INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL MONETARY FUND

NEPAL

Joint World Bank-IMF Debt Sustainability Analysis

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Prepared jointly by the staffs of the International Development Association (IDA)

and the International Monetary Fund (IMF)

Approved by Marcello Estevão (IDA), Anne-Marie Gulde Wolfe and Maria Gonzalez (IMF)

Nepal-Joint Bank-Fund Debt Sustainability Analysis	
Risk of external debt distress	Low
Overall risk of debt distress	Low
Granularity in the risk rating	Not Applicable
Application of judgment	No

The Debt Sustainability Analysis using the joint IMF/WB Debt Sustainability Framework for Low Income Countries (LIC-DSF) shows that Nepal remains at low risk of debt distress for both the external and overall public debt. All debt and debt service indicators are projected to be well below their indicative threshold values under the baseline scenario as well as the stress tests. However, the analysis indicates that Nepal's public debt is projected to gradually increase over the medium-term owing to continuing fiscal and current account deficits, and that debt sustainability is vulnerable to export and economic growth shocks. These findings stress the importance of implementing reforms to increase the economy's resilience to external shocks and to encourage diversification. Further efforts to improve the domestic productivity and competitiveness and to enhance monitoring of risks related to contingent liabilities are necessary to ensure medium- to long-term debt sustainability.

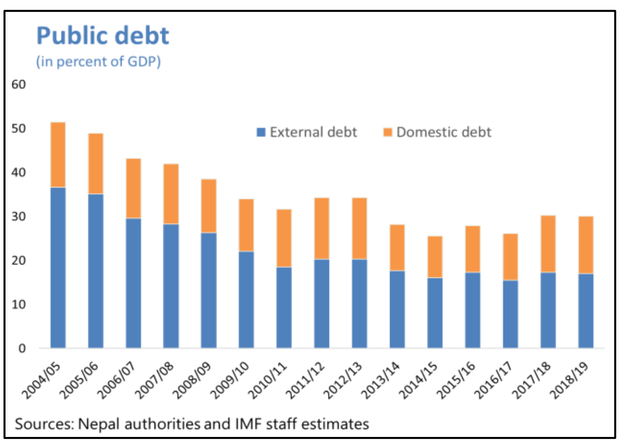
PUBLIC DEBT COVERAGE

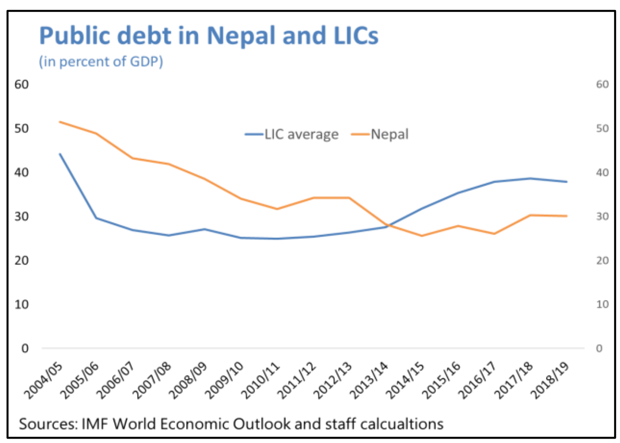
1. **The coverage of public debt in this analysis includes central and local governments' debts, government guarantees, and central bank borrowing.** Nepal's provincial and local governments had no debt. Their borrowing framework is under consideration and should be monitored carefully. The Nepal Rastra Bank (NRB, Nepal's central bank) borrowed from the IMF through the Rapid Credit Facility and on-lent the funds (about US$50 million) to the government. Bond issuances by the central bank were only for the purpose of the monetary policy. Nepal's state-owned enterprises (SOEs) borrow abroad through the central government, therefore included in the coverage of central government debt. The government has recently started providing guarantees for debts of SOEs.

	Subsectors of the public sector	Check box
1	Central government	X
2	State and local government	X
3	Other elements in the general government	
4	o/w: Social security fund	
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

BACKGROUND ON DEBT

2. **Nepal's total public debt is estimated at 30.1 percent of GDP at mid-2019.** Following a prolonged decline, to 25 percent of GDP in mid-2015, Nepal's public debt rose to 30.2 percent of GDP at mid-2018. The public debt stock for July 2019 stayed at almost the same level as the previous fiscal year. Nepal's public debt remains low compared to other low-income countries.





3. External public debt stood at 17 percent of GDP at mid-July 2019. The external debt-to-GDP ratio declined slightly by 0.4 percentage point since mid-2018. The net present value (PV) of the external debt is estimated at about 12.2 percent of GDP due to the high degree of concessionality. Nepal's external debt was owed mainly to multilateral creditors (89 percent of all external debt), such as the World Bank's International Development Association (IDA) and the Asian Development Bank. Their loans had low interest rates (1 percent on average) and long maturities (26 years on average). For the bilateral loans, Japan was the largest bilateral creditor, followed by China, India, and Korea.

Nepal: External Public Debt, at end FY2018/19 1/

	In millions of US$s	In percent of GDP	In percent of external debt
Total external	5,366	17.0%	100%
Multilateral	4,760	15.1%	89%
AsDB	1,826	5.8%	34%
IDA	2,781	8.8%	52%
Bilateral	606	1.9%	11%
Paris Club	319	1.0%	6%
Non-Paris Club	287	0.9%	5%

Source: Nepalese authorities; and IMF staff estimates.
1/ Nepal's fiscal year starts in mid-July. For example, FY2018/19 covers mid-July 2018 to mid-July 2019.

4. Domestic public debt was 13.1 percent of GDP at mid-July 2019. About 32 percent of domestic public debt is treasury bills with a maturity of up to 1 year (28-days, 91-days, 182-days, and 364-day treasury bills), of which about a half is 364-day bills. Medium- to long-term debt comprises mostly development bonds with maturities of 3-15 years and interest rates of 3-6.5 percent per annum. All the domestic public debt was held by residents, so the analysis is currency-based.

Nepal: Public Domestic Debt, at end FY2018/19

	In billions of Nepalese rupees	In percent of GDP	In percent of domestic debt
Total domestic	453	13.1%	100%
Treasury bills	147	4.2%	32%
Treasury bonds	306	8.8%	68%
Development bonds	297	8.6%	66%
Others	9	0.3%	2%

Sources: Nepalese authorities; and IMF staff estimates.

5. The stock of private external debt in Nepal has not been published by the authorities, but it is estimated to be very small. While the government and the NRB are encouraging commercial banks to access external loans to alleviate BOP pressures, bank external borrowing has been constrained by limited access and high relative cost. Regulations by the authorities—such as imposing a maximum spread limit (6- month Libor + 4%) on banks' foreign loans-hamper banks' ability to borrow overseas. So far, there has been very small foreign borrowing (about 0.1 percent of GDP at mid-July 2019) by the non-public sector. Reflecting recent government efforts to encourage foreign loans, private external debt is assumed to increase to 1 percent of GDP in the long term.

6. The contingent liability stress test 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 about 6 percent of GDP as of 2017. The Nepal Oil Corporation (NOC) and the Nepal Electricity Authority (NEA) are major SOEs in Nepal. As of July-2019, the NOC and NEA's debt amounted to 3.3 percent of GDP. Their debts are all owed to the government, so are already included in the government's debt. The government provided a guarantee to the Nepal Airlines Corporations for the purchase of an airplane in FY2018/19, which is 1.0 percent of GDP.

1 The country's coverage of public debt		The central, state, and local governments plus extra budgetary funds, central bank, government-guaranteed debt, non-guaranteed SOE debt		
		Default	Used for the analysis	Reasons for deviations from the default settings
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	2.0	
4	PPP	35 percent of PPP stock	2.1	
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.).
The Nepali government provided guarantee to the purchase of an airplane by SOE in FY 2018/19, which is 1% of GDP.
2/ 2.11 percent of GDP = 6.01 percent of GDP (PPP contracts as of 2017) * 35 percent of shock (default setting).

BACKGROUND ON MACRO FORECASTS

7. Growth and inflation: Growth continued to perform well for the past a couple of years. Due to strong performances in agriculture, reconstruction activities, and tourism, real GDP growth picked up to 7.1 percent in FY2018/19 from 6.7 percent in the previous fiscal year. In the mid- to long-term, it is expected to converge to potential growth of 5.3 percent. The inflation rate was 4.6 percent annually in FY2018/19 and rose to 6.0 percent at mid-July 2019 owing to a surge in food prices, but it is expected to stabilize at 5.3 percent over the medium-term.

Text Table 1. Macroeconomic assumptions underlying the current and previous DSA

	Previous DSA			Current DSA					Current vs. Previous	
	2017/18	MT	LT	17/18	18/19	19/20	MT	LT	MT	LT
Real growth (%)	6.3	5.1	4.5	6.7	7.1	6.0	5.4	5.3	0.4	0.8
CPI (period average, %)	4.2	5.3	5.0	4.1	4.6	6.1	5.3	5.0	0.0	0.0
Revenues and grants (% GDP)	25.5	30.2	30.4	25.3	26.0	25.8	25.7	25.1	-4.6	-5.3
Grants (% GDP)	1.1	1.4	1.2	1.3	1.2	1.2	1.4	1.2	0.0	0.0
Primary expenditure (% GDP)	31.5	31.6	32.3	31.4	30.0	29.8	28.9	27.8	-2.8	-4.5
Net acquisition of non-financial assets (% GDP)	8.9	6.6	6.6	8.9	7.0	7.3	6.9	6.0	0.3	-0.6
Primary deficit (% GDP)	-6.0	-1.4	-1.9	-6.1	-4.0	-3.9	-3.2	-2.6	-1.8	-0.7
Net incurrence of liabilities (% GDP)	6.0	2.8	3.4	2.9	6.3	6.1	4.9	4.7	2.1	1.3
Net domestic financing (% GDP)	3.6	0.4	0.5	0.4	4.2	3.7	3.4	3.9	2.9	3.4
Exports of G&S (y/y growth)	14.4	9.1	7.9	14.4	2.5	7.7	9.9	9.3	0.8	1.4
Imports of G&S (y/y growth)	25.6	5.0	5.2	25.6	5.6	3.3	6.7	6.7	1.6	1.5
Remittances (y/y growth)	10.2	5.6	3.9	10.2	7.6	8.1	5.0	5.0	-0.5	1.1
Current account balance (% GDP)	-8.2	-7.2	-2.3	-8.1	-7.7	-5.2	-4.7	-3.6	2.5	-1.3

Note: MT (medium term) is the average over the next 5 years (2020/21-2024/25), and LT (long term) is the average over the following 7-20 years.
Sources: Nepalese authorities; and IMF staff estimates
1/ Nepal's fiscal year starts in mid-July. For example, FY2019/20 runs from mid-July 2019 to mid-July 2020.

8. External sector: The current account deficit was still high at 7.7 percent of GDP in FY2018/19 owing to continued strong import growth. Export and foreign direct investment were still weak, with remittances (a quarter of GDP) helping to finance the large trade deficit. Gross official reserves have fallen to US$8.5 billion in July 2019, from US$ 9.3 billion at the end of previous fiscal year. However, the large current account deficit in FY2018/19 did not lead to a commensurate increase in external debt or decline in reserves, due to large positive net errors and omissions in the balance of payments (2.7 percent of GDP in FY2018/19). The current account deficit is projected to narrow over the medium-term with slowing import demand. External debt is expected to decrease gradually over the projection period, to 18.5 percent of GDP at mid-2020 and 12 percent of GDP by mid-2040.

9. **Fiscal**: The primary fiscal deficit outturn of the central government in FY2018/19 decreased to 4.0 percent of GDP from 6.1 percent of GDP in the previous year. Even though the FY2019/20 budget again targets an ambitious increase in spending, the primary fiscal deficit is projected at 3.9 percent of GDP in FY2019/20, taking into account spending capacity constraints. Over the medium-term, it is projected to decrease to 3.2 percent of GDP.

10. **Domestic debt**: The Nepalese government is expected to gradually increase domestic borrowing to meet its fiscal deficit. Domestic borrowing is expected to reach 4 percent of GDP annually, and the domestic debt stock is projected to increase from 13 percent to 35½ percent of GDP over the long-term, while external debt stock is projected to decrease to 11 percent of GDP over the projection period.

11. **Realism of baseline (figure 4)**: Cross country experience suggests that the baseline fiscal adjustment of Nepal (0.5 percentage point in 3 years) is feasible. Using alternative fiscal multipliers, growth would be higher than in the baseline scenario. Finally, contribution of public capital to GDP growth in the baseline projection is in line with historical experiences.

COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

12. **Country classification**: In the revised debt sustainability framework (LIC-DSF), a composite indicator (CI) is used to capture the different factors affecting a country's debt carrying capacity. The CI captures the impacts of the different factors through 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[1]. The calculation of the CI is based on 10-year averages of the variables, across 5 years of historical data and 5 years of projection. Nepal's CI score is calculated at 3.28, calculated based on the October 2019 World Economic Outlook and 2018 CPIA

Nepal: Debt Carrying Capacity and Thresholds

Debt Carrying Capacity		
Final	based on the current vintage	based on the previous
Strong	Strong 3.28	Strong 3.26

Application thresholds	
External debt burden thresholds	
PV of debt in % of	
Exports	240
GDP	55
Debt service in % of	
Exports	21
Revenue	23
Total public debt benchmark	
PV of total public debt in % of GDP	70

[1] The details on the methodology can be found in the new LIC-DSF guidance note: https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/02/14/pp122617guidance-note-on-lic-dsf

index, which lies in a range of *strong* rating, the same as last year.

13. Tailored stress tests: The revised LIC-DSF includes stress tests to assess the sensitivity of projected debt burden indicators to changes in assumptions. In this analysis, all stress tests were kept at their default settings (historical average minus one standard deviation, or the baseline projection minus one standard deviation, whichever is lower) with additionally including tailored scenario stress test for Nepal. In order to reflect Nepal's vulnerability to natural disasters, such as the 2015 earthquakes, the 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 (FY2020/21) is assumed, and real GDP growth and exports were lowered by 1.5 and 3.5 percent, respectively, in the year of the shock for the stress test.

EXTERNAL AND PUBLIC SUSTAINABILITY

14. The external DSA shows that Nepal is at low risk of debt distress. Under the baseline scenario, the PV of external debt and debt service ratios are projected not to breach their respective thresholds and to remain stable over the projection period, even with the assumption of growing private external debt to 1 percent of GDP over the projection years. In the stress tests, the debt and debt service ratios also remain below the thresholds throughout the projection period.

15. Stress tests suggest vulnerability to export shock. The export shock is identified as the most extreme one, leading to a rise of the ratios larger than for other shocks, such as real GDP growth, fiscal primary balance, current transfers/FDI flows, national currency depreciation, and natural disaster. Under the export shock scenario, the PV of public external debt-to-export ratio would increase to 213 percent at mid-2022, which is not far below the threshold value (240 percent), but stabilize onwards.

16. The risk of public debt (external + domestic) distress is also low. Public debt is projected to gradually increase from 30 percent of GDP at July 2018/19 to around 46 percent of GDP in FY2039/40 under the baseline scenario. The PV of the debt-to-GDP ratio is analyzed to remain stable at 38 percent of GDP over the projection period, which is well below the 70 percent benchmark. Debt service-to revenue ratio is projected to rise over the projection period to 36 percent, owing to increasing domestic borrowing, but to remain below 40 percent in 2029/30.

17. Public debt is most vulnerable to a growth shock. A growth shock (one standard deviation in 2020/21 from the baseline) would lead to a rise of the PV of debt-to-GDP ratio to 55 percent in 2029/30. Debt service-to-revenue ratio is also affected most by a growth shock, which is calculated at around 53 percent in 2029/30.

VIEWS OF THE AUTHORITIES

18. The authorities broadly agreed with the assessment of the DSA. They stressed that Nepal's public debt risk has been reduced over the past decade thanks to the government's effective management of public finances. In addition, in the context of fiscal federalism, the authorities have been taking steps to enhance public debt management. The new Public Debt Management bill was submitted to the Parliament and the Public Debt Management Office (PDMO) was established in FY 2018/19 to manage Nepal's public debt in an integrated manner. The PDMO will prepare guidelines to support subnational governments in their appropriate management of borrowings and debts. While the authorities concurred with the team's projection that the share of domestic financing out of total government financing would increase over time, they stressed that the size of domestic financing could be further increased with the continued growth of Nepal's economy.

CONCLUSION

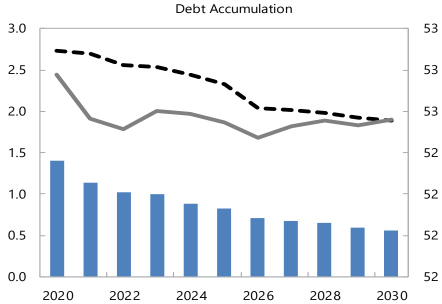
19. Nepal remains at low risk of external and overall debt distress. Both in the baseline scenario and in the stress tests, none of debt burden indicators breach the indicative threshold values. However, baseline projections and the standard stress tests show increasing risks for the projection period. Nepal's public debt is projected to gradually increase over the medium-term owing to continuing fiscal and current account deficits. Stress tests indicate that Nepal's debt sustainability remains vulnerable to shocks to exports and economic growth. To build up Nepal's resilience to these shocks, the Nepalese authorities should continue to make efforts to improve the domestic productivity and competitiveness through stepping up quality investment in infrastructure, as well as streamlining regulations and bureaucratic processes. It is also important to pursue rigorous analysis of the risks related to contingent liabilities. Closing the data gap by compiling PPP projects and private sector external debt would help future debt sustainability analysis. The authorities will also need to make significant progress in implementing a medium-term debt strategy and developing the government bond market to facilitate greater domestic financing. Finally, improvements are needed in subnational governments' public financial management and reporting, along with the implementation of a prudent framework for subnational borrowing.

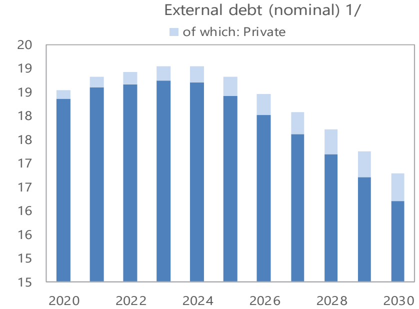
Table 1. Nepal: External Debt Sustainability Framework, Baseline Scenario, 2017-2040

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 8/	
	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
External debt (nominal) 1/	17.1	18.5	18.8	18.9	19.0	19.0	18.8	16.8	11.8	18.7	18.3
of which: public and publicly guaranteed (PPG)	17.0	18.3	18.6	18.7	18.7	18.7	18.4	16.2	10.8	18.7	17.9
Change in external debt	-0.2	1.4	0.3	0.1	0.1	0.0	-0.2	-0.5	-0.6		
Identified net debt-creating flows	6.4	3.8	3.5	3.4	3.3	3.1	2.9	1.9	1.6	-2.6	2.9
Non-interest current account deficit	7.6	5.0	4.8	4.7	4.6	4.4	4.2	3.4	2.8	-0.6	4.2
Deficit in balance of goods and services	37.5	34.6	33.4	32.4	31.5	30.6	29.6	25.2	14.2	29.8	29.7
Exports	8.7	8.4	8.4	8.5	8.6	8.6	8.7	8.8	9.1		
Imports	46.2	42.9	41.8	40.9	40.1	39.2	38.3	34.0	23.3		
Net current transfers (negative = inflow)	-28.7	-28.2	-27.3	-26.4	-25.6	-24.9	-24.0	-20.5	-15.3	-29.2	-24.1
of which: official	-1.0	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1		
Other current account flows (negative = net inflow)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	4.0	-1.2	-1.3
Net FDI (negative = inflow)	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.7	-0.7	-0.4	-0.6
Endogenous debt dynamics 2/	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.7	-0.5		
Contribution from nominal interest rate	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1		
Contribution from real GDP growth	-1.2	-0.9	-1.0	-0.9	-0.9	-0.9	-0.9	-0.8	-0.6		
Contribution from price and exchange rate changes	0.2	...	...	...	...	...	...	...	...		
Residual 3/	-6.6	-2.4	-3.2	-3.3	-3.2	-3.1	-3.1	-2.4	-2.3	1.4	-2.9
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	12.2	12.2	12.2	12.1	12.0	11.9	11.6	10.0	6.7		
PV of PPG external debt-to-exports ratio	140.6	145.6	144.5	142.5	140.2	137.4	133.8	113.6	73.4		
PPG debt service-to-exports ratio	8.0	7.9	7.5	7.4	7.5	7.8	7.4	6.5	4.4		
PPG debt service-to-revenue ratio	2.8	2.7	2.6	2.6	2.7	2.8	2.6	2.4	1.7		
Gross external financing need (Million of U.S. dollars)	2427.8	1829.9	1908.9	2058.8	2228.8	2354.2	2449.2	3038.8	6619.7		
Key macroeconomic assumptions											
Real GDP growth (in percent)	7.1	6.0	5.7	5.5	5.4	5.3	5.3	5.3	5.3	4.9	5.4
GDP deflator in US dollar terms (change in percent)	-1.3	4.8	3.8	3.6	3.4	3.2	3.8	3.5	3.5	4.3	3.6
Effective interest rate (percent) 4/	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.3	0.9	0.9
Growth of exports of G&S (US dollar terms, in percent)	2.5	7.7	10.2	9.9	10.0	9.5	9.9	9.3	9.4	5.8	9.4
Growth of imports of G&S (US dollar terms, in percent)	5.6	3.3	6.8	6.8	6.8	6.5	6.6	6.4	6.6	12.9	6.3
Grant element of new public sector borrowing (in percent)	...	52.6	52.5	52.5	52.6	52.5	52.5	52.5	52.4	...	52.5
Government revenues (excluding grants, in percent of GDP)	24.8	24.6	24.5	24.4	24.1	24.2	24.1	24.0	24.1	19.3	24.2
Aid flows (in Million of US dollars) 5/	368.3	933.8	1012.9	1050.0	1131.6	1185.1	1237.3	1537.4	2898.6		
Grant-equivalent financing (in percent of GDP) 6/	...	2.7	2.7	2.6	2.5	2.4	2.3	1.9	1.5	...	2.3
Grant-equivalent financing (in percent of external financing) 6/	...	66.5	70.8	71.7	71.7	72.3	73.2	75.3	84.6	...	72.4
Nominal GDP (Million of US dollars)	30690.3	34080.9	37381.9	40846.7	44498.5	48374.3	52868.1	81362.5	192701.7		
Nominal dollar GDP growth	5.7	11.0	9.7	9.3	8.9	8.7	9.3	9.0	9.0	9.4	9.3
Memorandum items:											
PV of external debt 7/	12.3	12.4	12.4	12.3	12.3	12.2	12.0	10.6	7.7		
In percent of exports	142.3	147.8	147.2	145.7	143.8	141.5	138.3	120.3	84.4		
Total external debt service-to-exports ratio	8.0	9.6	9.6	10.0	10.6	11.3	11.3	12.6	14.6		
PV of PPG external debt (in Million of US dollars)	3734.3	4163.6	4551.6	4934.0	5339.7	5734.3	6133.9	8136.4	12851.1		
(PVt-PVt-1)/GDPt-1 (in percent)		1.4	1.1	1.0	1.0	0.9	0.8	0.6	0.2		
Non-interest current account deficit that stabilizes debt ratio	7.8	3.6	4.5	4.6	4.5	4.4	4.5	3.8	3.5		

Definition of external/domestic debt	**Currency-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)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.
3/ Includes exceptional financing (ie. 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.
The residuals in this table are mainly related to reserve drawdown and net errors and omissions. For example, there were reserve drawdown of 4.2% of GDP and positive net E&Os of 2.7% of GDP in FY2018/19.
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.

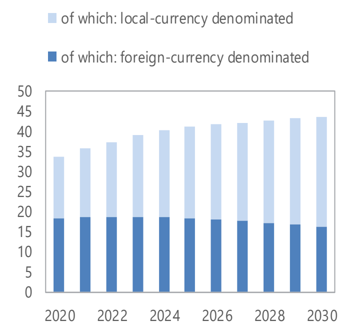
Table 2. Nepal: Public Sector Debt Sustainability Framework, Baseline Scenario, 2017-2040

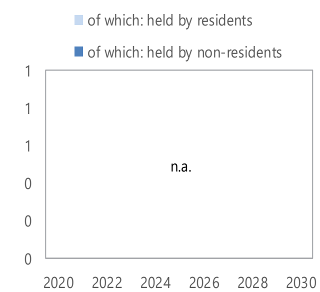
(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 6/	
	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
Public sector debt 1/	30.1	33.7	35.7	37.4	39.0	40.3	41.1	43.6	46.3	30.6	40.1
of which: external debt	17.0	18.3	18.6	18.7	18.7	18.7	18.4	16.2	10.8	18.7	17.9
	13.1	15.4	17.1	18.8	20.3	21.6	22.6	27.4	35.5		
Change in public sector debt	-0.2	3.6	2.0	1.7	1.6	1.3	0.8	0.4	0.0		
Identified debt-creating flows	0.8	1.8	1.4	1.1	0.9	0.6	0.2	-0.1	-0.5	-2.0	0.5
Primary deficit	4.0	3.9	3.7	3.4	3.3	3.0	2.8	2.6	2.5	0.5	3.0
Revenue and grants	26.0	25.8	26.0	25.8	25.5	25.6	25.5	25.2	25.3	21.3	25.5
of which: grants	1.2	1.2	1.5	1.4	1.4	1.4	1.4	1.2	1.2		
Primary (noninterest) expenditure	30.0	29.8	29.7	29.2	28.9	28.6	28.3	27.8	27.7	21.9	28.5
Automatic debt dynamics	-3.2	-2.1	-2.3	-2.4	-2.4	-2.4	-2.6	-2.7	-3.0		
Contribution from interest rate/growth differential	-2.5	-2.1	-2.3	-2.4	-2.4	-2.4	-2.6	-2.7	-3.0		
of which: contribution from average real interest rate	-0.5	-0.4	-0.5	-0.5	-0.5	-0.4	-0.6	-0.6	-0.6		
of which: contribution from real GDP growth	-2.0	-1.7	-1.8	-1.9	-1.9	-2.0	-2.0	-2.2	-2.3		
Contribution from real exchange rate depreciation	-0.7	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Residual 7/	-0.9	1.8	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.9	0.7
Sustainability indicators											
PV of public debt-to-GDP ratio 2/	24.9	27.8	29.5	31.0	32.4	33.6	34.4	37.6	42.3		
PV of public debt-to-revenue and grants ratio	95.7	107.4	113.4	120.2	126.9	131.3	134.8	149.1	167.4		
Debt service-to-revenue and grants ratio 3/	24.4	26.3	21.6	22.4	25.0	27.9	30.4	35.8	45.4		
Gross financing need 4/	10.3	10.7	9.3	9.2	9.7	10.1	10.6	11.6	13.9		
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	7.1	6.0	5.7	5.5	5.4	5.3	5.3	5.3	5.3	4.9	5.4
Average nominal interest rate on external debt (in percent)	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.8
Average real interest rate on domestic debt (in percent)	-2.6	-1.9	-1.8	-1.7	-1.5	-1.2	-1.8	-1.5	-1.5	-3.2	-1.6
Real exchange rate depreciation (in percent, + indicates depreciation)	-4.7	...	...	...	...	...	...	...	...	-2.2	...
Inflation rate (GDP deflator, in percent)	6.8	6.0	5.9	5.8	5.6	5.3	5.9	5.6	5.6	8.1	5.7
Growth of real primary spending (deflated by GDP deflator, in percent)	2.2	5.2	5.4	3.8	4.1	4.2	4.5	5.3	5.3	10.6	4.7
Primary deficit that stabilizes the debt-to-GDP ratio 5/	4.1	0.3	1.7	1.7	1.7	1.7	2.0	2.2	2.5	3.5	1.8
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	**Currency-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 central, state, and local governments plus extra budgetary funds, central bank, government-guaranteed debt, non-guaranteed SOE debt . Definition of external debt is Currency-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.

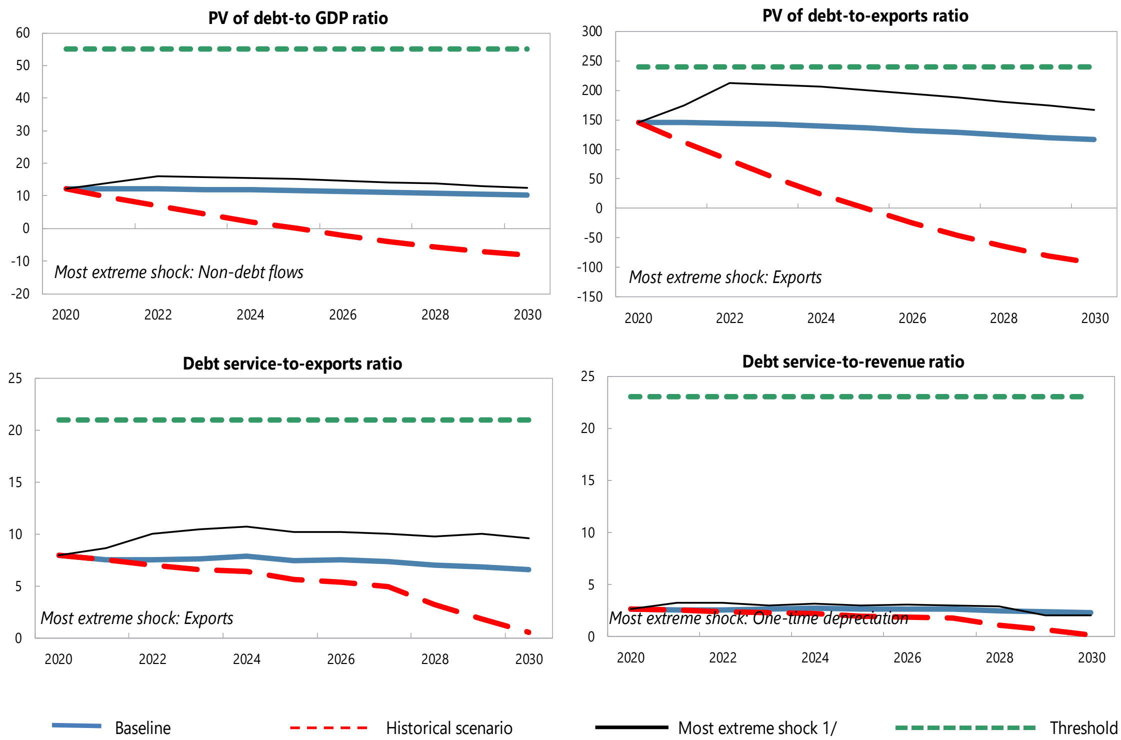
4/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period and other debt creating/reducing flows.

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.

7/ The residuals in this table are mainly related to net acquisition of financial assets. For example, the projection of net acquisition of financial assets in FY2019/20 is 1.6% of GDP.

Figure 1. Nepal: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2020-2030



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.

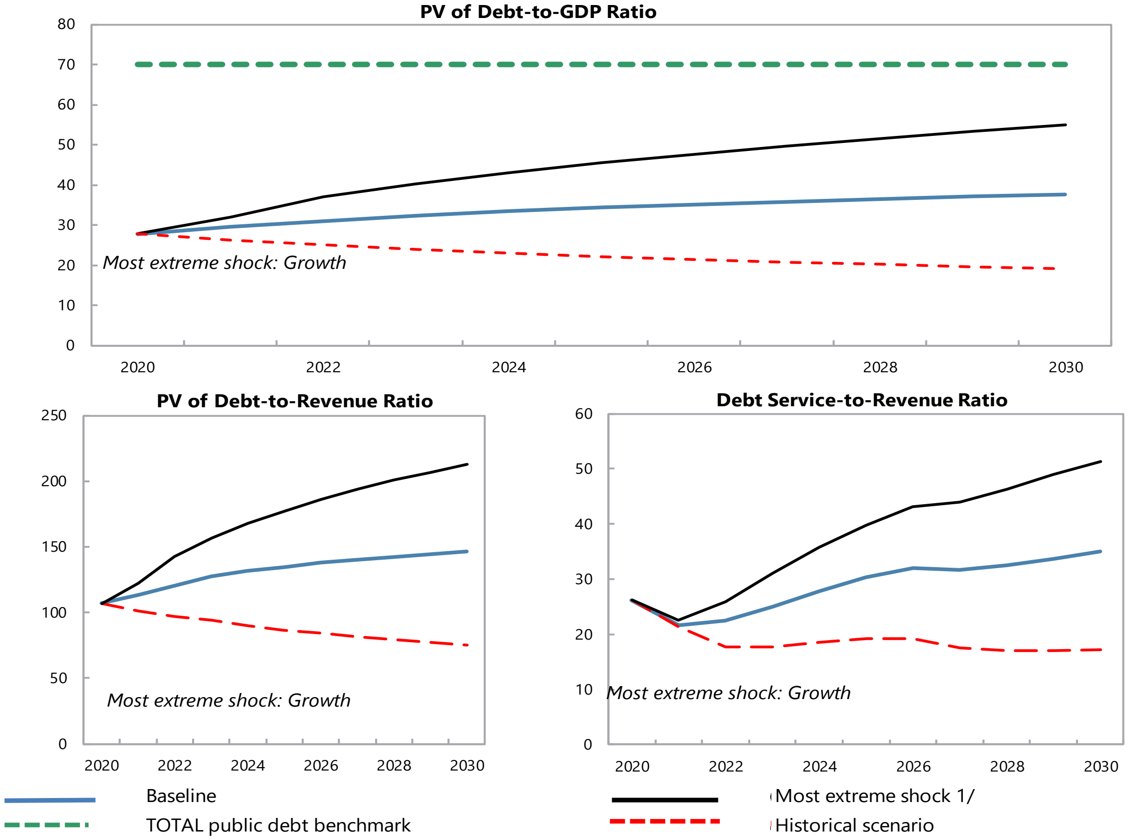
Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

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	0.9%	0.9%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	37	37
Avg. grace period	6	6

* 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 2030. 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.
2/ The magnitude of shocks used for the commodity price shock stress test are based on the commodity prices outlook prepared by the IMF research department.

Figure 2. Nepal: Indicators of Public Debt Under Alternative Scenarios, 2020-2030



Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	17%	17%
Domestic medium and long-term	56%	56%
Domestic short-term	27%	27%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	0.9%	0.9%
Avg. maturity (incl. grace period)	37	37
Avg. grace period	6	6
Domestic MLT debt		
Avg. real interest rate on new borrowing	-1.7%	-1.7%
Avg. maturity (incl. grace period)	7	7
Avg. grace period	0	0
Domestic short-term debt		
Avg. real interest rate	-1.7%	-1.7%

* 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.

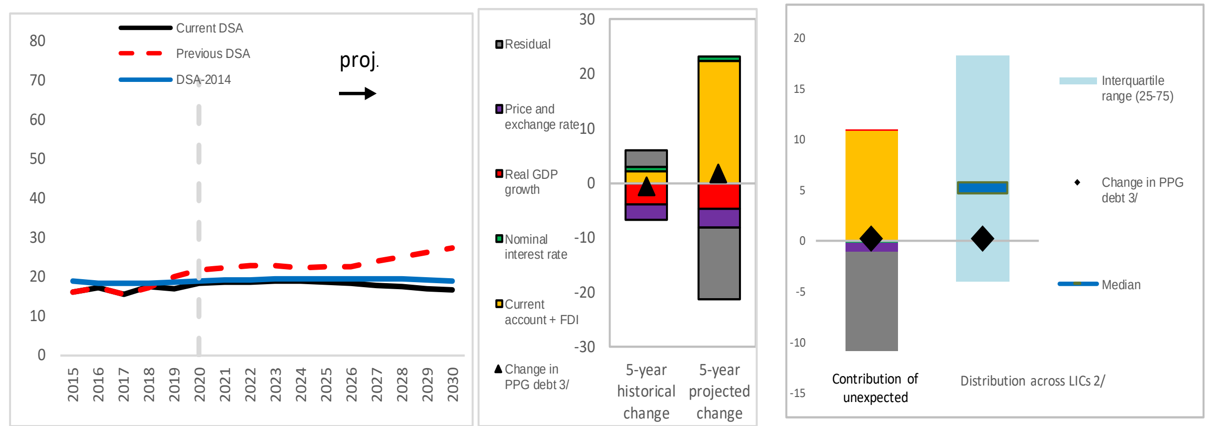
Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2030. 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

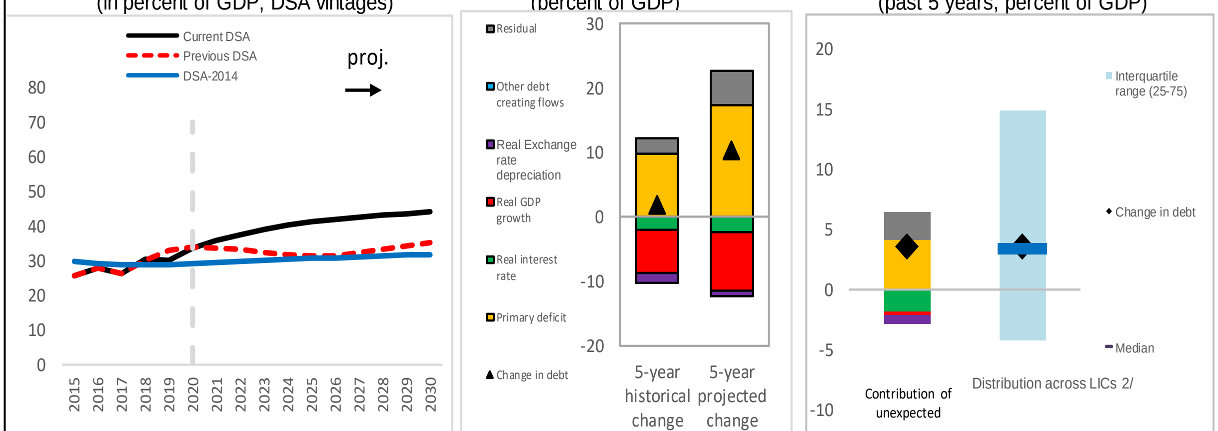
External debt

Gross Nominal PPG External Debt (in percent of GDP; DSA vintages) | Debt-creating flows (percent of GDP) | Unexpected Changes in Debt 1/ (past 5 years, percent of GDP)



Public debt

Gross Nominal Public Debt (in percent of GDP; DSA vintages) | Debt-creating flows (percent of GDP) | Unexpected Changes in Debt 1/ (past 5 years, percent of GDP)



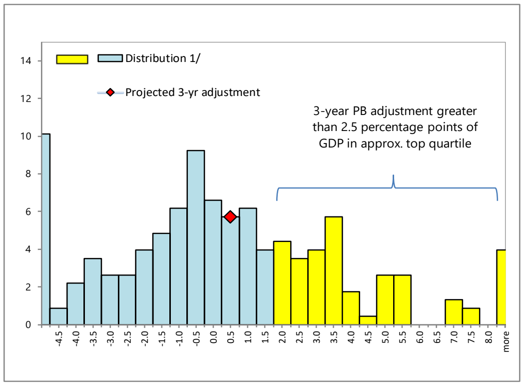
1/ Difference between anticipated and actual contributions on debt ratios.

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.

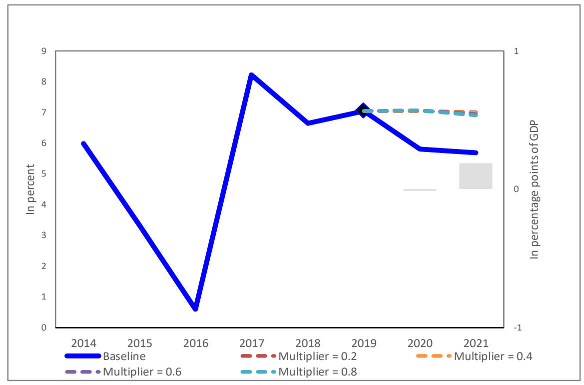
Figure 4. Nepal: Realism tools

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



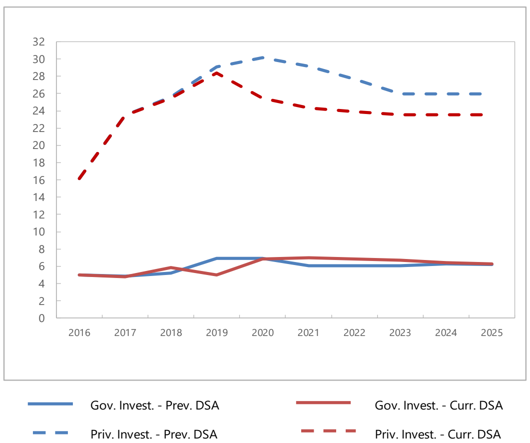
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

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)

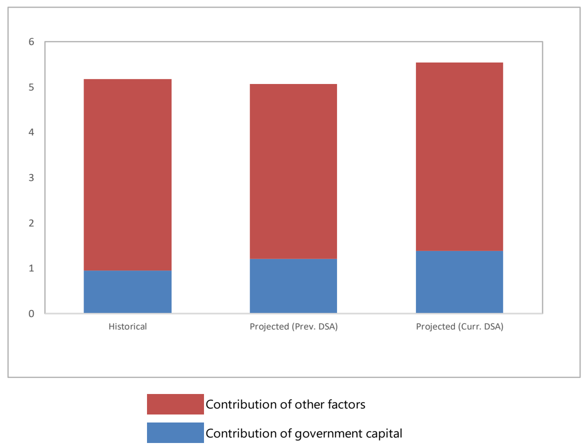


Table 3. Nepal: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2020-2030

(In percent)

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of debt-to GDP ratio											
Baseline	12	12	12	12	12	12	11	11	11	10	10
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	12	10	7	5	3	0	-2	-3	-5	-6	-7
B. Bound Tests											
B1. Real GDP growth	12	13	13	13	13	13	12	12	12	11	11
B2. Primary balance	12	12	13	13	13	12	12	12	11	11	11
B3. Exports	12	13	14	14	13	13	13	12	12	11	11
B4. Other flows 3/	12	14	16	16	15	15	15	14	14	13	12
B5. Depreciation	12	15	10	10	10	10	10	10	10	9	9
B6. Combination of B1-B5	12	15	16	16	15	15	15	14	14	13	12
C. Tailored Tests											
C1. Combined contingent liabilities	12	13	13	13	13	13	13	12	12	12	11
C2. Natural disaster	12	13	13	13	13	13	13	13	13	12	12
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	146	144	143	140	137	134	130	126	122	118	114
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	146	114	84	56	30	6	-18	-38	-56	-71	-83
B. Bound Tests											
B1. Real GDP growth	146	144	143	140	137	134	130	126	122	118	114
B2. Primary balance	146	147	149	147	145	142	138	135	131	127	123
B3. Exports	146	174	213	209	204	198	192	186	179	172	165
B4. Other flows 3/	146	168	189	184	179	173	167	162	155	148	141
B5. Depreciation	146	144	95	95	94	93	91	89	87	86	85
B6. Combination of B1-B5	146	187	170	198	193	188	181	175	169	161	154
C. Tailored Tests											
C1. Combined contingent liabilities	146	153	154	152	150	147	144	140	137	133	129
C2. Natural disaster	146	159	160	160	158	155	153	150	147	143	139
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	8	7	7	8	8	7	7	7	7	7	7
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	8	8	7	7	6	6	5	5	3	2	1
B. Bound Tests											
B1. Real GDP growth	8	7	7	8	8	7	7	7	7	7	7
B2. Primary balance	8	7	7	8	8	7	8	7	7	7	7
B3. Exports	8	9	10	10	11	10	10	10	10	10	10
B4. Other flows 3/	8	7	8	8	8	8	8	8	8	9	8
B5. Depreciation	8	7	7	7	7	7	7	7	6	5	5
B6. Combination of B1-B5	8	8	9	10	10	9	9	9	10	9	9
C. Tailored Tests											
C1. Combined contingent liabilities	8	7	8	8	8	8	8	8	7	7	7
C2. Natural disaster	8	8	8	8	8	8	8	8	7	7	7
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	3	3	3	3	3	3	3	3	2	2
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	3	3	2	2	2	2	2	2	1	1	0
B. Bound Tests											
B1. Real GDP growth	3	3	3	3	3	3	3	3	3	3	3
B2. Primary balance	3	3	3	3	3	3	3	3	3	3	3
B3. Exports	3	3	3	3	3	3	3	3	3	3	3
B4. Other flows 3/	3	3	3	3	3	3	3	3	3	3	3
B5. Depreciation	3	3	3	3	3	3	3	3	3	2	2
B6. Combination of B1-B5	3	3	3	3	3	3	3	3	3	3	3
C. Tailored Tests											
C1. Combined contingent liabilities	3	3	3	3	3	3	3	3	3	3	2
C2. Natural disaster	3	3	3	3	3	3	3	3	3	3	3
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 , 2020-2030

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of Debt-to-GDP Ratio											
Baseline	28	29	31	32	34	34	35	36	36	37	38
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	28	26	25	24	23	22	22	21	20	20	19
B. Bound Tests											
B1. Real GDP growth	28	32	37	40	43	46	48	50	51	53	55
B2. Primary balance	28	32	36	37	38	38	39	39	39	40	40
B3. Exports	28	30	33	34	35	36	36	37	38	38	39
B4. Other flows 3/	28	32	35	36	37	38	38	39	39	40	40
B5. Depreciation	28	31	30	30	31	30	30	30	30	30	30
B6. Combination of B1-B5	28	30	32	33	34	34	35	36	36	37	37
C. Tailored Tests											
C1. Combined contingent liabilities	28	38	39	39	40	40	40	41	41	41	41
C2. Natural disaster	28	39	40	41	42	43	43	43	44	44	45
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	107	113	120	127	131	135	139	141	144	147	149
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	107	101	97	94	90	88	86	83	81	80	78
B. Bound Tests											
B1. Real GDP growth	107	122	142	157	168	177	187	195	203	210	216
B2. Primary balance	107	123	139	145	148	150	153	154	156	158	159
B3. Exports	107	116	126	133	137	140	144	146	149	151	153
B4. Other flows 3/	107	121	136	142	146	148	152	154	156	157	159
B5. Depreciation	107	118	116	119	120	120	120	120	119	119	119
B6. Combination of B1-B5	107	117	125	129	132	135	138	141	143	145	147
C. Tailored Tests											
C1. Combined contingent liabilities	107	145	149	154	156	158	160	161	162	163	164
C2. Natural disaster	107	151	156	162	165	167	170	172	173	175	177
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	26	22	22	25	28	30	32	32	33	34	36
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	26	21	18	18	19	19	20	18	18	18	18
B. Bound Tests											
B1. Real GDP growth	26	23	26	31	36	40	44	45	47	50	52
B2. Primary balance	26	22	26	31	32	34	36	36	37	38	38
B3. Exports	26	22	22	25	28	31	32	32	33	35	36
B4. Other flows 3/	26	22	22	25	28	31	33	32	33	35	37
B5. Depreciation	26	20	22	22	26	28	30	30	30	32	33
B6. Combination of B1-B5	26	21	22	26	28	31	32	32	33	34	36
C. Tailored Tests											
C1. Combined contingent liabilities	26	22	34	32	34	36	38	38	39	39	39
C2. Natural disaster	26	22	36	34	36	38	40	40	41	42	42
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.