 3.5 percentage points, respectively, in the year of the shock for the stress test.

Text Table 5. Nepal: Debt Carrying Capacity and Thresholds

Debt Carrying Capacity and Thresholds

Country	Nepal
Country Code	558

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 3.17	Strong 3.19	Strong 3.18

Calculation of the CI Index

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	3.404	1.31	41%
Real growth rate (in percent)	2.719	4.997	0.14	4%
Import coverage of reserves (in percent)	4.052	55.214	2.24	71%
Import coverage of reserves^2 (in percent)	-3.990	30.486	-1.22	-38%
Remittances (in percent)	2.022	15.494	0.31	10%
World economic growth (in percent)	13.520	2.898	0.39	12%
CI Score			3.17	100%
CI rating			Strong	

Applicable thresholds

APPLICABLE	
EXTERNAL debt burden thresholds	
PV of debt in % of	
Exports	240
GDP	55
Debt service in % of	
Exports	21
Revenue	23

APPLICABLE	
TOTAL public debt benchmark	
PV of total public debt in percent of GDP	70

New framework		Cut-off values		
Weak		CI <	2.69	
Medium	2.69	≤ CI ≤		3.05
Strong		CI >	3.05	

EXTERNAL DEBT SUSTAINABILITY

19. All external debt indicators remain below their indicative thresholds under the baseline (Figure 1, Table 1, Table 3). Short and medium-term external debt dynamics slightly improved compared to the last year's DSA due to a larger-than-expected GDP growth and primary balances in FY2020/21 and estimated FY2021/22. PPG external debt is projected to increase gradually and peak at around 25 percent of GDP—within the external borrowing limit set by the Public Debt Management Law.[6] The PV of PPG external debt-to-exports ratio is projected to increase from 191 in FY2021/22 to 203 in FY2022/23 - relatively close to but below the indicative threshold of 240 - and gradually subside after that. The improvement of the ratio in FY2021/22 relative to last year's DSA is due to larger projected exports, as informed by actual developments. Other indicators (PV of external debt-to-GDP ratio, debt service-to-exports ratio, and debt service-to-revenue ratio) are all below the respective thresholds.

20. External debt is most vulnerable to shocks to exports. The PV of PPG external debt-to-exports ratio breaches the threshold in two out of eight stress test scenarios: with a shock to exports and with a combined shock, where the culprit is again exports. The shock to exports is particularly large for Nepal as it is calibrated based on the exports' volatility in the last ten years - a period, which includes the earthquake in 2015 and the pandemic in 2020 with both having a devastating effect on the country's tourism sector. The shock is also applied to FY2022/23 and FY2023/24, essentially undoing the projected post-pandemic tourism recovery during these two years. Other indicators are all below the respective thresholds even in their most extreme stress tests.

OVERALL RISK OF PUBLIC DEBT DISTRESS

21. Under the baseline scenario, the PV of public debt-to-GDP ratio remains firmly below the 70 percent benchmark during the projection period (Figure 2, Table 2, Table 4). Public debt is projected to peak at around 50 percent of GDP in FY2025/26, and gradually subside after. The PV of the debt-to-GDP ratio is expected to increase from 35 and peak at 40—well below the 70 percent benchmark.

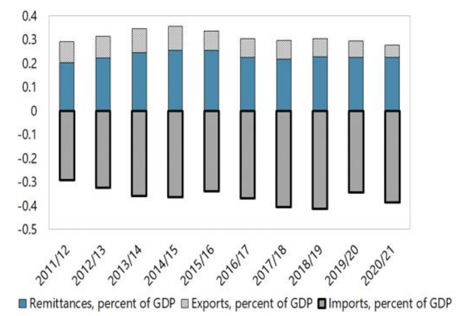
22. Public debt is most vulnerable to a growth shock. The growth shock is defined as a temporary shock to real GDP growth in the second and third year of the projection period and is set to either 10-year historical average growth minus one standard deviation or projected growth minus one standard deviation, whichever is lower. The shock would raise the PV of debt-to-GDP ratio close to the threshold of 70 percent in the last year of the projection period, 2032. The PV of debt-to-revenue ratio and debt service-to-revenue ratio also rise significantly under such a shock. Like with exports, the shock to growth is calibrated to be particularly large for Nepal as the calibration period includes both the earthquake of 2015 and the pandemic. Under all other shock scenarios, the PV of debt-to-GDP ratio remains well below the indicative thresholds.

[6] The law states that the PPG external debt should not exceed 33 percent of GDP.

OTHER FACTORS TO ACCOUNT FOR

23. Judgment is applied in interpreting the risk signal from stress tests on the PV of debt-to-exports in light of the unusually high ratio of remittances to exports and the resilience to shocks of all other debt burden metrics. Remittances are the major source of foreign exchange in the country (Text Figure 3). The remittance-to-GDP ratio (averaging 22.4 percent of GDP in 2017-2021) is the fourth largest in the world, and its remittance-to-exports ratio is by far the largest in the world (2017-21 averages), indicating an exceptionally high role of remittances in the economy. Remittances have also been less volatile than exports—with standard deviation of remittance growth being 7.4 percent versus 13.4 percent for export growth in the last 10 years—providing an important cushion in times of economic adversity.[7] This, combined with the fact that all other debt burden metrics remain below their sustainability thresholds in all stress scenarios, mitigates the risk signal from stress tests on the PV of debt-to-exports. Nepal's low level of exports and their volatility is, however, a major vulnerability requiring immediate policy action.

Text Figure 3. Remittances: Key Source of Foreign Exchange



Sources: Nepal authorities, and IMF staff estimates

RISK RATINGS AND VULNERABILITIES

24. The risk of both public external debt distress and overall debt distress are assessed as low. All debt indicators remain below the indicative thresholds under the baseline. The PV of public debt remains below the threshold under all stress tests. The PV of external debt-to-exports ratio breaches the indicative threshold under two shock scenarios, suggesting a mechanical rating of medium risk of debt distress. However, staff applied judgment to assess both external and public debt to be at low risk of debt distress given the unusually high level of remittances, the major source of foreign exchange to balance the current account and service external debt. The fact that the PV of PPG external debt is 13.1 percent of GDP in FY2020/21, well below the indicative threshold of 55, is reassuring. External debt is also below thresholds in baseline and shock scenarios across all other metrics (e.g., debt service-to-exports ratio, PV of debt-to-GDP and external debt service-to-revenues), reflecting to a large extent high level of concessionality of external borrowing and the low cost of debt servicing.[8] Nepal's adequate level of international reserves, projected to remain so in the medium and long-term, also supports the assessment. Nevertheless, uncertainty around the baseline projections, calibration of the shocks, and the debt risk

[7] High level of remittances is also a major contributor to Nepal's Composite Indicator and the country's *strong* rating of debt carrying capacity. However, the current level is well above 7 percent of GDP – the minimum that is needed, everything else equal, to maintain the *strong* rating.

[8] In reference to the LIC DSF guidance note, the use of staff judgement is based on both the general provision to take into account country specific factors that are not fully accounted for in the model and the specific provision for marginal breach considerations.

assessments is exceptionally high in light of the major global shocks that hit Nepal in the last couple of years, and in light of climate-related shocks that are bound to increase in size in the future.

25. While debt remains sustainable, a number of steps could be taken to mitigate any potential risks. To build resilience to shocks, the authorities should continue to make efforts to improve productivity and competitiveness through stepping up investment in resilient and sustainable infrastructure, as well as streamlining regulations and administrative processes. It is also important to pursue rigorous analysis of the risks related to contingent liabilities, for example, related to non-guaranteed commercial SOE debt or unfounded pension liabilities, PPP projects, and budget support for the financial sector. The authorities will also need to make significant progress in updating and implementing the MTDS—developing the government bond market to facilitate domestic borrowing, while continuing to utilize external borrowing at concessional terms. Improvements are needed in subnational governments' public financial management and reporting, along with the implementation of a prudent framework for subnational borrowing. Finally, the findings in this assessment are contingent upon prudent execution of medium-term fiscal consolidation strategy, including tax revenue and spending reforms envisaged in the ECF arrangement.

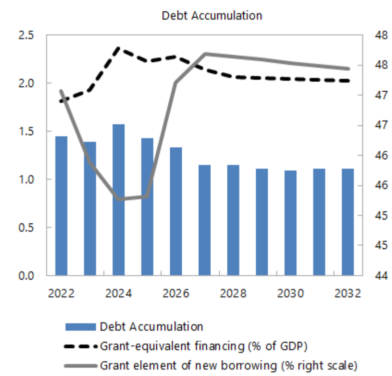
AUTHORITIES' VIEWS

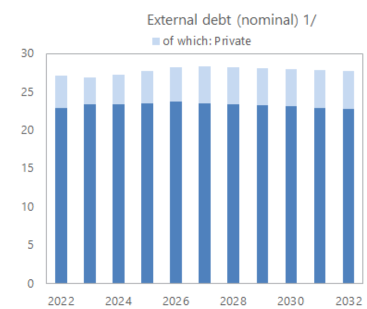
26. The authorities broadly agreed with the assessment. They reiterated their commitment to stabilizing debt over the medium term and pointed to the legislative limit on external debt set by the Public Debt Management Act (at 33 percent of GDP), as well as to the annual limits on domestic borrowing set by the Natural Resource Commission as key anchors. The authorities were concerned about the short average maturity of domestic debt and the risk that higher domestic interest rates could result in a more persistent increase in interest costs. They acknowledged the importance of utilizing concessional external borrowing, while noting risks associated with the exchange rate and uncertainties about disbursements of development partner financing. The authorities also noted the focus of the DSA on gross public debt or government's financial liabilities only and pointed to significant financial assets on the government's balance sheet.

Table 1. Nepal: External Debt Sustainability Framework, Baseline Scenario, 2019-2042
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2032	2042	Historical	Projections
External debt (nominal) 1/	17.0	23.4	25.9	27.1	26.9	27.2	27.7	28.2	28.3	27.7	25.6	**18.4**	**27.8**
of which: public and publicly guaranteed (PPG)	15.2	20.9	21.8	22.9	23.4	23.3	23.5	23.7	23.5	22.8	22.3	**16.6**	**23.3**
Change in external debt	0.3	6.4	2.5	1.2	-0.2	0.3	0.5	0.6	0.1	-0.2	-0.3		
Identified net debt-creating flows	6.1	0.9	5.5	11.1	4.0	3.4	2.6	2.4	2.3	1.2	-0.4	**-1.0**	**3.1**
Non-interest current account deficit	6.7	0.8	7.7	12.6	4.9	4.8	4.2	4.2	4.0	2.9	-37670.6	**0.1**	**4.7**
Deficit in balance of goods and services	33.7	27.5	33.4	36.5	29.8	28.9	27.5	26.7	25.9	21.5	15.0	**27.8**	**26.5**
Exports	7.8	6.9	5.2	6.9	6.8	7.4	7.7	7.8	7.8	7.8	7.6		
Imports	41.5	34.4	38.6	43.4	36.6	36.3	35.2	34.6	33.7	29.3	22.6		
Net current transfers (negative = inflow)	-25.7	-25.3	-25.0	-23.0	-23.6	-23.0	-22.3	-21.6	-20.9	-17.6	-13.0	**-26.6**	**-20.8**
of which: official	-0.9	-0.6	-0.6	-0.3	-0.7	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0		
Other current account flows (negative = net inflow)	-1.2	-1.4	-0.7	-0.9	-1.2	-1.1	-1.0	-1.0	-1.0	-1.0	-37672.7	**-1.2**	**-1.0**
Net FDI (negative = inflow)	-0.3	-0.5	-0.5	-0.4	-0.1	-0.4	-0.6	-0.7	-0.7	-0.7	-0.7	**-0.4**	**-0.6**
Endogenous debt dynamics 2/	-0.3	0.6	-1.7	-1.1	-0.8	-1.0	-1.0	-1.1	-1.1	-1.0	37670.9		
Contribution from nominal interest rate	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	37672.2		
Contribution from real GDP growth	-1.1	0.4	-0.9	-1.4	-1.1	-1.3	-1.3	-1.3	-1.4	-1.3	-1.2		
Contribution from price and exchange rate changes	0.6	0.0	-0.9	...	...	...	...	...	...	...	...		
Residual 3/	-5.8	5.5	-3.0	-10.0	-4.1	-3.1	-2.1	-1.9	-2.2	-1.3	0.1	**1.8**	**-2.9**
of which: exceptional financing	0.0	-2.3	-0.5	-0.6	-0.9	-0.7	-0.4	0.0	0.0	0.0	0.0		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	13.1	13.1	13.8	14.0	14.2	14.3	14.3	13.8	13.7		
PV of PPG external debt-to-exports ratio	...	...	250.6	190.7	203.3	189.5	184.1	183.3	183.6	177.8	181.1		
PPG debt service-to-exports ratio	8.0	10.0	12.8	11.0	11.4	10.4	9.9	10.5	10.7	10.5	9.4		
PPG debt service-to-revenue ratio	2.9	3.2	2.9	3.3	3.7	3.5	3.4	3.4	3.4	3.3	2.9		
Gross external financing need (Million of U.S. dollars)	2925.2	696.3	3577.4	6243.1	3387.1	3039.7	2958.5	3203.9	3485.0	4080.4	#######		
Key macroeconomic assumptions													
Real GDP growth (in percent)	6.7	-2.4	4.2	5.8	4.4	5.1	5.2	5.2	5.2	5.2	5.2	**4.4**	**5.2**
GDP deflator in US dollar terms (change in percent)	-3.2	0.2	4.1	4.5	0.4	4.4	3.3	3.2	3.2	3.3	3.3	**1.0**	**3.2**
Effective interest rate (percent) 4/	1.2	1.1	0.8	1.3	1.2	1.0	1.0	1.0	1.1	1.1	157773.6	**1.0**	**1.1**
Growth of exports of G&S (US dollar terms, in percent)	2.5	-13.7	-17.5	46.0	3.8	19.4	13.4	9.8	7.9	8.4	8.4	**1.9**	**13.0**
Growth of imports of G&S (US dollar terms, in percent)	5.6	-19.0	22.0	24.2	-11.6	9.1	5.3	6.6	5.8	5.7	5.9	**9.3**	**6.1**
Grant element of new public sector borrowing (in percent)	...	...	...	47.1	45.9	45.3	45.3	47.2	47.7	47.4	47.0	**...**	**46.9**
Government revenues (excluding grants, in percent of GDP)	21.8	21.6	22.8	23.0	21.0	21.8	22.6	23.7	24.5	24.4	24.7	**18.7**	**23.5**
Aid flows (in Million of US dollars) 5/	202.9	203.9	309.5	751.7	840.4	1064.2	1091.5	1210.9	1261.0	1787.1	3903.1		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	1.8	1.9	2.4	2.2	2.3	2.1	2.0	2.0	**...**	**2.1**
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	55.1	56.7	60.1	61.0	62.1	63.4	63.0	63.1	**...**	**61.2**
Nominal GDP (Million of US dollars)	34,186	33,434	36,289	40,149	42,097	46,207	50,211	54,523	59,198	89,555	204,823		
Nominal dollar GDP growth	3.2	-2.2	8.5	10.6	4.9	9.8	8.7	8.6	8.6	8.6	8.6	**5.5**	**8.6**
Memorandum items:													
PV of external debt 7/	...	...	17.1	17.3	17.4	17.9	18.4	18.9	19.0	18.7	17.1		
In percent of exports	...	...	329.2	251.6	255.5	241.9	237.7	241.5	244.6	240.8	225.0		
Total external debt service-to-exports ratio	27.9	25.7	51.0	48.6	47.7	29.5	29.6	30.7	32.9	30.2	8772819.2		
PV of PPG external debt (in Million of US dollars)			4737.9	5263.9	5822.1	6483.0	7142.6	7810.2	8439.5	12353.4	28142.6		
(PVt-PVt-1)/GDPt-1 (in percent)				1.4	1.4	1.6	1.4	1.3	1.2	1.1	1.2		
Non-interest current account deficit that stabilizes debt ratio	6.5	-5.6	5.1	11.4	5.1	4.5	3.7	3.6	4.0	3.1	-37670.3		

Definition of external/domestic debt	Residency-based
Is there a material difference between the two criteria?	No





Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as [r - g - ρ(1+g) + Εα (1+r)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, ρ = growth rate of GDP deflator in U.S. dollar terms, Ε=nominal appreciation of the local currency, and α= share of local currency-denominated external debt in total external debt.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Current-year interest payments divided by previous period debt stock.

5/ Defined as grants, concessional loans, and debt relief.

6/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

7/ Assumes that PV of private sector debt is equivalent to its face value.

8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

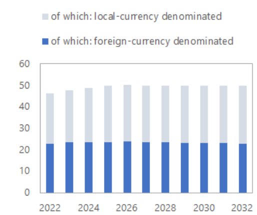
Table 2. Nepal: Public Sector Debt Sustainability Framework, Baseline Scenario, 2019-2042

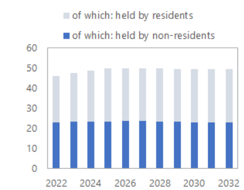
(In percent of GDP, unless otherwise indicated)

	Actual			Projections												Average 6/	
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2042	Historical	Projections
Public sector debt 1/	33.9	43.1	44.0	46.3	47.8	48.7	49.8	50.0	49.9	49.8	49.7	49.7	49.7	49.7	50.6	32.2	49.2
of which: external debt	15.2	20.9	21.8	22.9	23.4	23.3	23.5	23.7	23.5	23.4	23.2	23.1	22.9	22.8	22.3	16.6	23.3
Change in public sector debt	2.8	9.2	0.9	2.3	1.5	0.9	1.1	0.2	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.2		
Identified debt-creating flows	1.4	8.4	3.5	0.6	1.3	1.4	1.2	0.5	0.2	0.3	0.3	0.4	0.3	0.4	0.0	1.4	0.6
Primary deficit	4.5	4.7	3.2	2.4	3.2	2.7	2.3	1.5	1.3	1.4	1.4	1.4	1.5	1.5	1.1	1.4	1.9
Revenue and grants	22.4	22.2	23.7	23.5	21.6	22.9	23.6	24.8	25.5	25.4	25.4	25.4	25.4	25.3	25.7	20.0	24.4
of which: grants	0.6	0.6	0.9	0.5	0.7	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Primary (noninterest) expenditure	26.8	26.9	26.9	25.8	24.9	25.6	25.9	26.3	26.8	26.8	26.8	26.8	26.8	26.8	26.8	21.4	26.3
Automatic debt dynamics	-2.8	1.8	-3.6	-4.5	-3.3	-2.7	-2.4	-2.4	-2.4	-2.5	-2.4	-2.5	-2.5	-2.5	-2.5		
Contribution from interest rate/growth differential	-2.4	0.5	-3.2	-4.5	-3.3	-2.7	-2.4	-2.4	-2.4	-2.5	-2.4	-2.5	-2.5	-2.5	-2.5		
of which: contribution from average real interest rate	-0.5	-0.3	-1.5	-2.0	-1.4	-0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
of which: contribution from real GDP growth	-1.9	0.8	-1.8	-2.4	-1.9	-2.3	-2.4	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5		
Contribution from real exchange rate depreciation	-0.4	1.2	-0.4	...	...	...	...	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	-0.3	1.9	3.9	2.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.6	1.5
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0		
Other debt creating or reducing flow (please specify)	-0.3	1.9	3.9	2.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4		
Residual	1.4	0.8	-2.6	1.7	0.3	-0.5	-0.1	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2	-0.3	-0.1
Sustainability indicators																	
PV of public debt-to-GDP ratio 2/	...	...	35.4	37.3	38.6	39.6	40.7	40.9	40.8	40.8	40.8	40.8	40.8	40.9	42.2		
PV of public debt-to-revenue and grants ratio	...	...	149.6	158.7	178.7	173.1	172.3	164.9	159.8	160.3	160.4	160.5	160.8	161.2	164.3		
Debt service-to-revenue and grants ratio 3/	4.2	4.9	26.6	30.7	23.1	23.6	23.7	23.3	24.1	23.4	29.5	28.4	27.6	27.6	29.8		
Gross financing need 4/	5.1	7.7	13.4	12.2	9.6	9.5	9.2	8.7	8.8	8.7	10.3	10.0	9.8	9.9	10.2		
Key macroeconomic and fiscal assumptions																	
Real GDP growth (in percent)	6.7	-2.4	4.2	5.8	4.4	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.4	5.2
Average nominal interest rate on external debt (in percent)	0.8	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.1	0.9	0.9
Average real interest rate on domestic debt (in percent)	-2.3	-1.0	-3.1	-3.9	-3.1	-0.3	0.8	1.1	1.2	1.1	0.9	0.9	0.7	0.7	0.8	-3.0	0.0
Real exchange rate depreciation (in percent, + indicates depreciation)	-2.8	8.0	-2.1	...	...	...	...	...	...	...	...	...	...	...	...	1.5	...
Inflation rate (GDP deflator, in percent)	4.7	3.2	5.5	7.2	7.8	6.3	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	6.0	5.9
Growth of real primary spending (deflated by GDP deflator, in percent)	3.8	-1.9	4.2	1.6	0.4	8.4	6.2	7.0	7.3	5.2	5.2	5.2	5.2	5.2	5.2	10.8	5.2
Primary deficit that stabilizes the debt-to-GDP ratio 5/	1.7	-4.5	2.3	0.1	1.7	1.8	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.5	1.4	-0.2	1.4
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	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?	**No**

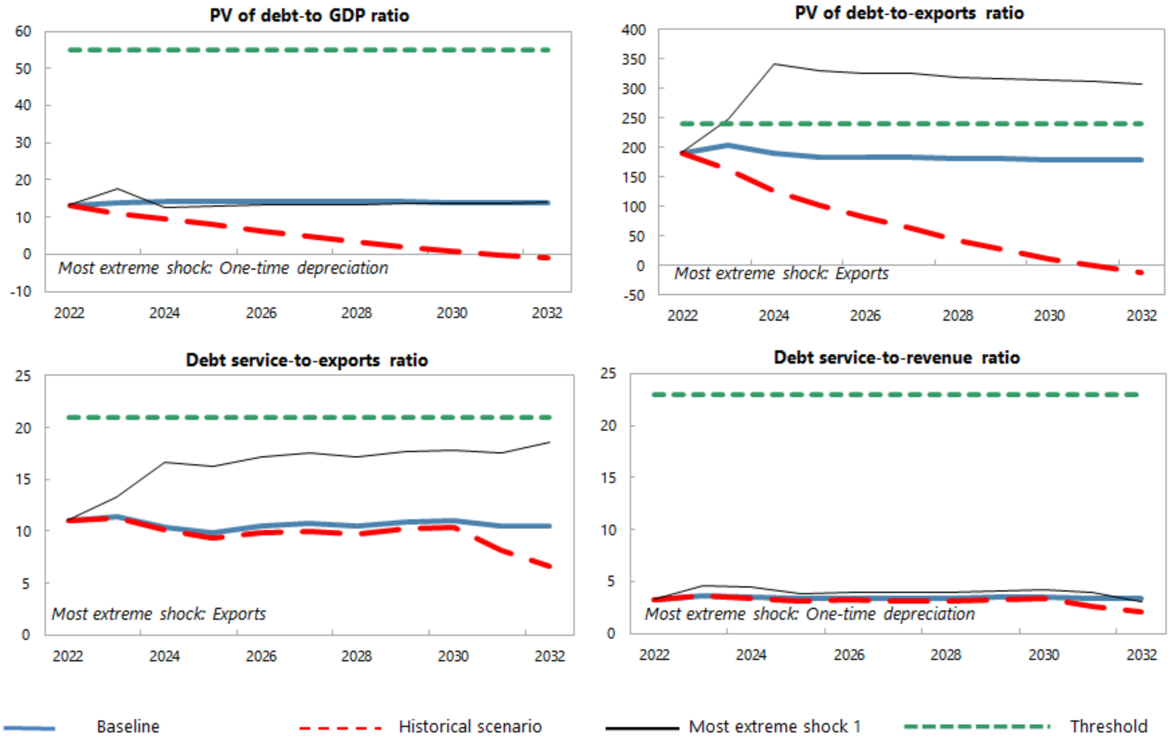
Public sector debt 1/





Sources: Country authorities; and staff estimates and projections.
1/ Coverage of debt: The general government, central bank, government-guaranteed debt. Definition of external debt is Residency-based.
2/ The underlying PV of external debt-to-GDP ratio under the public DSA differs from the external DSA with the size of differences depending on exchange rates projections.
3/ Debt service is defined as the sum of interest and amortization of medium and long-term, and short-term debt.
4/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period and other debt creating/reducing flows.
5/ Defined as a primary deficit minus a change in the public debt-to-GDP ratio ((-): a primary surplus), which would stabilizes the debt ratio only in the year in question.
6/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

Figure 1. Nepal: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2022-2032



Customization of Default Settings		
	Size	Interactions
Tailored Stress		
Combined CL	No	
Natural disaster	No	No
Commodity price	n.a.	n.a.
Market financing	n.a.	n.a.

Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

Borrowing assumptions on additional financing needs resulting from the stress tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	1.0%	1.0%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	31	31
Avg. grace period	7	7

* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2032. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 2. Nepal: Indicators of Public Debt Under Alternatives Scenarios, 2022-2032

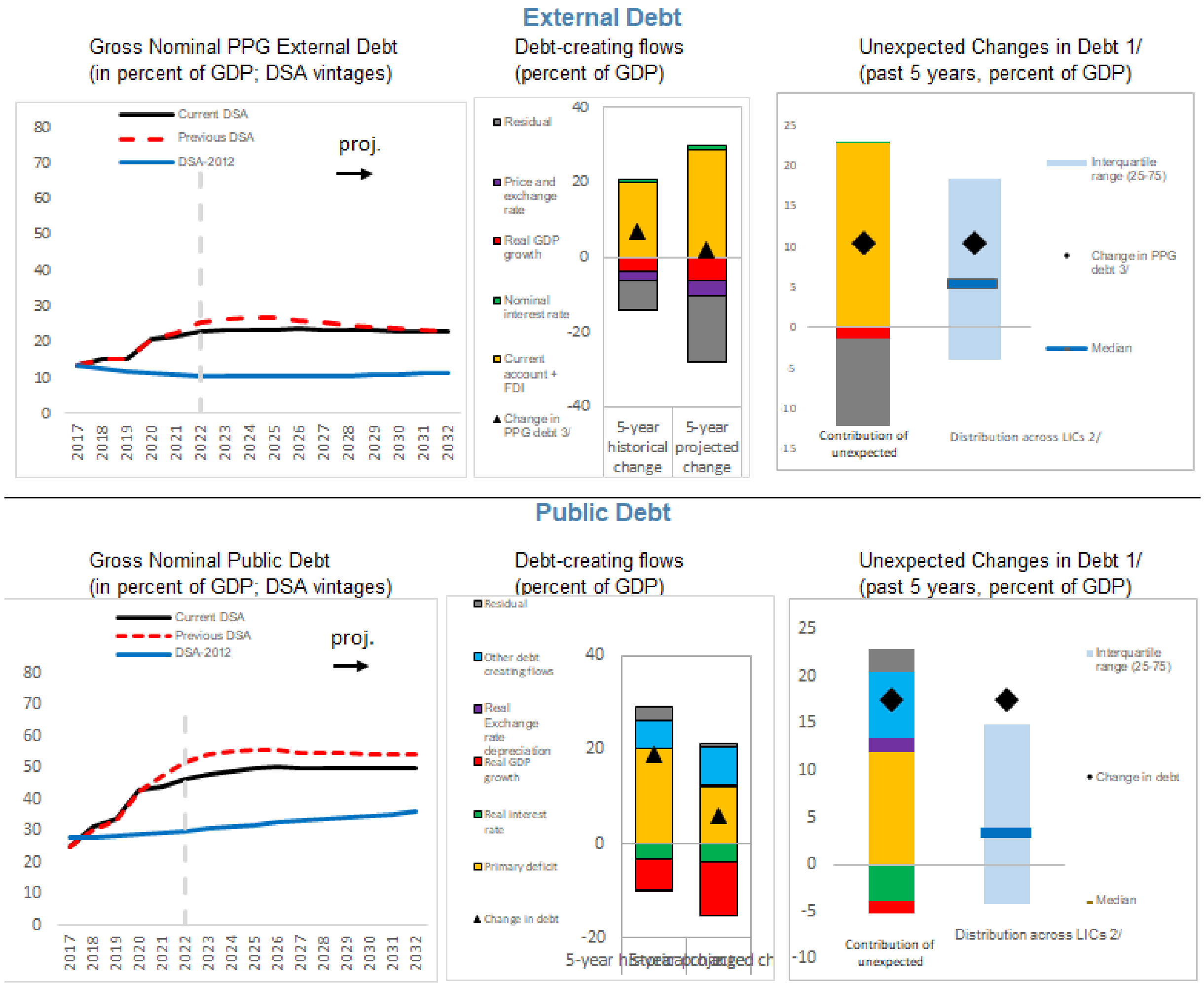
Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	26%	26%
Domestic medium and long-term	50%	50%
Domestic short-term	24%	24%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.0%	1.0%
Avg. maturity (incl. grace period)	31	31
Avg. grace period	7	7
Domestic MLT debt		
Avg. real interest rate on new borrowing	1.2%	1.2%
Avg. maturity (incl. grace period)	6	6
Avg. grace period	4	4
Domestic short-term debt		
Avg. real interest rate	0.5%	0.5%

* Note: The public DSA allows for domestic financing to cover the additional financing needs generated by the shocks under the stress tests in the public DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2032. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 3. Nepal: Drivers of Debt Dynamics—Baseline Scenario



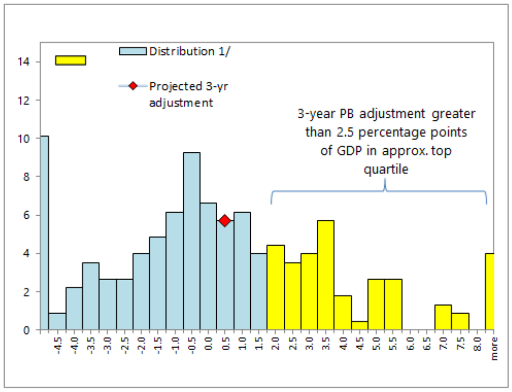
1/ Difference between anticipated and actual contributions on debt ratios.

2/ Distribution across LICs for which LIC DSAs were produced.

3/ Given the relatively low private external debt for average low-income countries, a ppt change in PPG external debt should be largely explained by the drivers of the external debt dynamics equation.

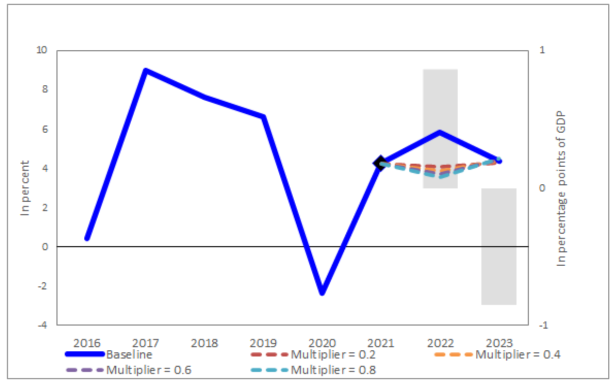
Figure 4. Nepal: Realism Tools

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



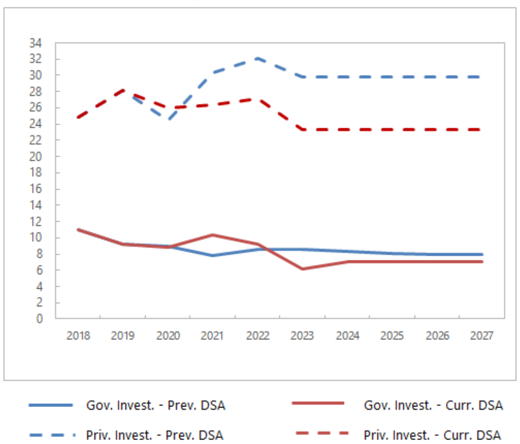
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

Fiscal Adjustment and Possible Growth Paths 1/



1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).

Public and Private Investment Rates
(percent of GDP)



Contribution to Real GDP growth
(percent, 5-year average)

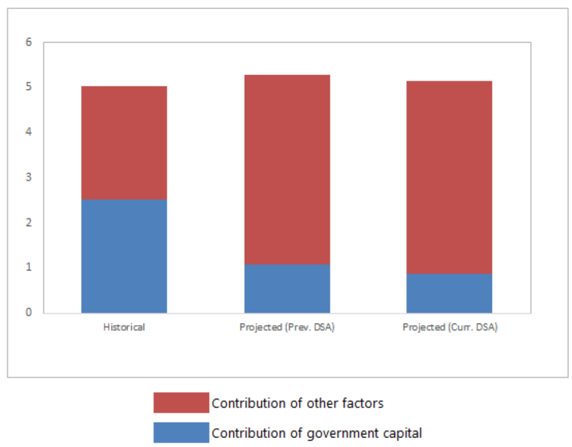


Table 3. Nepal: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed Debt Under 2022-2032

(In percent)

	Projections 1/										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
PV of debt-to GDP ratio											
Baseline	13.1	14	14	14	14	14	14	14	14	14	14
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	13	11	9	8	6	5	3	2	1	0	-1
B. Bound Tests											
B1. Real GDP growth	13	15	16	16	16	16	16	16	16	16	16
B2. Primary balance	13	14	15	15	15	15	15	15	15	15	15
B3. Exports	13	14	16	16	16	16	16	16	16	15	15
B4. Other flows 3/	13	15	16	16	16	16	16	16	16	16	15
B5. Depreciation	13	17	12	13	13	13	13	13	14	14	14
B6. Combination of B1-B5	13	16	17	17	17	17	17	16	16	16	16
C. Tailored Tests											
C1. Combined contingent liabilities	13	15	16	16	16	16	16	16	16	16	16
C2. Natural disaster	13	15	16	16	16	16	17	17	17	17	17
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	191	203	190	184	183	184	181	180	179	178	178
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	191	162	126	102	82	62	43	26	10	-2	-11
B. Bound Tests											
B1. Real GDP growth	191	203	190	184	183	184	181	180	179	178	178
B2. Primary balance	191	209	202	197	196	197	195	196	196	195	194
B3. Exports	191	**248**	**342**	**330**	**326**	**326**	**320**	**317**	**314**	**312**	**308**
B4. Other flows 3/	191	220	220	212	210	209	205	204	202	199	197
B5. Depreciation	191	203	133	132	134	136	136	137	137	138	141
B6. Combination of B1-B5	191	**245**	205	**271**	**269**	**269**	**264**	**263**	**260**	**258**	**256**
C. Tailored Tests											
C1. Combined contingent liabilities	191	222	210	204	203	203	203	205	205	204	203
C2. Natural disaster	191	232	220	215	215	216	216	219	220	221	221
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	11.0	11	10	10	10	11	10	11	11	11	10
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	11	11	10	9	10	10	10	10	10	8	7
B. Bound Tests											
B1. Real GDP growth	11	11	10	10	10	11	10	11	11	11	10
B2. Primary balance	11	11	10	10	11	11	11	11	11	11	11
B3. Exports	11	13	17	16	17	18	17	18	18	18	19
B4. Other flows 3/	11	11	11	10	11	11	11	11	11	11	12
B5. Depreciation	11	11	10	9	10	10	10	10	10	10	8
B6. Combination of B1-B5	11	12	15	14	15	15	15	15	15	16	15
C. Tailored Tests											
C1. Combined contingent liabilities	11	11	11	10	11	11	11	11	11	11	11
C2. Natural disaster	11	12	11	11	11	12	11	12	12	11	11
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	3	4	4	3	3	3	3	3	3	3	3
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	3	4	3	3	3	3	3	3	3	3	2
B. Bound Tests											
B1. Real GDP growth	3	4	4	4	4	4	4	4	4	4	4
B2. Primary balance	3	4	4	3	4	3	3	4	4	4	4
B3. Exports	3	4	4	4	4	4	4	4	4	4	4
B4. Other flows 3/	3	4	4	4	4	4	3	4	4	4	4
B5. Depreciation	3	5	4	4	4	4	4	4	4	4	3
B6. Combination of B1-B5	3	4	4	4	4	4	4	4	4	4	4
C. Tailored Tests											
C1. Combined contingent liabilities	3	4	4	3	4	4	3	4	4	3	3
C2. Natural disaster	3	4	4	4	4	4	3	4	4	4	4
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

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the threshold.
2/ Variables include real GDP growth, GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
3/ Includes official and private transfers and FDI.

Table 4. Nepal: Sensitivity Analysis for Key Indicators of Public Debt, 2022-2032

	Projections 1/										
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
					PV of Debt-to-GDP Ratio						
Baseline	37.3	38.6	39.6	40.7	40.9	40.8	40.8	40.8	40.8	40.8	40.9
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	37.25	37.62	37.88	38.47	38.74	38.97	39.16	39.36	39.53	39.70	39.84
B. Bound Tests											
B1. Real GDP growth	37.25	41.68	47.74	51.12	53.51	55.62	57.64	59.52	61.27	62.96	64.58
B2. Primary balance	37.25	41.25	44.64	45.41	45.36	45.12	44.85	44.54	44.26	44.09	43.98
B3. Exports	37.25	39.19	41.60	42.59	42.68	42.55	42.45	42.37	42.30	42.26	42.18
B4. Other flows 3/	37.25	39.83	41.92	42.89	42.97	42.83	42.72	42.63	42.55	42.47	42.37
B5. Depreciation	37.25	39.26	38.09	38.17	37.18	36.07	35.03	34.18	33.36	32.51	31.73
B6. Combination of B1-B5	37.25	39.27	41.03	41.64	41.65	41.51	41.41	41.33	41.21	41.12	41.11
C. Tailored Tests											
C1. Combined contingent liabilities	37.25	46.61	46.96	47.65	47.49	47.14	46.65	46.15	45.80	45.58	45.41
C2. Natural disaster	37.25	48.22	48.79	49.70	49.77	49.64	49.35	49.02	48.84	48.78	48.77
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	159	179	173	172	165	160	160	160	161	161	161
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	159	174	165	163	156	152	154	155	155	156	157
B. Bound Tests											
B1. Real GDP growth	159	192	207	215	215	217	225	233	240	247	254
B2. Primary balance	159	191	195	192	183	177	176	175	174	174	174
B3. Exports	159	181	182	180	172	167	167	167	167	167	166
B4. Other flows 3/	159	184	183	182	173	168	168	168	168	167	167
B5. Depreciation	159	182	167	162	151	142	138	135	132	129	126
B6. Combination of B1-B5	159	182	179	176	168	163	163	163	162	162	162
C. Tailored Tests											
C1. Combined contingent liabilities	159	215	205	202	192	185	183	182	180	180	179
C2. Natural disaster	159	223	213	210	201	194	194	193	192	192	192
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	31	23	24	24	23	24	23	29	28	28	28
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2022-2032 2/	31	23	22	22	22	24	22	27	26	26	27
B. Bound Tests											
B1. Real GDP growth	31	24	28	30	30	32	32	41	42	43	44
B2. Primary balance	31	23	27	28	25	26	26	35	33	30	29
B3. Exports	31	23	24	24	23	24	23	30	28	28	28
B4. Other flows 3/	31	23	24	24	23	24	24	30	28	28	28
B5. Depreciation	31	22	23	21	22	23	22	27	26	26	26
B6. Combination of B1-B5	31	23	24	25	24	24	24	31	30	28	28
C. Tailored Tests											
C1. Combined contingent liabilities	31	23	34	27	25	26	30	38	33	30	30
C2. Natural disaster	31	23	36	29	27	27	32	41	35	32	32
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.

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the benchmark.
2/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.
3/ Includes official and private transfers and FDI.