INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL MONETARY FUND

BANGLADESH

Joint World Bank-IMF Debt Sustainability Analysis

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Prepared jointly by the International Development Association and the International Monetary Fund

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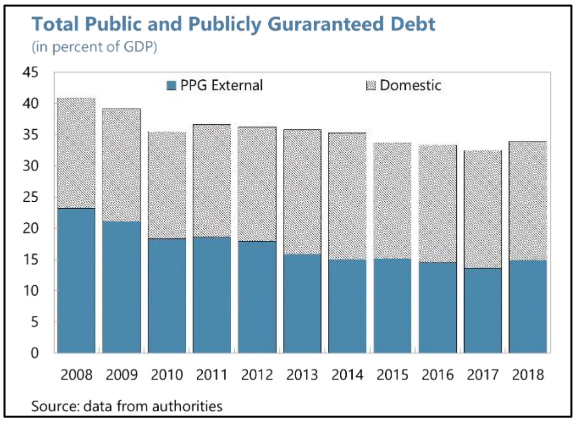
Bangladesh: Joint Bank-Fund Debt Sustainability Analysis

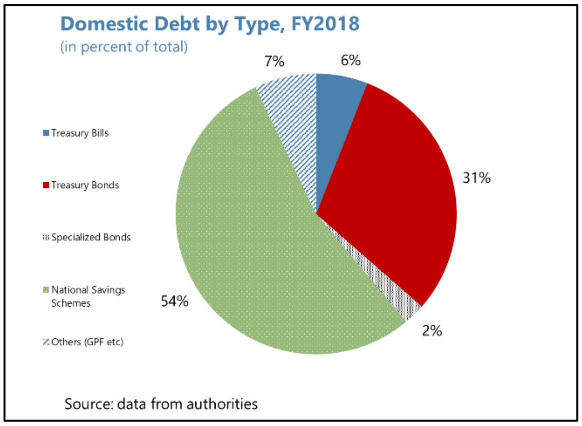
Risk of external debt distress:	Low
Overall risk of debt distress:	Low
Granularity in the risk rating	Tool not applied
Application of judgement:	No

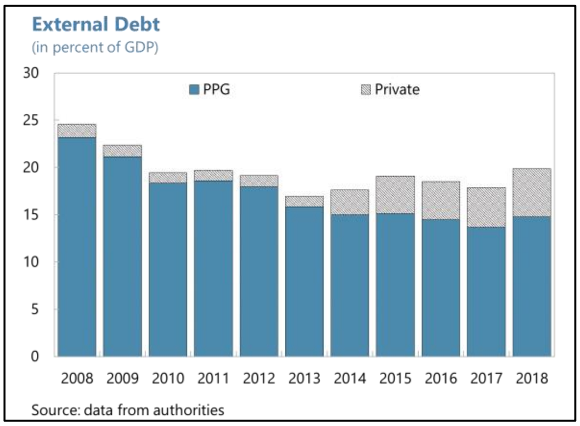
Bangladesh remains at a low risk of debt distress. External and domestic debt indicators are below their respective thresholds under the baseline and stress test scenarios. Future infrastructure projects will be financed with external debt, but favorable debt dynamics keep PPG external debt on a declining path. The authorities should continue to seek concessional financing to the extent possible. In line with Fund TA, staff also advise the reform of the National Savings Certificates' (NSCs) system so that the domestic debt market has more space to develop.

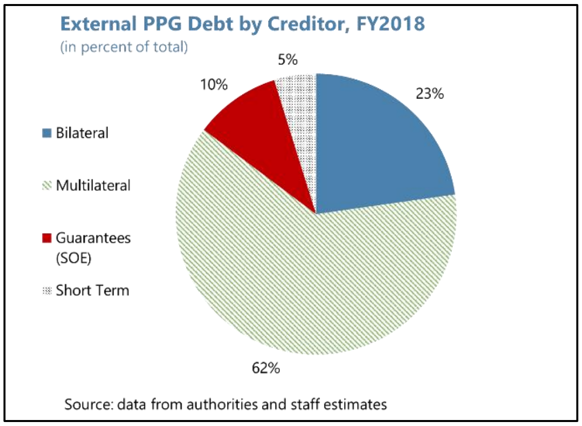
BACKGROUND AND DEVELOPMENTS ON DEBT

1. **Public debt in Bangladesh stood at US$91 billion in FY18, around 34 percent of GDP.**[1] The majority of public debt is domestic and denominated in local currency. In FY18, domestic debt was 56 percent of the total public and publicly guaranteed debt stock. More than one half of outstanding domestic debt is composed of National Saving Certificates (NSCs) and around one third is treasury bonds. NSCs stifle the development of a domestic bond market as they provide a yield of around 11 percent whereas government bonds of similar maturities provide a yield between 5 and 6 percent.[2] A cap on the amount of NSCs a person can hold has been difficult to enforce. To bolster enforcement of the cap, the authorities have rolled out an online database to keep track of NSC purchasers. They plan to use this database to help downsize the amount of new NSCs issued. However, there are no plans to reform interest rates of NSCs.









[1] FY18 is the fiscal year from July 2017 to June 2018.

[2] NSCs were introduced in the subcontinent in 1944 by the National Savings Institute of the Ministry of Finance of India. The intent was to promote savings among the population and finance the government's budget deficit. Currently, the Department of National Savings under the Bangladesh Ministry of Finance issues NSCs.

2. External PPG debt stood at US$40 billion in FY18, around 15 percent of GDP. External PPG debt is predominantly owed to multilateral and bilateral creditors, respectively 62 and 23 percent of outstanding external PPG debt, with some guaranteed SOE debt. External debt has helped finance infrastructure project and the recent increase in private external debt is associated with bank borrowing and the activity of trade companies. Short-term debt is only 5 percent of the outstanding PPG external debt stock and is mainly composed of trade credits.[3] As infrastructure needs in Bangladesh remain, external debt will likely be the primary avenue to finance large infrastructure projects. Favorable debt dynamics help support the sustainability of the investment effort.

Outstanding External PPG debt by creditor (end-FY18)

	US$ million	Percent of PPG debt
Total PPG Debt	$ 40,374.1	100.0
Multilateral	$ 25,214.1	62.5
of which		
World Bank (IDA)	$ 14,201.7	35.2
Asian Development Bank	$ 8,847.7	21.9
Bilateral	$ 9,183.0	22.7
of which		
Japan	$ 4,705.1	11.7
China	$ 1,997.4	4.9
Short Term Debt	$ 1,947.0	4.8
Guarantees (SOE)	$ 4,030.0	10.0

Source: data from authorities

3. The macroeconomic assumptions underlying this debt sustainability analysis (DSA) are as follows:

- **Growth and inflation.** Growth projections in FY19 are higher than in the 2018 AIV because of higher exports of ready-made garments (RMG) as evidenced by strong export data for FY19 to date. The medium-term growth outlook is slightly higher owing to competitive RMG exports. Inflation was revised downward due to lower non-food inflation and is projected to remain moderate over the medium-term as GDP growth is projected to be around potential. Debt dynamics in Bangladesh are favorable under a projected growth rate of around 7 percent in the medium term and an effective interest rate of around 3 ½ percent.[4] Important risks to future GDP growth could arise from lower than expected private sector credit growth.

- **Fiscal policy.** The primary balance is projected to be marginally weaker. The main reason is weaker-than-projected tax revenue growth during the election year, FY19,

[3] Trade credits include the difference between the customs record and the actual transaction record, which are settled in the short term.

[4] The effective interest rate is the ratio of interest payments to outstanding debt in the previous period.

reflecting the absence of new revenue-increasing measures and implementation of new tax exemptions. Only a moderate improvement of the primary balance is projected under the baseline scenario over the medium term, mainly because of a gradual decline in public infrastructure investment, while revenues are projected to grow broadly in line with nominal GDP.

- **Current account dynamics.** Import growth is expected to slow from high growth in FY18 due to a flood related one-off spike in food imports. The current account deficit (CAD) is projected to narrow in the short term relative to the previous DSA owing to higher exports of RMG reflecting strong actual year-to-date data. Over the medium term, the CAD will remain broadly stable at around 2 percent of GDP with lower remittances to GDP, imports of capital, and imports of liquified natural gas counteracting strong export performance. Reserve coverage in months of imports will gradually decline from around 6 months in FY19 to around 4 months over the medium term.

- **Financing assumptions.** As externally financed infrastructure projects have been increasing in recent years, the share of PPG external financing of total public financing needs was around 33 percent in FY18. Over the medium term, we project external financing to decline as a share of total financing as the role of domestic debt markets increases. The concessionality of debt will also decline over the medium term as Bangladesh approaches upper-middle income status.

Change in Macroeconomic Assumptions

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Real GDP growth (in percent change)						
Current	8.0	7.6	7.3	7.3	7.3	7.3
Previous	7.0	7.0	7.0	7.0	7.0	7.0
Inflation						
Current	5.8	5.8	5.6	5.5	5.5	5.5
Previous	6.2	6.1	6.0	5.7	5.5	5.5
Primary fiscal deficit (in percent of GDP)						
Current	3.1	3.0	2.9	2.6	2.4	2.4
Previous	2.9	2.5	2.4	2.4	2.2	2.0
Current account deficit (in percent of GDP)						
Current	2.0	2.1	2.1	2.0	2.0	2.0
Previous	2.3	2.4	2.2	2.0	1.8	1.8

4. **Unexpected changes to debt have been low and negative (Figure 3).** Historically, PPG external debt has been driven by favorable growth and a positive current account. The historical residual is high owing to infrastructure related increases in external debt occurring at the same time as strong growth and a current account surplus. Projections for external PPG debt dynamics are favorable as strong growth would more than offset impacts from the projected current account

deficit. Public debt dynamics are projected to remain broadly at the same level as the projected fiscal deficit is matched by strong growth.

5. Realism tools suggest that the macroeconomic projections are sensible and consistent with the experience of LICs (Figure 4). The 3-year adjustment in the primary balance is near the median of the sample of 3-year fiscal adjustments for LICs since 1990 that were under an IMF program. The growth projections are around the value suggested by a fiscal multiplier of 0.2 applied to the fiscal deficit. Public and private investment plans are slightly lower in percent of GDP due to our revised GDP projections. The projected contribution of government capital investment to GDP is broadly in line with past projections and historical outcomes.

6. Guaranteed SOE debt is included in the baseline projection. The stock of guaranteed SOE debt is estimated to be around 10 percent of the PPG external debt stock in FY18 or US$4 billion. The authorities are working to standardize the reporting of SOE debt to cover non-guaranteed debt. This DSA is prepared on a currency basis as data are not available for the residency basis. The difference between the two definitions should not materially affect the assessment. The calibrations of the contingent liability shock is based on the default values for the SOE debt and financial market component since they are sufficient to represent potential risks. The stock of debt linked to private public partnerships (PPPs) is less than 3 percent of GDP. A natural disaster stress test was also applied, calibrated at the default setting of a one-time 10 percent of GDP shock to the external debt-to-GDP ratio.

Debt Coverage

Subsectors of the public sector	Sub-sectors covered
Central government	X
State and local government	
Other institutional units of general government	
o/w: Social security fund	
o/w: Extra budgetary funds (EBFs)	
Guarantees (to other entities in the public and private sector, including to SOEs)	X
Central bank (borrowed on behalf of the government)	X
Non-guaranteed SOE debt	

1 **The country's coverage of public debt**	The central government plus social security, 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	0.0
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	0.0
5 Financial market (the default value of 5 percent of GDP is the minimum value)	5 percent of GDP	5.0
Total (2+3+4+5) (in percent of GDP)		7.0

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%.

7. **The Composite Index (CI) rating for Bangladesh is calculated as 3.06 and the debt carrying capacity is assessed as strong.** The CI is based on a weighted average of several factors such as the country's real GDP growth, remittances, international reserves, world growth and the CPIA score. The CI is calculated for the last two WEO vintages, in this case the October 2018 and April 2019 WEO, and uses 10-year averages of the variables, with 5 years of historical data and 5 years of projections. The threshold for a strong classification is a CI score above 3.05.

Country Classification

Final	Classification based on current vintage	Classification based on the previous vintage	Classification based on the two previous vintages
Strong	Strong	Strong	Strong
	3.06	3.07	3.09

EXTERNAL AND PUBLIC DEBT SUSTAINABILITY

8. **All external debt indicators are below their respective thresholds under the baseline and stress-test scenarios (Figure 1).** External PPG debt-to-GDP ratios are on a declining trend moving from 15 percent of GDP in FY2018 to around 13 percent in FY2029. The most extreme shock to the external PPG debt-to-GDP ratio is the non-debt flows shock, or a shock to remittances, which would increase the current account deficit. Given the still competitive RMG sector, the PV of debt-to-exports and debt service-to-exports ratios are well below their thresholds with the most extreme shock being to exports. The debt service-to-revenue ratio is on a declining trend and below its threshold with the most extreme shock a one-time depreciation given the currency mismatch.

Change in Thresholds for Bangladesh

External debt burden thresholds	Medium (old DSA)	Strong (new DSA)
PV of debt in % of		
Exports	150	240
GDP	40	55
Debt service in % of		
Exports	20	21
Revenue	20	23
Total public debt benchmark		
PV of total public debt in % of GDP	56	70

9. Overall public debt indicators suggest a low overall risk of debt distress (Figure 2). The PV of total public debt-to-GDP is well below its indicative threshold and the largest shock to this indicator is a natural disaster. The shock is kept at default calibrations and is equivalent to a one-time 10 percent of GDP shock. Indicators in percent of revenues are on a slightly increasing trend, which further highlights the importance of increasing the revenue-to-GDP ratio which is assumed to be roughly constant in the projection period. Increasing the revenue-to-GDP ratio will be critical in providing non-debt financing to growth-enhancing infrastructure projects.

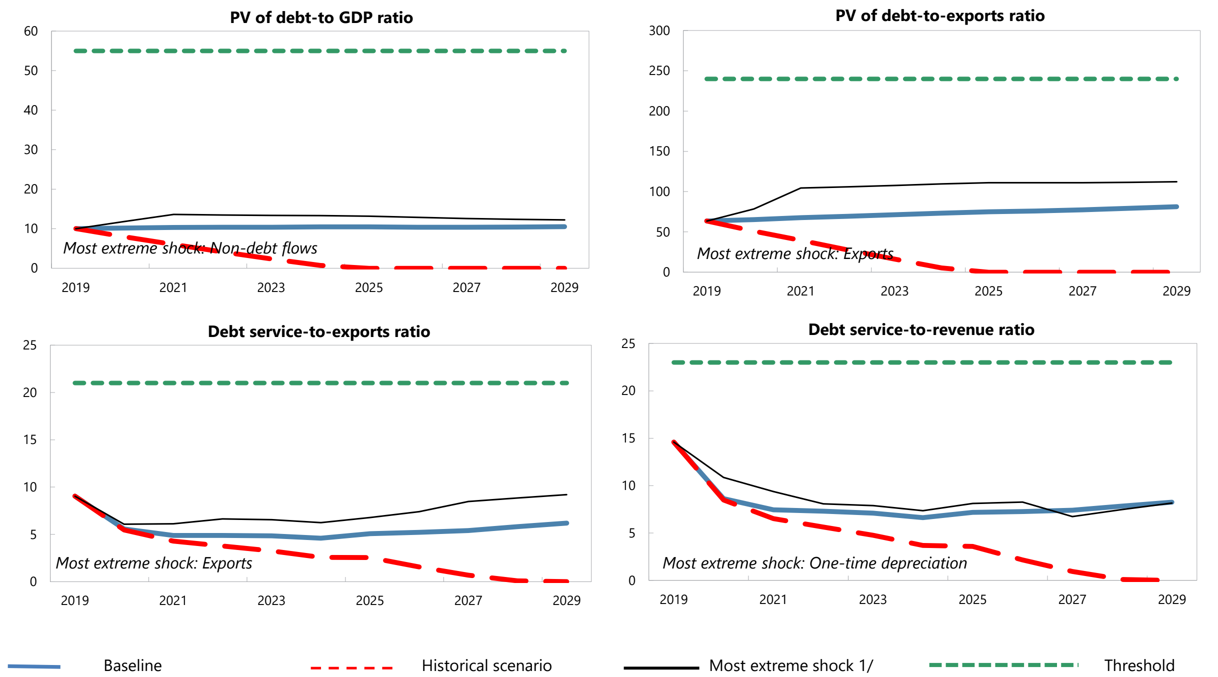
ASSESSMENT

10. Bangladesh has a low risk of external debt distress and a low overall risk of debt distress. This assessment is reached without the use of judgement as all external debt indicators are below their thresholds and overall public debt is below its indicative threshold. Future infrastructure projects will be financed with external debt, but favorable debt dynamics keep PPG external debt on a declining path. The authorities should continue to seek concessional financing to the extent possible. In line with Fund TA, staff also advise the reform of NSCs in order to develop the domestic debt market.

AUTHORITIES' VIEWS

11. The authorities agree that the risk of external debt distress and overall risk of debt distress remains low. The authorities are cautious in contracting external debt and view the low risk of debt distress as an important indicator signaling confidence in the economy. They are proud of being good borrowers and remain committed to do so through servicing their debts on time. They recognize that infrastructure gaps remain and that large infrastructure projects are likely to be financed in part with external debt. They are also aware that they will face less concessional terms as they proceed toward upper middle income status. In the authorities view, these risks are fully contained so far.

Figure 1. Bangladesh: Indicators of Public and Publicly Guaranteed External Debt, 2019–2029 1/
(In percent, unless otherwise mentioned)



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	2.9%	2.9%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	19	19
Avg. grace period	5	5

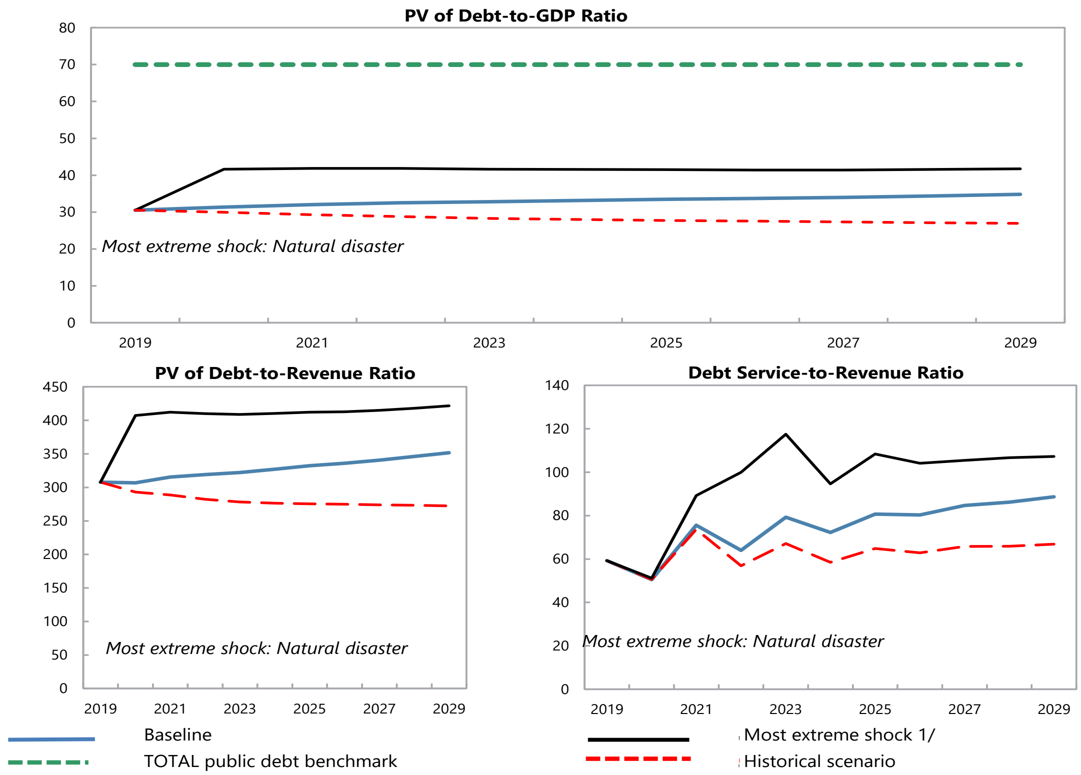
* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

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. 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. Bangladesh: Indicators of Public Debt, 2019–2029 1/

(In percent)



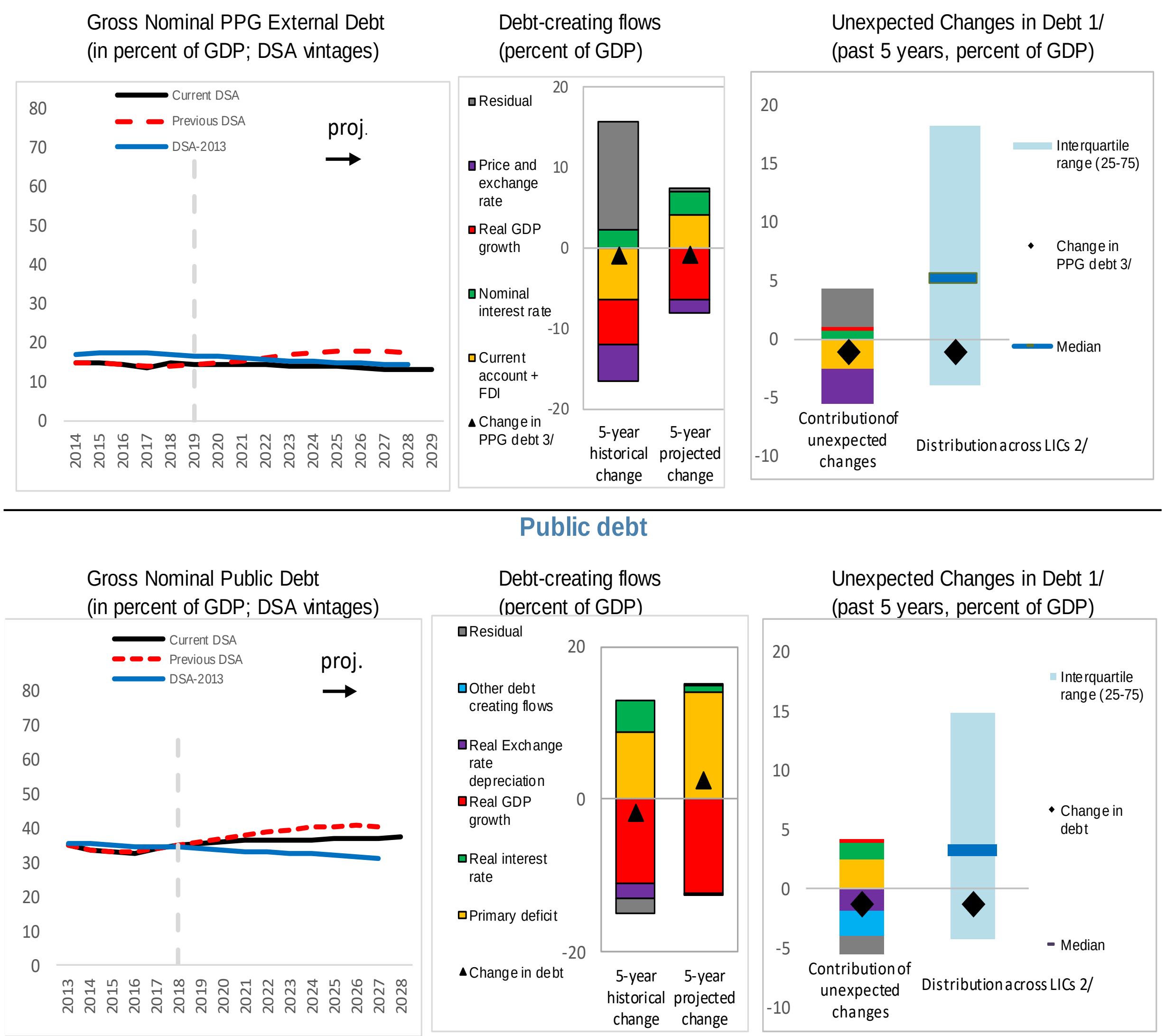
Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	16%	16%
Domestic medium and long-term	76%	76%
Domestic short-term	8%	9%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	2.9%	2.9%
Avg. maturity (incl. grace period)	19	19
Avg. grace period	5	5
Domestic MLT debt		
Avg. real interest rate on new borrowing	0.8%	0.8%
Avg. maturity (incl. grace period)	3	3
Avg. grace period	1	1
Domestic short-term debt		
Avg. real interest rate	-0.6%	-0.6%

* 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. Bangladesh: Drivers of Debt Dynamics – Baseline Scenario



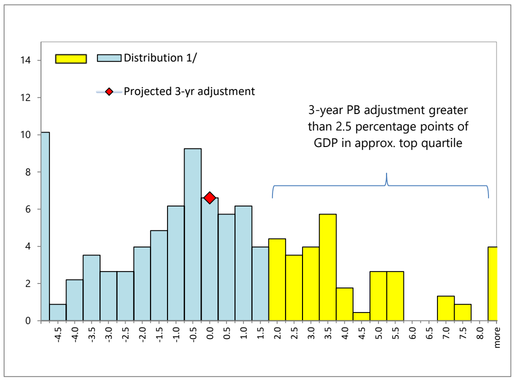
1/ Difference between anticipated and actual contributions on debt ratios.

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.

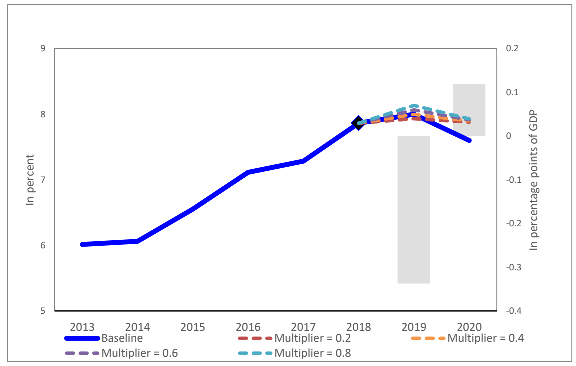
Figure 4. Bangladesh: Realism Tools

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



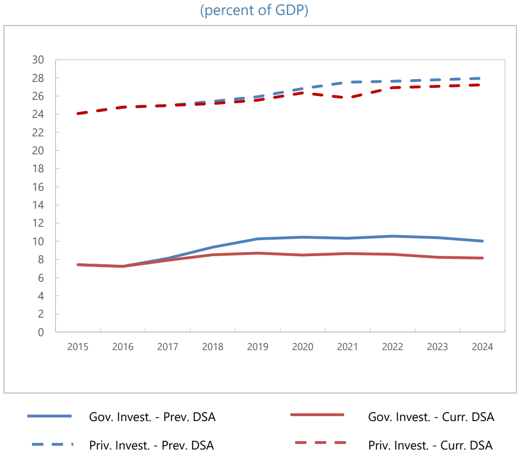
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

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)

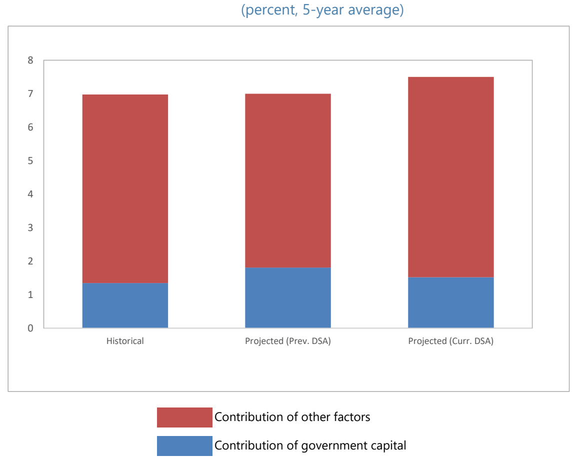


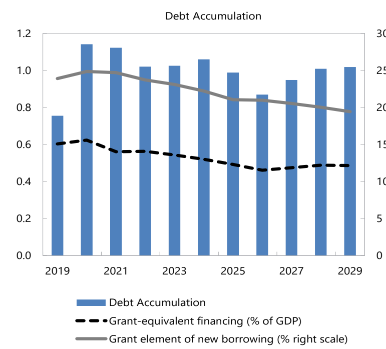
Table 1. Bangladesh: External Debt Sustainability Framework, Baseline Scenario, 2016–2039 1/

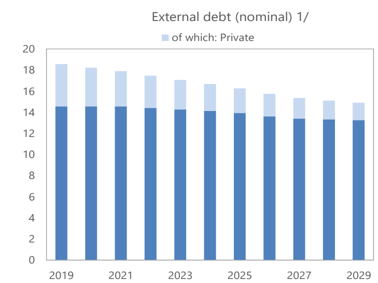
(In percent of GDP, unless otherwise indicated)

(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
External debt (nominal) 1/	18.5	18.0	20.1	18.6	18.2	17.9	17.5	17.1	16.7	14.9	15.7	19.1	16.7
of which: public and publicly guaranteed (PPG)	14.5	13.7	15.0	14.5	14.6	14.6	14.4	14.3	14.1	13.3	14.9	16.5	14.0
Change in external debt	-0.6	-0.5	2.2	-1.5	-0.3	-0.3	-0.4	-0.4	-0.4	-0.2	-0.2		
Identified net debt-creating flows	-4.8	-2.2	1.4	-0.1	0.2	0.3	0.2	0.2	0.2	-0.1	1.1	-3.3	0.1
Non-interest current account deficit	-2.3	-0.1	2.9	1.3	1.5	1.5	1.5	1.5	1.5	1.4	3.5	-0.8	1.4
Deficit in balance of goods and services	4.1	5.1	8.3	7.0	7.0	6.9	6.7	6.5	6.4	5.8	6.1	6.8	6.4
Exports	16.7	15.1	14.9	15.8	15.6	15.3	14.9	14.6	14.3	12.9	13.1		
Imports	20.8	20.2	23.2	22.8	22.6	22.1	21.6	21.2	20.7	18.7	19.2		
Net current transfers (negative = inflow)	-6.9	-5.3	-5.6	-5.6	-5.5	-5.4	-5.3	-5.1	-5.0	-4.5	-2.8	-8.4	-5.0
of which: official	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other current account flows (negative = net inflow)	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.8	0.1
Net FDI (negative = inflow)	-0.6	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-1.1	-2.1	-0.8	-0.7
Endogenous debt dynamics 2/	-1.9	-1.5	-0.9	-0.8	-0.7	-0.6	-0.6	-0.6	-0.6	-0.5	-0.4		
Contribution from nominal interest rate	0.4	0.6	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5		
Contribution from real GDP growth	-1.2	-1.2	-1.3	-1.5	-1.3	-1.2	-1.2	-1.2	-1.1	-0.9	-0.9		
Contribution from price and exchange rate changes	-1.1	-0.9	-0.3	...	...	...	...	...	...	...	...		
Residual 3/	4.2	1.7	0.8	-1.4	-0.6	-0.6	-0.7	-0.6	-0.6	-0.1	-1.2	2.8	-0.6
of which: exceptional financing	0.0	0.0	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	...	...	10.3	10.0	10.2	10.3	10.4	10.4	10.5	10.5	12.8		
PV of PPG external debt-to-exports ratio	...	...	69.3	63.5	65.1	67.6	69.4	71.2	73.3	81.3	97.8		
PPG debt service-to-exports ratio	17.0	18.8	4.7	9.0	5.6	4.9	4.9	4.9	4.6	6.2	8.3		
PPG debt service-to-revenue ratio	28.5	27.9	7.3	14.6	8.6	7.5	7.3	7.1	6.6	8.3	11.1		
Gross external financing need (Million of U.S. dollars)	3374.1	9043.8	19168.3	21031.6	17117.4	16856.2	17279.1	17751.2	18127.9	19604.5	55153.5		
Key macroeconomic assumptions													
Real GDP growth (in percent)	7.1	7.3	7.9	8.0	7.6	7.3	7.3	7.3	7.3	6.8	6.5	6.4	7.3
GDP deflator in US dollar terms (change in percent)	5.9	5.1	1.7	2.1	2.0	2.0	2.0	2.0	2.0	2.0	3.0	4.9	2.0
Effective interest rate (percent) 4/	2.2	3.6	4.1	3.6	3.6	3.5	3.5	3.4	3.4	3.3	3.5	2.0	3.4
Growth of exports of G&S (US dollar terms, in percent)	9.4	1.8	8.2	17.2	8.5	7.0	7.0	7.0	7.0	7.0	9.8	10.1	8.1
Growth of imports of G&S (US dollar terms, in percent)	5.0	9.3	26.1	8.2	9.2	7.0	7.0	7.0	7.0	7.0	13.0	11.4	7.3
Grant element of new public sector borrowing (in percent)	...	...	...	23.9	24.9	24.7	23.7	23.1	22.2	19.4	17.4	...	22.2
Government revenues (excluding grants, in percent of GDP)	10.0	10.2	9.6	9.8	10.1	10.0	10.0	10.0	9.9	9.7	9.8	10.0	9.9
Aid flows (in Million of US dollars) 5/	3267.7	3358.0	5890.7	1805.0	2021.3	2021.3	2306.1	2374.6	2459.5	2939.5	4716.9		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	...	0.5
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	28.7	30.1	30.0	32.1	31.7	31.2	28.3	24.2	...	30.3
Nominal GDP (Million of US dollars)	221,398	249,695	274,006	302,080	331,597	362,919	397,200	434,720	475,784	738,829	1,712,319		
Nominal dollar GDP growth	13.5	12.8	9.7	10.2	9.8	9.4	9.4	9.4	9.4	8.9	9.7	11.6	9.4
Memorandum items:													
PV of external debt 7/	...	...	15.4	14.1	13.8	13.7	13.4	13.2	13.0	12.2	13.5		
In percent of exports	...	...	103.6	88.9	88.6	89.5	89.8	90.3	91.2	94.0	103.2		
Total external debt service-to-exports ratio	21.1	24.7	28.9	35.7	26.7	24.6	23.3	22.1	20.7	17.6	13.1		
PV of PPG external debt (in Million of US dollars)			28238.6	30307.8	33756.5	37478.9	41183.0	45255.4	49862.3	77667.8	219647.3		
(PVt-PVt-1)/GDPt-1 (in percent)				0.8	1.1	1.1	1.0	1.0	1.1	1.0	1.4		
Non-interest current account deficit that stabilizes debt ratio	-1.7	0.5	0.7	2.8	1.8	1.8	1.9	1.9	1.8	1.6	3.7		

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.

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.

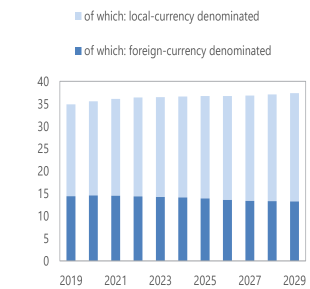
Table 2. Bangladesh: Public Sector Debt Sustainability Framework, Baseline Scenario, 2016–2039

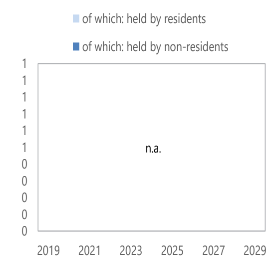
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 6/	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
Public sector debt 1/	33.3	32.6	34.0	34.9	35.5	36.1	36.4	36.5	36.6	37.4	39.9	35.2	36.4
of which: external debt	14.5	13.7	15.0	14.5	14.6	14.6	14.4	14.3	14.1	13.3	14.9	16.5	14.0
Change in public sector debt	-0.3	-0.7	1.4	0.9	0.7	0.5	0.3	0.1	0.1	0.3	-0.2		
Identified debt-creating flows	-0.6	-0.2	1.3	0.9	0.7	0.6	0.3	0.1	0.1	0.3	-0.2	-0.4	0.3
Primary deficit	1.5	1.6	2.8	3.1	3.0	2.9	2.6	2.4	2.4	2.3	2.2	1.5	2.5
Revenue and grants	10.1	10.2	9.7	9.9	10.2	10.2	10.2	10.2	10.1	9.9	10.0	10.3	10.1
of which: grants	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2		
Primary (noninterest) expenditure	11.5	11.8	12.4	13.0	13.2	13.0	12.8	12.6	12.5	12.2	12.1	11.8	12.6
Automatic debt dynamics	-2.0	-1.9	-1.5	-2.2	-2.3	-2.3	-2.3	-2.3	-2.2	-2.1	-2.4		
Contribution from interest rate/growth differential	-1.4	-1.6	-1.5	-2.2	-2.3	-2.3	-2.3	-2.3	-2.2	-2.1	-2.1		
of which: contribution from average real interest rate	0.9	0.6	0.8	0.3	0.2	0.1	0.1	0.2	0.2	0.3	0.4		
of which: contribution from real GDP growth	-2.2	-2.3	-2.4	-2.5	-2.5	-2.4	-2.5	-2.5	-2.5	-2.4	-2.4		
Contribution from real exchange rate depreciation	-0.7	-0.2	0.1	...	...	...	...	...	...	...	...		
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	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	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		
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		
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	0.0	0.0		
Residual	0.2	-0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	...	...	29.5	30.5	31.4	32.0	32.5	32.8	33.1	34.8	37.8		
PV of public debt-to-revenue and grants ratio	...	...	305.1	307.8	306.7	315.5	319.0	322.2	327.2	351.7	379.6		
Debt service-to-revenue and grants ratio 3/	26.3	57.8	49.6	59.2	50.5	75.6	64.0	79.2	72.3	88.7	97.7		
Gross financing need 4/	5.0	8.2	7.9	9.0	8.2	10.6	9.2	10.5	9.7	11.1	11.9		
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	7.1	7.3	7.9	8.0	7.6	7.3	7.3	7.3	7.3	6.8	6.5	6.4	7.3
Average nominal interest rate on external debt (in percent)	1.3	1.3	1.4	1.9	1.8	1.9	2.0	2.1	2.1	2.4	3.2	1.1	2.1
Average real interest rate on domestic debt (in percent)	4.7	3.9	5.3	1.8	1.1	0.5	0.8	0.7	1.1	1.1	0.9	4.8	1.1
Real exchange rate depreciation (in percent, + indicates depreciation)	-4.7	-1.8	0.4	...	...	...	...	...	...	...	...	-2.8	...
Inflation rate (GDP deflator, in percent)	6.7	6.3	5.6	5.8	5.8	5.6	5.5	5.5	5.5	5.5	5.8	6.7	5.6
Growth of real primary spending (deflated by GDP deflator, in percent)	5.4	10.1	13.4	13.2	9.1	5.8	5.6	5.2	6.5	6.7	6.6	7.3	7.1
Primary deficit that stabilizes the debt-to-GDP ratio 5/	1.8	2.3	1.4	2.2	2.3	2.4	2.3	2.3	2.2	2.0	2.4	1.9	2.2
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		

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 government plus social security, central bank, government-guaranteed 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.

Table 3. Bangladesh: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019−2029

(In percent)

	Projections 1/										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of debt-to GDP ratio											
Baseline	10	10	10	10	10	10	10	10	10	10	11
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	10	8	6	4	2	1	0	0	0	0	0
B. Bound Tests											
B1. Real GDP growth	10	10	11	11	11	11	11	11	11	11	11
B2. Primary balance	10	10	10	11	11	11	11	11	11	11	11
B3. Exports	10	11	13	13	13	13	13	13	13	12	12
B4. Other flows 3/	10	12	14	14	13	13	13	13	13	12	12
B5. Depreciation	10	13	10	10	10	10	10	10	11	11	11
B6. Combination of B1-B5	10	13	13	13	13	13	13	12	12	12	12
C. Tailored Tests											
C1. Combined contingent liabilities	10	11	11	12	12	12	12	12	12	12	12
C2. Natural disaster	10	12	12	12	13	13	13	13	13	13	14
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	63	65	68	69	71	73	75	76	77	79	81
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	63	51	39	28	16	5	0	0	0	0	0
B. Bound Tests											
B1. Real GDP growth	63	65	68	69	71	73	75	76	77	79	81
B2. Primary balance	63	66	69	71	73	75	77	78	79	81	83
B3. Exports	63	79	104	106	108	110	111	111	111	111	112
B4. Other flows 3/	63	76	89	90	92	93	94	94	94	94	95
B5. Depreciation	63	65	50	52	55	57	59	61	63	67	70
B6. Combination of B1-B5	63	79	77	86	87	89	91	91	92	93	95
C. Tailored Tests											
C1. Combined contingent liabilities	63	71	74	77	81	84	87	88	90	93	95
C2. Natural disaster	63	76	79	84	89	92	96	98	101	104	107
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	9	6	5	5	5	5	5	5	5	6	6
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	9	5	4	4	3	3	3	2	1	0	0
B. Bound Tests											
B1. Real GDP growth	9	6	5	5	5	5	5	5	5	6	6
B2. Primary balance	9	6	5	5	5	5	5	5	6	6	6
B3. Exports	9	6	6	7	7	6	7	7	8	9	9
B4. Other flows 3/	9	6	5	6	6	5	6	6	7	8	8
B5. Depreciation	9	6	5	4	4	4	5	5	4	4	5
B6. Combination of B1-B5	9	6	6	6	6	5	6	7	7	7	8
C. Tailored Tests											
C1. Combined contingent liabilities	9	6	5	5	5	5	5	6	6	6	7
C2. Natural disaster	9	6	5	5	5	5	6	6	6	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	15	9	7	7	7	7	7	7	7	8	8
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	15	8	7	6	5	4	4	2	1	0	0
B. Bound Tests											
B1. Real GDP growth	15	9	8	8	8	7	8	8	8	8	9
B2. Primary balance	15	9	7	7	7	7	7	7	8	8	8
B3. Exports	15	9	8	8	8	8	8	9	10	10	10
B4. Other flows 3/	15	9	8	8	8	8	8	9	10	10	10
B5. Depreciation	15	11	9	8	8	7	8	8	7	7	8
B6. Combination of B1-B5	15	9	9	8	8	8	8	9	9	10	10
C. Tailored Tests											
C1. Combined contingent liabilities	15	9	8	8	7	7	8	8	8	8	9
C2. Natural disaster	15	9	8	8	8	7	8	8	8	9	9
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. Bangladesh: Sensitivity Analysis for Key Indicators for Public Debt, 2019−2029
(In percent)

						Projections 1/					
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
					PV of Debt-to-GDP Ratio						
Baseline	31	31	32	33	33	33	33	34	34	34	35
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	31	30	29	29	28	28	28	28	27	27	27
B. Bound Tests											
B1. Real GDP growth	31	33	35	36	36	37	38	39	39	40	41
B2. Primary balance	31	32	33	34	34	34	34	34	35	35	35
B3. Exports	31	32	35	35	36	36	36	36	36	36	36
B4. Other flows 3/	31	33	35	36	36	36	36	36	36	36	37
B5. Depreciation	31	32	31	31	30	30	30	30	29	29	29
B6. Combination of B1-B5	31	31	32	32	32	33	33	33	33	34	34
C. Tailored Tests											
C1. Combined contingent liabilities	31	38	38	38	38	38	38	38	38	38	39
C2. Natural disaster	31	42	42	42	42	42	42	41	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.
TOTAL public debt benchmark	70	70	70	70	70	70	70	70	70	70	70
					PV of Debt-to-Revenue Ratio						
Baseline	308	307	316	319	322	327	332	336	341	346	352
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	308	293	289	282	278	277	276	275	274	273	273
B. Bound Tests											
B1. Real GDP growth	308	319	341	350	358	367	377	385	393	402	412
B2. Primary balance	308	312	327	329	332	336	341	344	348	353	358
B3. Exports	308	317	346	348	350	354	358	360	362	365	369
B4. Other flows 3/	308	324	348	350	352	356	360	361	363	366	370
B5. Depreciation	308	309	308	303	300	298	297	295	294	294	294
B6. Combination of B1-B5	308	302	314	315	318	322	326	330	334	340	345
C. Tailored Tests											
C1. Combined contingent liabilities	308	373	378	377	376	378	380	381	383	386	390
C2. Natural disaster	308	407	412	410	409	410	412	413	415	418	422
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	59	51	76	64	79	72	81	80	85	86	89
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2029 2/	59	51	74	57	67	59	65	63	66	66	67
B. Bound Tests											
B1. Real GDP growth	59	52	80	69	87	82	92	93	99	101	105
B2. Primary balance	59	51	76	67	83	76	83	83	87	88	91
B3. Exports	59	51	76	65	80	73	82	82	87	88	91
B4. Other flows 3/	59	51	76	65	80	73	82	82	87	88	91
B5. Depreciation	59	48	72	61	73	67	76	75	79	80	82
B6. Combination of B1-B5	59	49	74	63	79	72	80	79	83	85	87
C. Tailored Tests											
C1. Combined contingent liabilities	59	51	84	88	104	86	98	95	97	98	99
C2. Natural disaster	59	51	89	100	117	95	108	104	105	107	107
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.