INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL MONETARY FUND

NEPAL

Joint World Bank-IMF Debt Sustainability Analysis

February 2019

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

and the International Monetary Fund (IMF)

Approved by Lalita Moorty (IDA) and Kenneth Kang 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

Nepal's risk of external debt distress remains low. Under the revised IMF/World Bank Debt Sustainability Analysis Framework for Low Income Countries (LIC-DSF), all debt and debt service ratios are projected to remain below relevant indicative threshold values. Following a prolonged decline, to 25 percent of GDP in mid-2015, the sum of external and domestic public debt rose to 30 percent of GDP in mid-2018. A further rise in total public debt is projected, to about 35 percent of GDP in the medium term and about 48 percent of GDP in the long term, owing to continuing fiscal and current account deficits, as the authorities implement fiscal federalism and aim to put the economy on a higher growth path. Stress tests suggest that debt burden indicators are vulnerable to growth/exports shocks and natural disasters. This underscores the importance of implementing sound macro-economic policies. Efforts to improve the business climate and competitiveness through high-quality public investment and structural reforms would support growth and expand foreign exchange income streams.

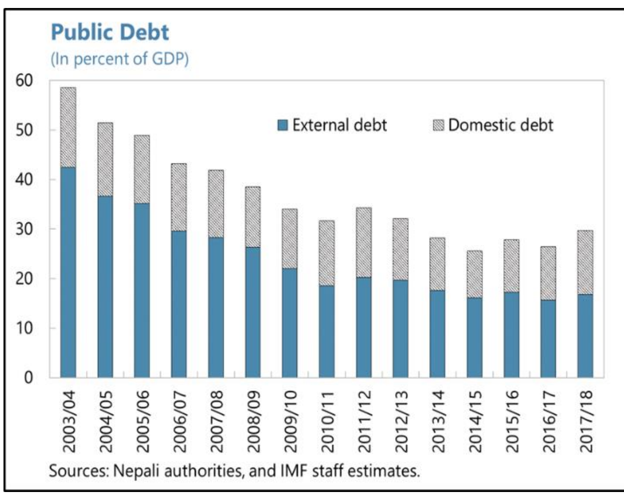
PUBLIC DEBT COVERAGE

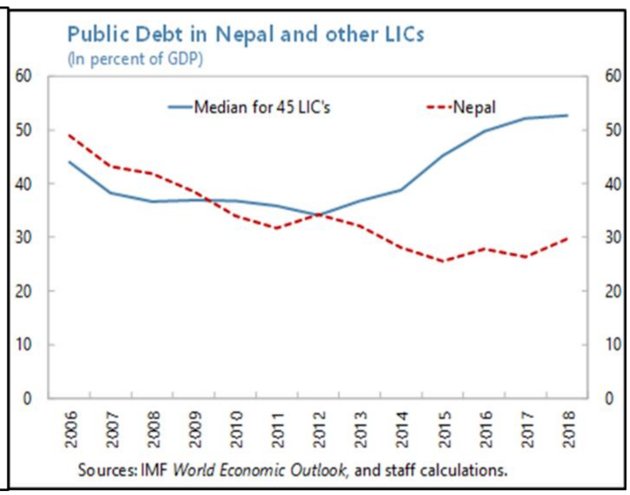
1. **Public debt in this analysis includes the central government's external and domestic debts.** As of mid-July 2018, Nepal's state and local governments had no debt and the government has not provided any guarantees for debts of state-owned enterprises (SOEs). Furthermore, Nepal's SOEs had no debt except for funds on-lent to them by the central government (4 percent of GDP in July 2018), which is already included in central government debt. 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.

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

BACKGROUND ON DEBT

2. **As a result of expansionary policies, public debt rose to 30 percent of GDP by mid-2018.** The recent rise in the public debt ratio followed a prolonged decline, to 25 percent of GDP in mid-2015. However, even with the recent rise, Nepal's public debt remains low compared to other low-income countries. The mid-2018 public debt ratio considerably exceeds what was projected in the previous DSA (23 percent of GDP). This reflects the assumed limited scaling up of capital spending due to weak implementation capacity as well as the assumption that the government would finance part of the higher spending by drawing on deposits at the central bank (about 5 percent of GDP in mid-2016). However, these deposits remain substantial (NR 126 billion in mid-2018, equivalent to 4.2 percent of GDP).





3. External public debt amounted to US$4.8 billion (17.4 percent of GDP) by mid-2018. Because of the high degree of concessionality, the net present value (PV) of the external debt is estimated at about 13.2 percent of GDP. The bulk of Nepal's external debt was owed to multilateral creditors, (e.g., the Asian Development Bank and the World Bank), whose loans had low interest rates (1 percent on average) and long maturities (26 years on average). Japan was the largest bilateral creditor, followed by China, Korea and India.

Nepal: External Public Debt, at end FY2017/18 1/

	In millions of US$s	In percent of GDP	In percent of external debt
Total external	4,781	17.4%	100%
Multilateral	4,297	15.7%	90%
AsDB	1,960	7.1%	41%
IDA	2,160	7.9%	45%
Bilateral	484	1.8%	10%
Paris Club	277	1.0%	6%
non-Paris Club	207	0.8%	4%

Source: Nepalese authorities; and IMF staff estimates.
1/ Nepal's fiscal year starts in mid-July. For example, FY2017/18 covers mid-July 2017 to mid-July 2018.

4. Domestic public debt amounted to 13 percent of GDP by mid-2018. About 40 percent of this is treasury bills with a maturity of up to 1 year (91-day, 182-day, and 364-day treasury bills with broadly similar total outstanding amounts). 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.

Nepal: Public Domestic Debt, at end FY2017/18

	In billions of Nepalese rupees	In percent of GDP	In percent of domestic debt
Total domestic	391	13.0%	100%
Treasury bills	156	5.2%	40%
Treasury bonds	235	7.8%	60%
Development bonds	232	7.7%	59%
Others	3	0.1%	1%

Sources: Nepalese authorities; and IMF staff estimates.

5. No official data is available on signed PPP contracts and private external debt[1]. Accordingly, for this debt sustainability analysis, the default magnitude of the contingent liability stress test is used, amounting to 6.8 percent of GDP, which is broken down into PPP projects (1.8 percent of GDP[2]) and financial market (5 percent of GDP).

- Until recently, the Nepal Oil Corporation (NOC) and the Nepal Electricity Authority (NEA) were the two largest loss-making SOEs of Nepal. However, price adjustments of electricity and petroleum products, alongside improvements in the management of

		Default	Used for the analysis	Reasons for deviations from the default settings
1	The country's coverage of public debt	The entire public sector, including SOEs		
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	0	
4	PPP	35 percent of PPP stock	1.84	
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)		6.8	

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.). Since 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, the country team reduces this to 0%.

these SOEs have improved the financial results of these SOEs. As of July-2018, the

[1] However, according to the World Bank's PPI database, PPP contracts worth about 5.3 percent of GDP had been signed as of 2015.

[2] 1.8 percent of GDP = 5.3 percent of GDP (PPP contracts as of 2015) * 35 percent of shock (default setting).

NOC and NEA's debt amounted to about 4 percent of GDP. Their debts are all owed to the government.

- According to the 2014 IMF TA mission on "Reform Options for Public Sector Pension", civil service pension liabilities, which are not included in the debt stock, remain modest and are projected to remain stable over the next decade under the present public pension scheme. Increasing liabilities could be addressed through relevant reforms.

BACKGROUND ON MACRO FORECASTS

6. Growth and inflation: After the sharp slowdown following the 2015 earthquakes and trade disruption, the Nepalese economy has recovered considerably. The economy expanded by 7.9 percent in 2016/17 and 6.3 percent in FY2017/18, aided by reconstruction activity and strong growth of the services sector. Under staff's baseline scenario, which reflects the authorities' established policies, elevated near-term growth (6.5 percent in FY2018/19 and 6.3 percent in FY2019/20) puts substantial pressure on the domestic economy and the current account, implying a need for a marked slowdown later to avoid a balance-of-payments shortfall (Text Table 1). A substantial fiscal deficit over the next two years—most notably driven by a large increase in government spending—and loose credit policy in the pursuit of the authorities' ambitious growth targets (e.g., 8 percent in the FY2018/19 budget), initially lead to a further acceleration of growth. However, the resulting rapid decline in reserves would likely force an abrupt policy tightening from FY2020/21 onward to sustain the exchange rate peg, slowing the expansion of credit, exposing macro- financial risks, and ultimately pushing down growth in the outer years. In the medium-term, growth is expected to average about 5 percent, higher than in the previous DSA by about 1 percentage point, on substantially improved electricity supply after the completion of a large-scale

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

	Previous DSA			Current DSA					Current vs. Previous	
	2016/17	**MT**	**LT**	**16/17**	**17/18**	**18/19**	**MT**	**LT**	**MT**	**LT**
Real growth (%)	5.5	4.0	3.8	7.9	6.3	6.5	5.1	4.5	1.1	0.7
CPI (period average, %)	6.7	6.9	6.5	4.5	4.2	4.9	5.3	5.0	-1.6	-1.5
Revenues and grants (% GDP)	24.1	24.0	24.4	24.4	25.5	29.2	30.3	30.5	6.3	6.1
Grants (% GDP)	1.8	1.8	1.5	1.2	1.1	1.2	1.4	1.2	-0.4	-0.3
Primary expenditure (% GDP)	26.0	25.3	25.4	27.1	31.5	33.5	31.7	33.0	6.4	7.6
Net acquisition of non-financial assets (% GDP)	6.0	5.7	5.5	7.9	8.9	7.4	6.7	7.2	1.0	1.7
Primary deficit (% GDP)	1.8	1.3	1.7	2.8	6.0	4.3	1.4	2.5	0.1	0.8
Net incurrence of liabilities (% GDP)	-0.3	1.3	1.7	3.2	6.0	4.9	2.7	3.7	1.4	2.0
Net domestic financing (% GDP)	1.8	0.8	1.2	1.9	3.6	1.2	0.4	0.6	-0.4	-0.6
Exports of G&S (y/y growth)	14.8	6.8	6.0	6.1	12.3	11.0	9.1	8.0	2.3	2.0
Imports of G&S (y/y growth)	22.3	7.4	6.1	7.5	35.1	16.2	5.5	5.7	-1.9	-0.4
Remittances (y/y growth)	3.4	5.6	6.0	4.8	10.2	17.6	5.8	4.1	0.2	-1.9
Current account balance (% GDP)	-0.3	-1.8	-1.4	-0.4	-8.2	-9.6	-7.2	-3.5	-5.4	-2.1

Note: MT (medium term) is the average over the next 5 years (2019/20-2023/24), 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, FY2018/19 runs from mid-July 2018 to mid-July 2019.

hydropower plant (Upper Tamakoshi) and many other smaller projects. The inflation rate remained stable at 4.2–4.5 percent annually in FY2016/17 and FY2017/18 but is expected to rise to 4.9 percent in FY2018/19 and 6.5 percent in FY2019/20, reflecting strong domestic demand, before easing to 5.3 percent in the medium term.

7. External sector: Until recently, Nepal's large trade deficit was offset by large remittances from overseas workers. However, strong import growth fueled by expansionary macro-economic policies turned the current account balance into a large deficit in FY2017/18 (8.2 percent of GDP) even though remittances have remained resilient (25 percent of GDP in FY2017/18). Export growth has remained sluggish owing to the lack of domestic production facilities and low international competitiveness. In the baseline, the current account deficit is projected to widen this year and next year before policies are tightened from FY2020/21 onwards. The large current account deficit in FY2017/18 did not lead to a commensurate increase in external debt or decline in reserves. This reflects large positive net errors and omissions in the balance of payments (3.8 percent of GDP in FY2017/18). To the extent that these positive net errors and omissions are mainly related to informal transactions not captured in workers' remittances and compensation of employees, Nepal's current account deficit would be over-stated. External borrowing is expected to remain largely concessional. External debt is projected to increase gradually over the projection period, to around 23 percent of GDP by 2020/21 and around 33 percent of GDP by 2038/39.

8. Fiscal: The fiscal policy stance has been expansionary in the last two years. The overall fiscal deficit widened to 6.5 percent of GDP in FY2017/18, due to rising government spending pressure in relation to the rapid transition to fiscal federalism and the expansion of capital spending. Historically, the fiscal balance was at around balanced level, which contributed to the decline in the public debt for the last 10 years. The primary deficit is projected to improve gradually over the medium term. It is projected to be 4.3 percent of GDP in FY2018/19, and to average 1.4 percent of GDP over the medium term.

9. Domestic debt: Public domestic debt is projected to decrease to 10 percent over the medium term and decrease further to 7 percent of GDP in the long term.

10. Realism of the baseline (Figure 4): Cross country experience suggests that the baseline fiscal adjustment of Nepal (4.5 percentage points in 3 years) is rather optimistic as is in the upper quartile of the distribution of past adjustments of the primary fiscal deficit. However, the staffs assess the adjustment to be plausible because of Nepal's track record of low fiscal deficits and surpluses (0.6 percent of primary surplus-to-GDP ratio, 10-year average of 2007–2016). Fiscal multipliers suggest a rather pessimistic growth path compared to the baseline scenario, but the baseline assumes enhanced growth effects from the upcoming completion of large hydro-power plants. 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

11. **Country classification**: The new **debt** sustainability framework for low income countries (LIC-DSA) uses a composite indicator (CI) in capturing 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[3]. 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 to be 3.24, which lies in the range of *strong* rating.

12. **Stress tests**: The new 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 large-scale 2015 earthquakes, the natural disaster shock was applied as one of the stress test. A one-off shock of 10 percentage points of GDP to the debt-to-GDP ratio in the second year (FY2019/20) of the projection period 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.

Nepal: Debt Carrying Capacity and Thresholds

Debt Carrying Capacity		
Final	the current vintage	based on the previous
Strong	Strong 3.24	Strong 3.24

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

EXTERNAL AND PUBLIC SUSTAINABILITY

13. **According to the external DSA, Nepal's risk of external debt distress is low.** In the baseline scenario, the PV of external debt and debt service ratios are projected to remain stable and do not breach their respective thresholds throughout the projection period. Moreover, the debt and debt service ratios also remain below the thresholds in the stress tests.

14. **Nepal's external debt sustainability is projected to be affected mostly by exports**. In the stress tests, the most extreme shock is the combination of all shocks (real GDP growth, primary balance, exports, current transfers/FDI flows and national currency depreciation) at half of the magnitude. Among

[3] 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

the various shocks, the exports shock affects the PV of debt ratios the most. The natural disaster shock is also important for Nepal.

15. The risk of public debt (external + domestic) distress is also low. Public debt is projected to gradually increase from 30 percent of GDP in mid-2018 to 42 percent of GDP in FY2038/39 under the baseline scenario, but to remain below the 70 percent benchmark. The PV of the debt-to-GDP ratio is projected to remain stable below 30 percent of GDP over the projection period, due mainly to the assumed continued concessional nature of external borrowing. The debt service-to-revenue ratio is assessed to be stable over the projection period, and to remain within 10 percent of GDP in 2028/29.

16. Public debt is most vulnerable to a growth shock. A growth shock (1 standard deviation from the baseline) in 2018/19–2019/20 would lead to a rise of the PV of debt-to-GDP ratio to 38 percent of GDP in 2028/29. The debt service-to-revenue ratio would also be affected most by a growth shock, which is calculated to be 14.1 percent in 2028/29.

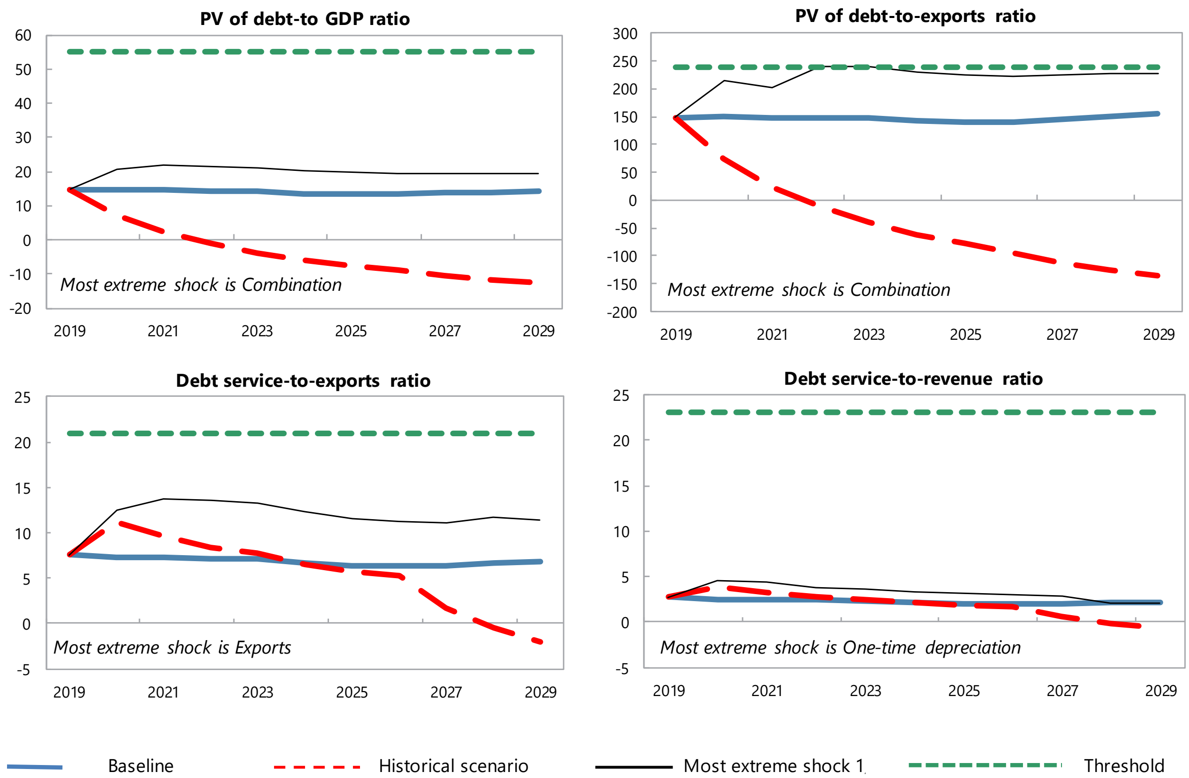
VIEWS OF THE AUTHORITIES

17. The authorities were in broad agreement with the analysis and assessment of DSA. The authorities emphasized that their efforts are mainly focused on achieving the domestic revenue target and mobilizing more concessional external financings, in support of the government objective to achieve higher growth. The authorities also expressed confidence that, even with expansionary macro-economic policies, Nepal would continue to be at a low risk of debt distress.

CONCLUSION

18. Nepal's overall risk of debt distress is low. Both in the baseline scenario and in the stress tests, all debt and debt service indicators remain below the indicative threshold values. On this basis, the staffs assess that Nepal's risk of public debt distress is low. Having said that, key risk factors regarding Nepal's debt sustainability over the projection period are growth and exports shocks, as well as the possible recurrence of natural disasters. The Nepalese government should continue to make efforts to improve domestic productivity through quality public investment in infrastructures and by strengthening natural disaster prevention and preparedness. It is also important to achieve a long-term sustainable growth path by strengthening the macro-economic policy framework and tighten monetary and fiscal policy relative to the expansionary policies of the past two years. Efforts to develop more rigorous analysis on the contingent liabilities should be pursed. Data collection on debts of contingent liabilities from public-private partnerships and external private sector debt would help future debt sustainability analysis. Once the fiscal federalism is fully implemented, it will also be important to compile debt data for state and local governments.

Figure 1. Nepal: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2019–2029



Customization of Default Settings		
	Size	Interactions
Tailored Tests		
Combined CLs	No	
Natural Disasters	No	No
Commodity Prices 2/	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.

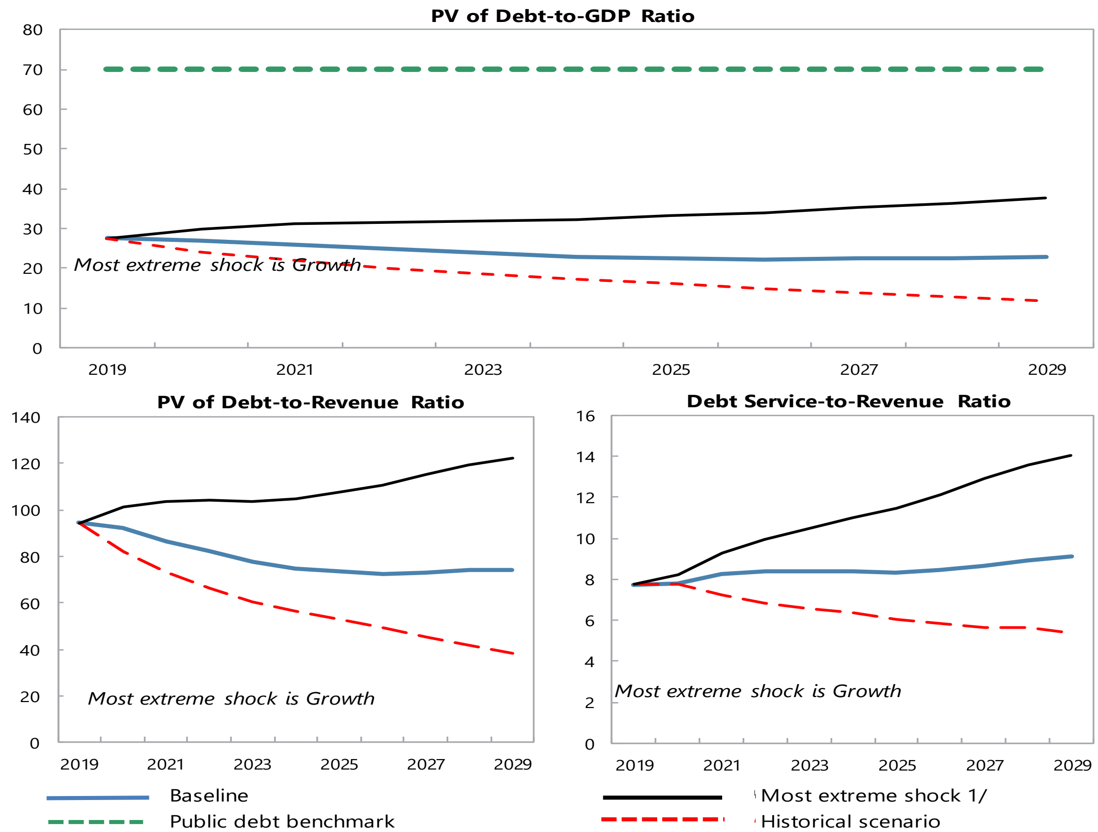
Borrowing Assumptions for Stress Tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	0.9%	0.9%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	34	34
Avg. grace period	6	6

* 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 2029. Stress tests with one-off breaches are also presented (if any), while these one-off breaches are 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, 2019–2029



Borrowing Assumptions for Stress Tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	59%	59%
Domestic medium and long-term	37%	37%
Domestic short-term	4%	4%
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)	34	34
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	1	1
Domestic short-term debt		
Avg. real interest rate	-5%	-5.0%

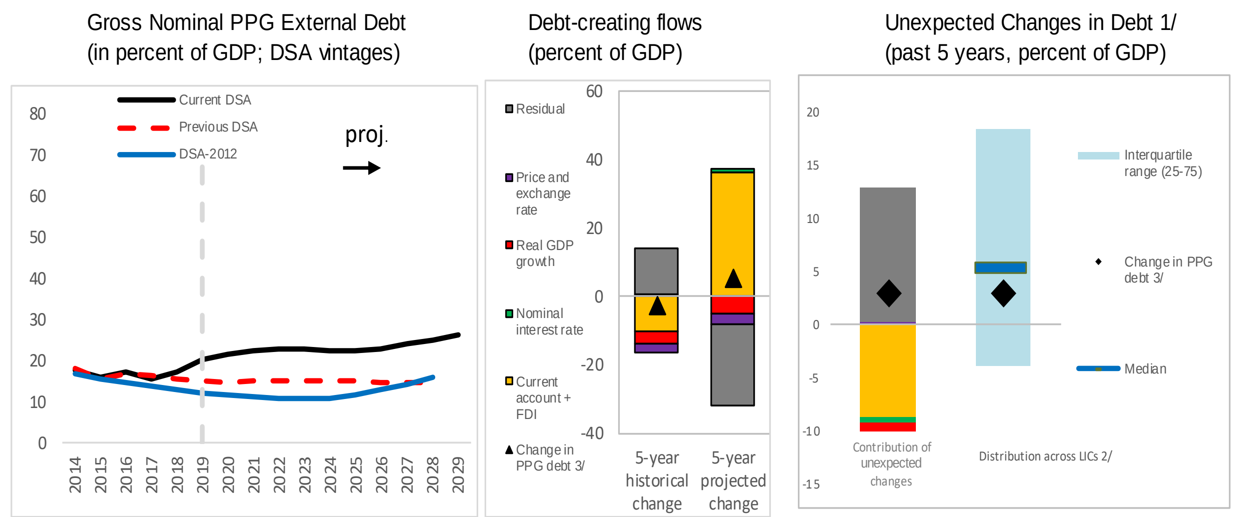
* Note: The public DSA allows for domestic financing to cover the additional financing needs generated by the shocks under the stress tests in the public DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

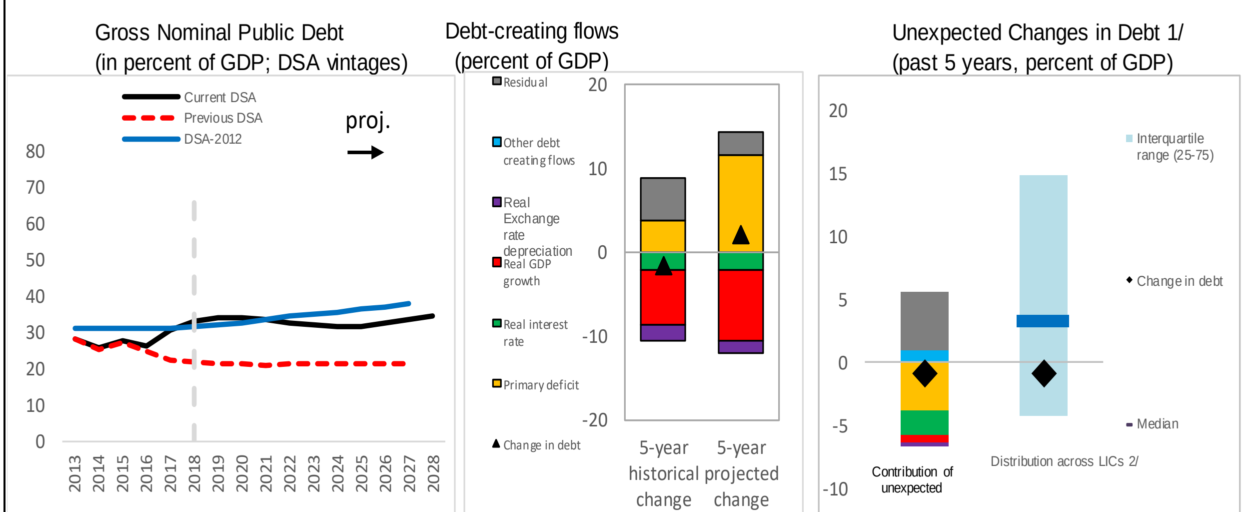
1/ The most extreme stress test is the test that yields the highest ratio in or before 2029. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most exterme shock 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



Public debt



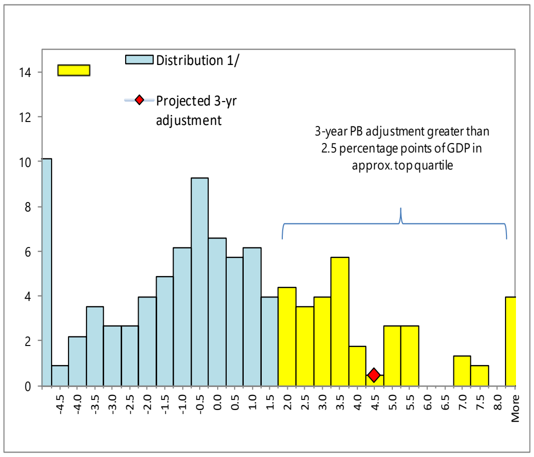
1/ Difference between anticipated and actual contributions on debt ratios.

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.

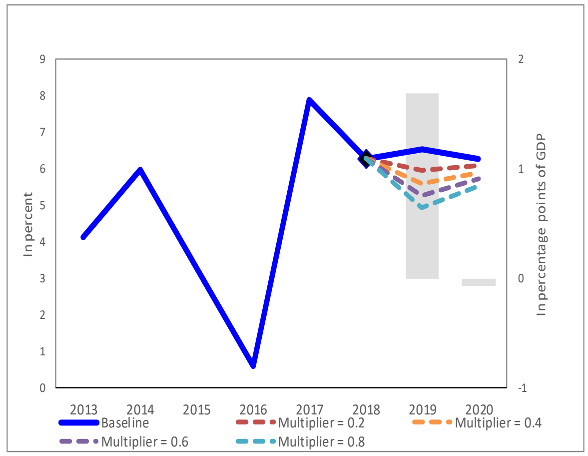
Figure 4. Nepal: Realism Tools

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
(% of GDP)

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

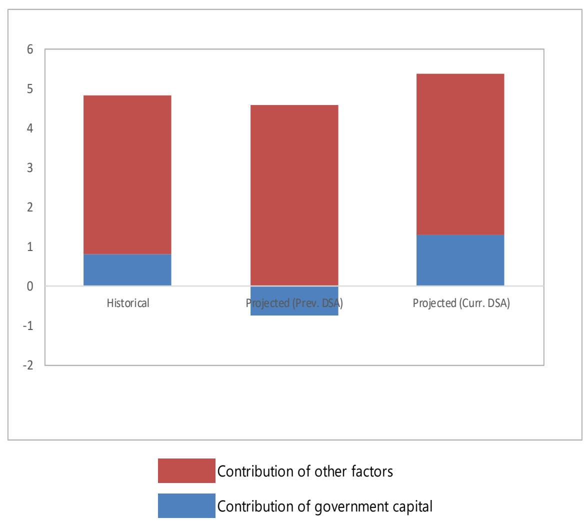
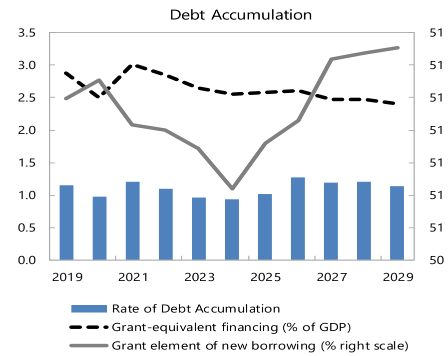


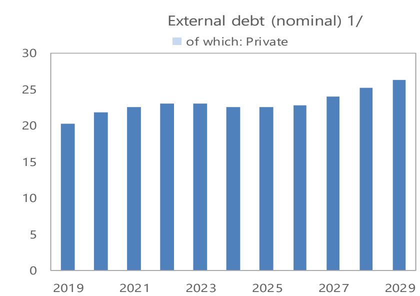
Table 1. Nepal: External Debt Sustainability Framework, Baseline Scenario, 2018–2039

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 8/	
	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
External debt (nominal) 1/	17.4	20.2	21.8	22.5	23.0	23.0	22.5	26.3	34.7	19.9	23.1
of which: public and publicly guaranteed (PPG)	17.4	20.2	21.8	22.5	23.0	23.0	22.5	26.3	34.7	19.9	23.1
Change in external debt	1.8	2.8	1.5	0.7	0.5	0.0	-0.5	1.1	0.6		
Identified net debt-creating flows	5.4	7.4	10.3	7.1	4.5	3.0	2.3	1.8	0.0	-3.7	4.0
Non-interest current account deficit	8.0	9.5	12.4	9.0	6.4	5.0	4.4	4.0	2.6	-1.8	6.1
Deficit in balance of goods and services	37.6	44.0	45.0	41.1	38.0	35.6	33.9	28.8	16.0	28.4	35.5
Exports	9.0	9.9	9.8	9.7	9.7	9.4	9.5	9.2	9.0		
Imports	46.6	53.9	54.7	50.9	47.8	45.0	43.4	38.0	24.9		
Net current transfers (negative = inflow)	-28.7	-33.1	-31.3	-30.8	-30.2	-29.2	-28.1	-23.3	-16.6	-28.9	-28.0
of which: official	-1.0	-1.2	-1.2	-1.5	-1.5	-1.4	-1.4	-1.2	-1.2		
Other current account flows (negative = net inflow)	-0.9	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	3.2	-1.3	-1.4
Net FDI (negative = inflow)	-0.6	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.4	-1.4	-0.4	-1.2
Endogenous debt dynamics 2/	-2.0	-1.0	-1.0	-0.7	-0.8	-0.9	-0.9	-0.9	-1.2		
Contribution from nominal interest rate	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2		
Contribution from real GDP growth	-0.9	-1.1	-1.1	-0.9	-0.9	-1.1	-1.1	-1.0	-1.4		
Contribution from price and exchange rate changes	-1.3	...	...	...	...	...	...	...	...		
Residual 3/	-3.7	-4.6	-8.7	-6.4	-4.0	-3.0	-2.8	-0.7	0.6	2.4	-3.2
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	13.2	14.9	14.8	14.7	14.6	14.3	13.9	14.8	15.2		
PV of PPG external debt-to-exports ratio	147.3	149.3	151.3	151.0	150.1	151.9	145.6	160.6	168.8		
PPG debt service-to-exports ratio	8.7	7.6	7.3	7.4	7.2	7.2	6.7	7.1	8.2		
PPG debt service-to-revenue ratio	3.2	2.7	2.5	2.5	2.4	2.3	2.2	2.2	2.5		
Gross external financing need (Million of U.S. dollars)	2352.6	2640.6	3953.9	3091.9	2352.5	1944.1	1800.0	2323.7	3224.6		
Key macroeconomic assumptions											
Real GDP growth (in percent)	6.3	6.5	6.3	4.5	4.5	5.0	5.0	4.5	4.5	4.6	4.9
GDP deflator in US dollar terms (change in percent)	9.0	-5.8	7.5	4.5	4.1	4.0	3.8	4.0	4.0	4.2	3.4
Effective interest rate (percent) 4/	1.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	1.0	0.8
Growth of exports of G&S (US dollar terms, in percent)	14.4	11.0	12.2	9.0	8.7	5.7	10.0	8.2	8.5	6.0	8.7
Growth of imports of G&S (US dollar terms, in percent)	25.6	16.2	16.0	1.4	2.2	3.0	5.0	5.6	-11.5	13.6	6.6
Grant element of new public sector borrowing (in percent)	...	50.7	50.6	50.8	50.8	50.7	50.7	50.9	51.1	...	50.8
Government revenues (excluding grants, in percent of GDP)	24.3	28.0	28.2	28.5	28.8	29.2	29.4	29.4	29.1	18.3	29.0
Aid flows (in Million of US dollars) 5/	329.6	1011.3	1171.4	1126.6	1161.0	1161.7	1127.0	2093.3	3995.8		
Grant-equivalent financing (in percent of GDP) 6/	...	2.9	2.5	3.0	2.8	2.7	2.6	2.4	2.4	...	2.6
Grant-equivalent financing (in percent of external financing) 6/	...	63.9	66.4	67.0	67.8	69.1	69.7	67.5	67.5	...	67.3
Nominal GDP (Million of US dollars)	28,812	28,922	33,035	36,067	39,234	42,825	46,664	70,484	161,726		
Nominal dollar GDP growth	15.8	0.4	14.2	9.2	8.8	9.2	9.0	8.7	8.7	9.0	8.5
Memorandum items:											
PV of external debt 7/	13.2	14.9	14.8	14.7	14.6	14.3	13.9	14.8	15.2		
In percent of exports	147.3	149.3	151.3	151.0	150.1	151.9	145.6	160.6	168.8		
Total external debt service-to-exports ratio	8.7	7.6	7.3	7.4	7.2	7.2	6.7	7.1	8.2		
PV of PPG external debt (in Million of US dollars)	3817.0	4150.0	4433.6	4832.2	5226.9	5603.3	6003.8	9236.3	21758.9		
(PVt-PVt-1)/GDPt-1 (in percent)		1.2	1.0	1.2	1.1	1.0	0.9	1.1	1.2		
Non-interest current account deficit that stabilizes debt ratio	6.2	6.7	10.8	8.2	5.9	5.0	4.8	2.9	2.0		

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 (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. The large residuals in 2019 and 2020 are mainly related to the drawdowns of foregin exchange reserves (-3.0 percent and -5.6 percent of GDP, respectively, for 2019 and 2020).

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.

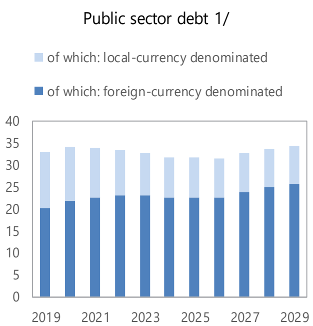
8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

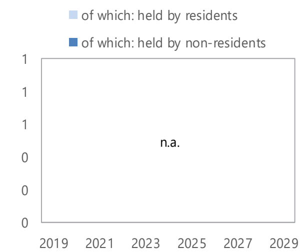
9/ Fiscal year of Nepal starts at July of the year and end at July of the next year. For example, FY2018/19: July-2018 to July-2019

Table 2. Nepal: Public Sector Debt Sustainability Framework, Baseline Scenario, 2018–2039
(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 6/	
	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
Public sector debt 1/	30.4	33.1	34.1	33.8	33.5	32.6	31.9	34.5	41.8	31.7	33.0
of which: external debt	17.4	20.2	21.8	22.5	23.0	23.0	22.5	26.3	34.7	19.9	23.1
Change in public sector debt	4.0	2.6	1.0	-0.3	-0.4	-0.8	-0.8	0.9	0.5		
Identified debt-creating flows	4.3	2.6	1.1	-1.2	-1.3	-1.7	-1.7	0.1	-0.1	-2.2	-0.3
Primary deficit	6.0	4.3	4.4	1.2	1.1	0.7	0.7	2.4	2.7	0.3	2.0
Revenue and grants	25.5	29.2	29.4	29.9	30.2	30.6	30.8	30.6	30.3	20.5	30.3
of which: grants	1.1	1.2	1.2	1.5	1.5	1.4	1.4	1.2	1.2		
Primary (noninterest) expenditure	31.5	33.5	33.7	31.2	31.3	31.3	31.5	33.0	33.0	20.8	32.2
Automatic debt dynamics	-1.7	-1.7	-3.2	-2.5	-2.3	-2.4	-2.3	-2.3	-2.8		
Contribution from interest rate/growth differential	-1.9	-2.1	-2.5	-2.0	-1.9	-2.0	-2.0	-1.9	-2.3		
of which: contribution from average real interest rate	-0.3	-0.3	-0.5	-0.5	-0.4	-0.4	-0.4	-0.4	-0.5		
of which: contribution from real GDP growth	-1.6	-1.9	-1.9	-1.5	-1.4	-1.6	-1.6	-1.5	-1.8		
Contribution from real exchange rate depreciation	0.2	...	...	...	...	...	...	...	...		
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	-0.2	0.5	-0.8	0.4	0.5	0.5	0.5	0.4	0.2	0.9	0.3
Sustainability indicators											
PV of public debt-to-GDP ratio 2/	26.9	27.7	27.3	26.2	25.2	24.1	23.3	23.2	22.4		
PV of public debt-to-revenue and grants ratio	105.6	94.9	92.8	87.4	83.4	78.7	75.6	75.6	73.9		
Debt service-to-revenue and grants ratio 3/	4.7	7.8	7.8	8.3	8.4	8.4	8.4	9.2	7.8		
Gross financing need 4/	7.2	6.6	6.7	3.7	3.6	3.3	3.2	5.2	5.1		
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	6.3	6.5	6.3	4.5	4.5	5.0	5.0	4.5	4.5	4.6	4.9
Average nominal interest rate on external debt (in percent)	1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	1.0	0.8
Average real interest rate on domestic debt (in percent)	-2.5	-0.9	-2.4	-2.1	-1.8	-1.6	-1.5	-1.7	-1.4	-3.8	-1.7
Real exchange rate depreciation (in percent, + indicates depreciation)	1.1	...	...	...	...	...	...	...	...	-1.9	...
Inflation rate (GDP deflator, in percent)	7.1	4.9	6.5	6.2	5.7	5.5	5.3	5.5	5.5	9.0	5.6
Growth of real primary spending (deflated by GDP deflator, in percent)	23.3	13.3	7.1	-3.4	4.8	5.1	5.6	5.1	4.5	13.7	5.4
Primary deficit that stabilizes the debt-to-GDP ratio 5/	1.9	1.7	3.3	1.5	1.4	1.5	1.4	1.5	2.2	0.7	1.6
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**





Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The entire public sector, including SOEs. 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/ Fiscal year of Nepal starts at July of the year and end at July of the next year. For example, FY2018/19: July-2018 to July-2019

Table 3. Nepal: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019–2039 (In percent)

	Projections										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of debt-to GDP ratio											
Baseline	**14.8**	**14.6**	**14.5**	**14.4**	**14.0**	**13.6**	**13.4**	**13.2**	**13.6**	**14.0**	**14.3**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	14.8	7.2	2.4	-1.1	-3.7	-5.9	-7.4	-9.0	-10.5	-11.6	-12.4
B. Bound Tests											
B1. Real GDP growth	14.8	14.2	14.6	14.5	14.3	14.0	14.0	14.1	14.2	14.3	14.3
B2. Primary balance	14.8	15.4	16.1	15.9	15.6	15.2	15.0	14.9	15.3	15.6	15.8
B3. Exports	14.8	14.2	15.4	15.2	14.9	14.6	14.5	14.6	14.6	14.5	14.4
B4. Other flows 2/	14.8	17.1	20.4	20.0	19.5	19.0	18.7	18.6	18.3	17.9	17.5
B5. One-time 30 percent nominal depreciation	14.8	16.7	10.5	10.7	10.6	10.6	10.8	11.2	11.4	12.0	12.4
B6. Combination of B1-B5	14.8	20.6	21.9	21.5	20.9	20.1	19.7	19.4	19.4	19.4	19.4
C. Tailored Tests											
C1. Combined contingent liabilities	14.8	16.6	16.5	16.4	16.1	15.7	15.5	15.4	15.8	16.1	16.4
C2. Natural disaster	14.8	17.9	17.9	18.0	17.8	17.5	17.5	17.5	18.0	18.4	18.8
Threshold	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**
PV of debt-to-exports ratio											
Baseline	**148.5**	**149.7**	**148.9**	**147.5**	**148.8**	**142.4**	**141.4**	**141.1**	**146.4**	**151.0**	**155.4**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	148.5	73.6	24.3	-10.8	-39.4	-62.3	-78.6	-96.3	-112.4	-124.6	-134.5
B. Bound Tests											
B1. Real GDP growth	148.5	137.4	137.5	136.7	138.7	135.1	135.5	138.2	139.9	141.2	142.0
B2. Primary balance	148.5	157.6	164.8	163.7	165.8	159.4	158.7	158.8	164.1	168.1	171.7
B3. Exports	148.5	169.6	209.3	207.3	209.5	203.4	203.2	206.0	207.2	207.2	206.5
B4. Other flows 2/	148.5	175.5	209.4	205.7	206.6	199.4	197.8	198.4	196.6	193.0	189.1
B5. One-time 30 percent nominal depreciation	148.5	137.4	86.6	88.0	90.7	89.6	91.5	95.6	98.7	103.7	107.7
B6. Combination of B1-B5	148.5	214.8	202.9	239.2	239.9	228.9	225.9	223.7	226.1	227.2	228.4
C. Tailored Tests											
C1. Combined contingent liabilities	148.5	170.4	169.8	168.8	171.1	164.6	164.1	164.1	169.7	173.8	177.7
C2. Natural disaster	148.5	186.6	187.3	187.8	192.0	186.7	187.8	189.5	196.9	202.4	207.7
Threshold	**240**	**240**	**240**	**240**	**240**	**240**	**240**	**240**	**240**	**240**	**240**
Debt service-to-exports ratio											
Baseline	**7.6**	**7.3**	**7.3**	**7.1**	**7.2**	**6.7**	**6.3**	**6.4**	**6.4**	**6.6**	**6.8**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	7.6	11.1	9.6	8.4	7.7	6.6	5.7	5.2	1.8	-0.5	-2.0
B. Bound Tests											
B1. Real GDP growth	7.6	10.6	10.2	9.8	9.7	8.9	8.4	8.2	7.8	7.8	7.7
B2. Primary balance	7.6	7.3	7.5	7.4	7.4	7.0	6.6	6.6	7.0	7.5	7.7
B3. Exports	7.6	12.4	13.7	13.5	13.3	12.3	11.6	11.2	11.1	11.7	11.5
B4. Other flows 2/	7.6	10.6	10.8	11.0	10.8	9.9	9.4	9.0	10.2	11.5	11.1
B5. One-time 30 percent nominal depreciation	7.6	10.6	10.2	9.0	8.9	8.2	7.7	7.5	7.2	5.1	5.2
B6. Combination of B1-B5	7.6	11.8	13.1	12.8	12.6	11.6	10.9	10.6	12.3	12.6	12.2
C. Tailored Tests											
C1. Combined contingent liabilities	7.6	7.3	7.7	7.5	7.5	7.0	6.7	6.7	6.7	6.9	7.1
C2. Natural disaster	7.6	7.5	8.1	7.9	8.0	7.5	7.1	7.2	7.2	7.5	7.7
Threshold	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**
Debt service-to-revenue ratio											
Baseline	**2.7**	**2.5**	**2.5**	**2.4**	**2.3**	**2.2**	**2.0**	**2.0**	**2.0**	**2.1**	**2.1**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	2.7	3.9	3.3	2.8	2.5	2.1	1.8	1.7	0.6	-0.1	-0.6
B. Bound Tests											
B1. Real GDP growth	2.7	3.9	3.8	3.6	3.4	3.2	3.0	2.8	2.7	2.7	2.6
B2. Primary balance	2.7	2.5	2.6	2.5	2.4	2.3	2.1	2.1	2.2	2.4	2.4
B3. Exports	2.7	3.7	3.6	3.5	3.3	3.0	2.8	2.7	2.7	2.8	2.7
B4. Other flows 2/	2.7	3.7	3.7	3.7	3.5	3.2	3.0	2.9	3.2	3.6	3.5
B5. One-time 30 percent nominal depreciation	2.7	4.6	4.3	3.8	3.6	3.3	3.1	3.0	2.9	2.0	2.0
B6. Combination of B1-B5	2.7	4.0	4.1	4.0	3.8	3.5	3.3	3.1	3.6	3.7	3.5
C. Tailored Tests											
C1. Combined contingent liabilities	2.7	2.5	2.6	2.5	2.4	2.3	2.1	2.1	2.1	2.2	2.2
C2. Natural disaster	2.7	2.5	2.7	2.6	2.5	2.4	2.2	2.2	2.2	2.3	2.3
Threshold	**23**	**23**	**23**	**23**	**23**	**23**	**23**	**23**	**23**	**23**	**23**

Sources: Country authorities; and staff estimates and projections.

1/ 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.

2/ Includes official and private transfers and FDI.

Table 4. Nepal: Sensitivity Analysis for Key Indicators of Public Debt, 2019–2039

	Projections										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of Debt-to-GDP Ratio											
Baseline	**27.6**	**27.1**	**26.0**	**25.0**	**23.8**	**23.0**	**22.6**	**22.2**	**22.4**	**22.5**	**22.7**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	28	24	22	20	18	17	16	15	14	13	12
B. Bound Tests											
B1. Real GDP growth	28	30	31	32	32	32	33	34	35	36	38
B2. Primary balance	28	29	30	28	27	26	25	25	25	25	25
B3. Exports	28	28	28	27	26	25	24	24	24	24	24
B4. Other flows 2/	28	31	33	32	30	29	29	28	28	27	27
B5. One-time 30 percent nominal depreciation	28	29	25	23	21	19	17	16	15	14	13
B6. Combination of B1-B5	28	28	27	25	23	23	22	22	22	22	22
C. Tailored Tests											
C1. Combined contingent liabilities	28	32	30	29	28	26	26	25	25	25	25
C2. Natural disaster	28	35	33	32	31	30	29	28	28	29	29
Public debt benchmark	**70**	**70**	**70**	**70**	**70**	**70**	**70**	**70**	**70**	**70**	**70**
PV of Debt-to-Revenue Ratio											
Baseline	**94.6**	**92.3**	**86.7**	**82.6**	**77.8**	**74.6**	**73.4**	**72.7**	**73.3**	**73.9**	**74.1**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	95	82	73	66	61	56	53	49	46	42	38
B. Bound Tests											
B1. Real GDP growth	95	101	104	104	104	105	108	111	115	119	122
B2. Primary balance	95	99	99	93	88	84	82	80	80	81	80
B3. Exports	95	95	93	89	84	80	79	78	78	78	78
B4. Other flows 2/	95	105	110	105	99	95	93	91	91	90	88
B5. One-time 30 percent nominal depreciation	95	98	85	76	68	62	57	53	49	46	42
B6. Combination of B1-B5	95	96	90	81	77	73	72	71	72	73	73
C. Tailored Tests											
C1. Combined contingent liabilities	95	109	102	96	90	86	84	82	82	82	82
C2. Natural disaster	95	118	112	106	100	96	94	93	93	94	94
Debt Service-to-Revenue Ratio											
Baseline	**7.8**	**7.8**	**8.3**	**8.4**	**8.4**	**8.4**	**8.3**	**8.4**	**8.6**	**8.9**	**9.1**
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	8	8	7	7	7	6	6	6	6	6	5
B. Bound Tests											
B1. Real GDP growth	8	8	9	10	10	11	11	12	13	14	14
B2. Primary balance	8	8	9	9	10	10	9	9	10	10	10
B3. Exports	8	8	8	8	8	9	8	9	9	9	9
B4. Other flows 2/	8	8	8	9	9	9	9	9	9	10	10
B5. One-time 30 percent nominal depreciation	8	8	9	8	8	8	8	8	8	8	8
B6. Combination of B1-B5	8	8	8	8	8	8	8	8	9	9	9
C. Tailored Tests											
C1. Combined contingent liabilities	8	8	10	10	10	10	10	10	10	9	10
C2. Natural disaster	8	8	10	11	11	11	11	11	11	10	11

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.

2/ Includes official and private transfers and FDI.