



GUYANA

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION —DEBT SUSTAINABILITY ANALYSIS

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Prepared by the staff of the International Monetary Fund in consultation with the World Bank Staff.

Guyana's risk of external debt distress remains moderate and debt service manageable.¹ The update of the debt sustainability analysis (DSA) shows the indicators of external debt distress to remain under relevant thresholds in the baseline. The PV of external debt declines to 20 percent of GDP and debt service is 5 percent of revenue.

Nevertheless, stress tests indicate the vulnerability of public debt to adverse shocks. There are small breaches of the external debt threshold (within the borderline band) under a stress test shock to debt concessionality, suggesting a borderline moderate/low rating. An alternative approach that models the probability of debt distress shows a larger breach of threshold, which lends support to a moderate risk rating.

The medium-term outlook is favorable given the expected start of oil production by 2020. Guyana has ongoing negotiations with bilateral non-Paris Club and commercial creditors who did not participate in the Heavily Indebted Poor Countries (HIPC) Initiative with a view to settling these debts (about 5 percent of GDP). A positive outcome of the negotiations could help further reduce its external indebtedness.

¹ This DSA uses the template for low income countries and is based on Guyana's Policy Performance Rating for 2016-17, which is grounded in the Country Policy and Institutional Assessment Rating (CPIA).

BACKGROUND

- 1. Debt relief and PetroCaribe debt write-offs have helped reduce Guyana's debt burden over the past decade.** Total public sector debt declined from 96 percent of GDP in 2006 to about 49.6 percent in 2016. Under the Multilateral Debt Relief Initiative (MDRI), the Fund, the World Bank, and the IDB provided debt relief amounting to US\$611 million in 2006–07. Paris Club bilateral creditors and some non-Paris Club creditors granted debt relief as part of the 2004 Paris Club agreement.¹ Negotiations with other non-Paris Club creditors are protracted with the debt in question amounting to about 9 percent of total debt or about 5 percent of GDP.² Meanwhile, part of the debt owed to Venezuela under the PetroCaribe agreement was repaid through Guyana's rice exports to that country. The rate of external debt accumulation slowed because further borrowing under the PetroCaribe agreement with Venezuela had been halted since mid-2015 following the revival of a border dispute.
- 2. Over the last seven years, total gross public debt has declined significantly.** The debt to GDP ratio declined from 67 percent in 2009 to 49.6 percent in 2016. Over the same period, external debt declined from 46 percent of GDP to 34 percent (Table 1), and domestic debt from 21 percent of GDP to about 16 percent. Multilateral institutions—particularly the Inter-American Development Bank, the Caribbean Development Bank and the International Development Association—are the main external creditors, accounting for about 40 percent of total debt. The loan portfolio has a long maturity profile and low average interest rates.
- 3. Over the years, Venezuela had become an important donor but the PetroCaribe agreement with Guyana was suspended in 2015.** PetroCaribe's concessional loans financed Guyana's oil imports. Although these loan disbursements were sizable, part of the oil proceeds were deposited in an account at the Central Bank of Guyana to be used as a 'sinking fund' to service external debt. In addition, Guyana repaid part of its PetroCaribe debt with rice exports and accumulated savings under the financing arrangement.³
- 4. Remittances are an important source of foreign exchange in Guyana, and are included in the base case.** Average remittances represented 12.3 percent of GDP and 21.2 percent of exports of goods and services during 2014-16 and have been relatively steady, except a decline in 2016, which was to some extent driven by one-off factors. Therefore, remittances are sufficiently large to be considered in the base case.⁴

¹ Debt relief under the Heavily Indebted Poor Country (HIPC) Initiative was granted by all multilateral creditors except one, by Paris Club bilateral creditors, and four non-Paris Club creditors (China, India, Venezuela, and Cuba). Debt owed to Brazil and North Korea was paid off without relief.

² These creditors include Argentina, Kuwait, Libya, United Arab Emirates, and Serbia, as well as a loan from an Indian commercial entity (Tata).

³ The balance on the PetroCaribe account was about US\$ 0.5 million as of end-2016.

⁴ Remittances are presented as a base case if they are both greater than 10 percent of GDP and greater than 20 percent of exports of goods and services, with both ratios measured on a three-year average basis.

5. Guyana's external debt thresholds correspond to the ones associated with a medium policy performance rating. The three-year average of the Country Policy and Institutional Assessment (CPIA) of Guyana has remained stable at 3.3, corresponding to a medium policy performance rating. Therefore, the relevant external debt thresholds with remittances are as follows: (i) a PV of debt to GDP plus remittances ratio of 36 percent; (ii) a PV of debt to exports plus remittances ratio of 120 percent; (iii) a PV of debt to revenue ratio of 250 percent; and (iv) debt service to exports plus remittances and revenue ratios of 16 percent and 20 percent respectively.

BASELINE SCENARIO ASSUMPTIONS

6. The baseline assumes that oil production will start as expected in mid-2020. The oil price follows the trajectory of the January 2017 WEO projections, rising from US\$43 dollars per barrel in 2016 to about US\$57 dollars by 2022 and converging to a long-run value of US\$60 dollars per barrel afterwards. The impact on real GDP is estimated based on US\$60 dollars per barrel and the assumption that total oil production amounts to 100,000 barrels per day from mid-2020 to 2028, 80,000 barrels during 2029-32, and 60,000 barrels during 2033-37. Based on the experience from other countries, it is assumed that the value-added of the oil sector is about 60 percent of gross production. The impact on GDP will be much larger than the impact on GNP.

7. The oil sector will have limited direct spillovers to the rest of the economy, and its main effect will be through fiscal revenue. In line with public information on Guyana's fiscal regime for oil production, it is assumed that the government's oil revenue will equal 50 percent of "profit oil", after paying 75 percent of total revenue as "cost of oil". The government's share is therefore 12.5 percent of gross revenues in the beginning but increases significantly after the oil companies recover their initial investment (to 33 percent under our conservative assumptions). The stronger inflows are assumed to lead to moderate exchange rate appreciation and accumulation of reserves by the central bank.

8. The fiscal impact of oil production rises as the project matures. Oil revenue amounts to 2.6 percent of GDP in 2020 and rises to about 4.6 percent in 2021, which is the first full year of oil production. The shares of fiscal revenue and expenditure in GDP decline due to the larger increase in the latter with the start of oil production. The oil is exported, with 50 percent of Exxon's (and its partners) proceeds repatriated through the current account and the remainder through the financial account. Several countries experienced competitiveness problems in other sectors after they became oil producers. These Dutch Disease considerations should be manageable given the magnitude of the windfall. Another consideration is the loss of access to grants and concessional loans as Guyana grows richer. They are assumed to taper off with the start of oil production.

9. The growth outlook has improved with the prospects of oil production coming online over the medium term (Text Table 1). The oil sector's share of GDP is projected to peak at about 40 percent during 2021-22. Expanding oil production and increased public investment are expected to increase growth to about 13 percent on average during 2017-22, while non-oil growth will remain at about 3.7 percent.^{6,7} Inflation is projected to remain around 3 percent in the medium term, as the flexible exchange rate regime and an appropriate monetary policy stance contain the inflationary pressures following the start of oil production. The external current account is expected to turn into a surplus of 1.3 percent with the start of oil production in 2021. Gross international reserves increase, despite profit repatriation by the oil company. However, reserve cover remains at about 3 months of imports during 2020-22 due to the increase in oil-related imports.

Text Table 1. Evolution of Selected Macroeconomic Indicators between DSA Updates

	Medium term					Averages		
	2015	2016	2017	2018	2019	2017-22	2023-37	2017-37
Real GDP growth (%)								
Previous DSA	3.0	4.0	3.9	3.8	3.8	3.8	3.8	3.8
Current DSA	3.1	3.3	3.5	3.6	3.7	13.4	1.4	4.9
Consumer prices (eop)								
Previous DSA	-1.8	2.1	2.1	2.4	2.8	2.7	3.0	2.9
Current DSA	-1.8	1.5	2.6	2.7	3.0	2.9	2.4	2.6
Overall balance 1/								
Previous DSA	-0.2	-5.5	-5.5	-5.0	-5.0	-5.1	-4.5	-4.7
Current DSA	-0.2	-2.9	-7.2	-6.3	-6.0	-5.5	-0.5	-2.0
Current account balance								
Previous DSA	-4.6	-3.2	-6.0	-6.3	-7.6	-7.3	-13.6	-11.8
Current DSA	-5.7	0.4	-2.0	-4.1	-4.7	-1.8	1.5	0.5
Foreign direct investment								
Previous DSA	3.8	5.6	6.9	6.7	6.5	6.5	6.5	6.5
Current DSA 2/	3.8	0.9	3.9	3.8	3.7	1.6	-2.5	-1.3

Sources: Guyanese authorities; and Fund staff estimates and projections.

1/ After grants, includes public enterprises.

2/ FDI declines because a significant share of the repatriation of profits takes place through the financial account.

10. In the baseline, fiscal consolidation is expected to be insufficient to prevent debt ratios from rising before the start of oil production in 2020. The fiscal deficit will be about 5.5 percent of GDP on average over the medium term as capital spending on infrastructure projects will remain high. The government's oil revenue averages 4 percent of GDP during 2020-22 and 3.5 percent of GDP in the long run. It is assumed that the government spends all of the oil revenue during 2021-24, saves one third of it during 2025-29 and 50 percent afterwards. Oil savings reduce the deficit and eventual fiscal surpluses are accumulated in a stabilization fund. Under these assumptions, public debt rises to about 61 percent of GDP by end-2019, and stabilizes at about 52 percent following oil production. The increase in government's oil revenue from 2033 onward reduces debt to 31.6 percent of GDP by 2037.

⁶ The authorities' data and projections on the national accounts and balance of payments currently do not reflect the foreign companies' investments in developing Guyana's offshore oil resources during the preparatory phase. This causes GDP, imports and FDI to be underestimated. For consistency and because of the lack of reliable information, this investment is not covered in staff's projections.

⁷ This GDP increase is consistent with values observed in other small states with large oil and gas discoveries (e.g. Mozambique, Equatorial Guinea). After the initial jump, growth is projected to converge to its steady state value.

ASSESSMENT OF BASELINE SCENARIO: GROSS EXTERNAL PUBLIC DEBT

11. The analysis suggests that Guyana’s external public debt remains sustainable under the baseline but the country faces a moderate risk of debt distress as external debt ratios are vulnerable to shocks. In the baseline, all sustainability indicators remain comfortably below their thresholds, although there is some moderate trend increase. The PV of the external public debt to GDP plus remittances ratio increases gradually to 20 percent in the long term, compared to 28 percent in the previous DSA (Table 2). Most of the improvement compared to the previous DSA is due to the effect of oil on the deficit and GDP. Debt service to exports plus remittances and debt service to revenue ratios also remain well below their respective thresholds. Nevertheless, this result should be interpreted with caution because only a fraction of the oil export revenue represents income that Guyana’s government could tap into to meet debt service obligations.

12. Stress tests show that Guyana’s external public debt ratio is vulnerable to an increase in non-concessional borrowing (Table 2, Figure 1). In particular, the PV of debt to GDP plus remittances ratio breaches the sustainability threshold by 2037 under a stress test shock that assumes that new borrowing is on non-concessional terms. However, the breach is small (about 2 percent of threshold) and falls within the borderline ± 5 percent band around the threshold. Although stress tests suggest no breach of thresholds for Guyana’s repayment capacity under this scenario, public debt service to exports plus remittances and debt service to revenue ratios are also higher than in the baseline.

13. The results suggest that the risk of debt distress is borderline moderate/low. This rating is assigned to countries where the PV of all debt burden indicators are below thresholds in the baseline scenario but there is a small breach of threshold under a standardized stress test. In the case of Guyana, the breach of the external public debt to GDP plus remittances ratio occurs under a stress test at the far end of the forecast horizon and is a small breach.

14. In borderline cases the standard analysis is complemented by a probability approach. Under this approach, the estimated probability of debt distress (expressed as a percent) corresponding to each debt burden indicator is compared to a threshold level, once again in the baseline scenario and under stress test scenarios. The probability of debt distress is derived from the same equation used to estimate the external debt thresholds. However, the probability approach is based on a country’s individual CPIA score and average GDP growth rate. In contrast, the standard approach uses fixed CPIA thresholds (3.25 for weak performers, 3.50 for medium performers, and 3.75 for strong performers) and the average GDP growth rate of all LICs.

15. The probability approach lends support to a moderate risk of debt distress rating. The results show that the PV of the external public debt to GDP plus remittances ratio breaches

the threshold under the scenario that assumes that new borrowing is on non-concessional terms (Figure 3). This is a much earlier breach than in the previous analysis and occurs in 2027. The magnitude of the breach is also larger and lies outside of the ± 5 percent borderline band.

ASSESSMENT OF BASELINE SCENARIO: GROSS PUBLIC DEBT

16. The analysis of total gross public debt shows that the risk of debt distress remains moderate (Tables 3 and 4). The total public sector debt to GDP ratio peaks at about 61 percent in 2019 but then declines with the start of oil production to about 52 percent by 2022 and 31.6 percent by 2037. Accordingly, the PV of the public sector debt to GDP ratio decreases monotonically from 48 percent in 2019 to 22 percent in 2037.

17. Nevertheless, stress tests reveal that total public debt is vulnerable to standard shocks, indicating the importance of fiscal consolidation. The PV of the debt to GDP ratio is most vulnerable to a shock to the primary balance (Table 4, Figure 2). Assuming that the primary balance is unchanged from 2017, the PV of the debt to GDP ratio would increase to 49 percent by 2022 and 95 percent by 2037. However, this scenario freezes the primary deficit at an unusually high level of 6 percent, which partly reflects shifts in capital expenditure from the 2016 to the 2017 budget.⁸ Therefore, the shock has a low probability of occurrence. Debt service also increases to 29 percent of revenues by 2037 in the scenario with a shock to the primary balance, from 11 percent in 2022. This increase could reduce resources for investment and social spending. Finally, the composition and maturity profile of domestic public debt is also a source of risk. Domestic debt is estimated to be about 15 percent of GDP at end-2016 and consists of short-term Treasury bills with maturity up to 1 year. The volume of refinancing required per year is large and there is some refinancing risk.

18. Guyana's debt profile is also vulnerable to risks arising from oil production. In an alternative scenario where oil revenues fail to materialize, total public debt increases to about 67 percent by 2022 and 80 percent of GDP by 2037 in the absence of fiscal consolidation.⁹ Stabilizing public debt in this scenario at the same level as in the baseline scenario with oil requires a significantly deeper fiscal adjustment. Staff estimates that an average deficit of about 1.5 percent of GDP will be needed to bring the debt to GDP ratio down to 35 percent by 2037. However, in a scenario where oil revenues fail to materialize, Guyana is likely to receive more grants and concessional financing, which would allow for debt to be stabilized with a higher deficit.

⁸ Running primary deficits at this level could be motivated with expectations of large future oil revenues.

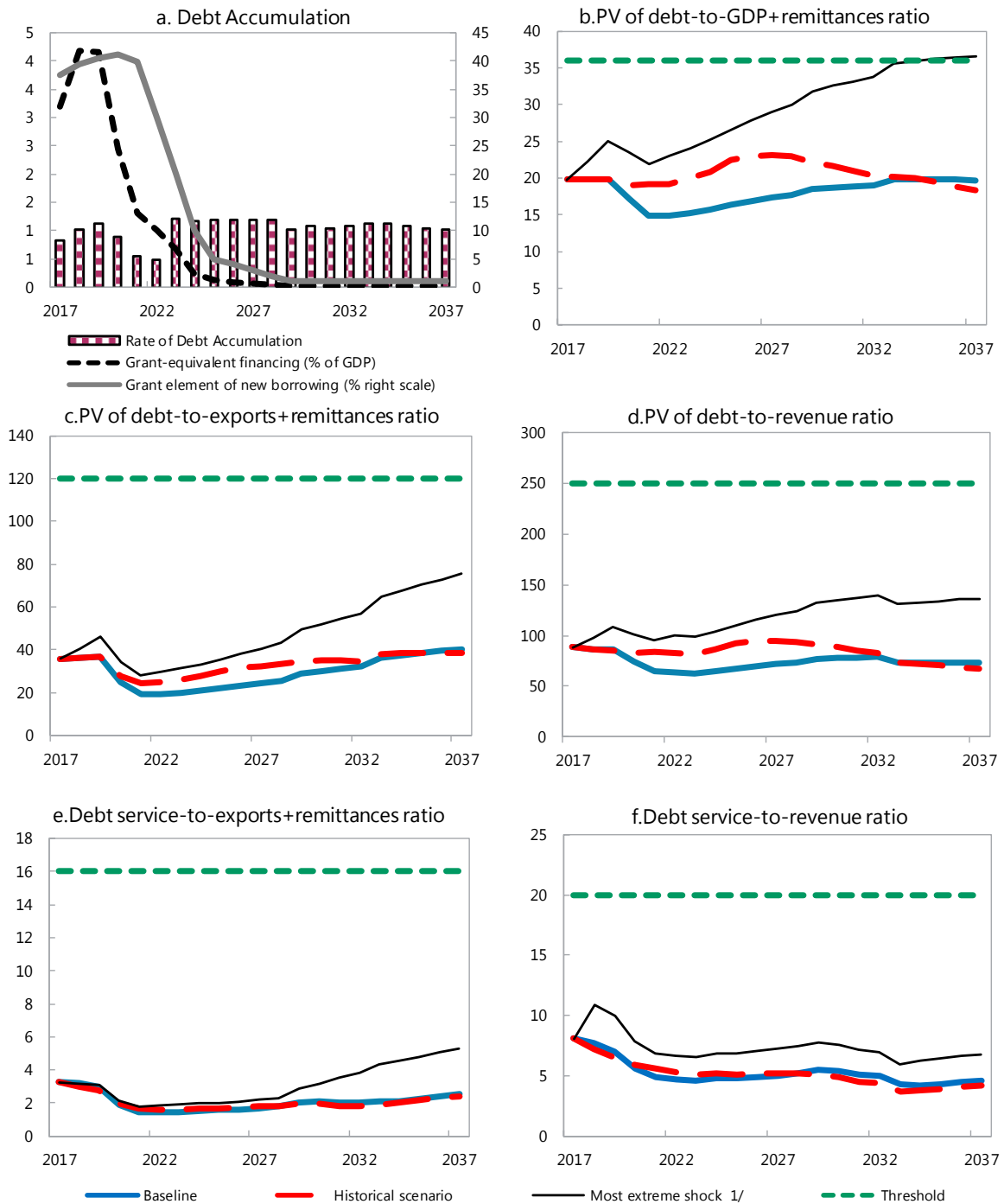
⁹ Representatives from the oil industry indicated that the geological risks associated with the oil production are small. A scenario where oil revenues are significantly lower than in the baseline would hinge on a large adverse shock to oil prices. For simplicity, we modeled the scenario as one where oil revenues fail to materialize altogether.

CONCLUSION

19. Despite improved debt dynamics under the baseline with oil production, Guyana is vulnerable to stress test shocks and the risk of debt distress is moderate, albeit declining.

In the baseline scenario, debt indicators remain well below their respective thresholds over the projection period. The PV of external debt to GDP ratio declines to about 20 percent in the long run. Nevertheless, stress tests indicate that Guyana's external debt to GDP ratio is vulnerable to shocks to the interest rate on new loans. The gross public debt to GDP ratio also breaches the standard threshold in the scenario with a shock to the primary balance but debt service remains manageable. Financing the large deficits projected over the medium-term may require an increasing reliance on non-concessional debt, including domestic borrowing. The volatility of oil prices, which could negatively impact future oil revenue, is another important source of risk. The gross public debt to GDP ratio is projected to reach 61 percent by 2019, a relatively high level, which can bring heightened financing risks on the non-concessional component. These risks are not fully captured in this LIC DSA, and warrant close monitoring.

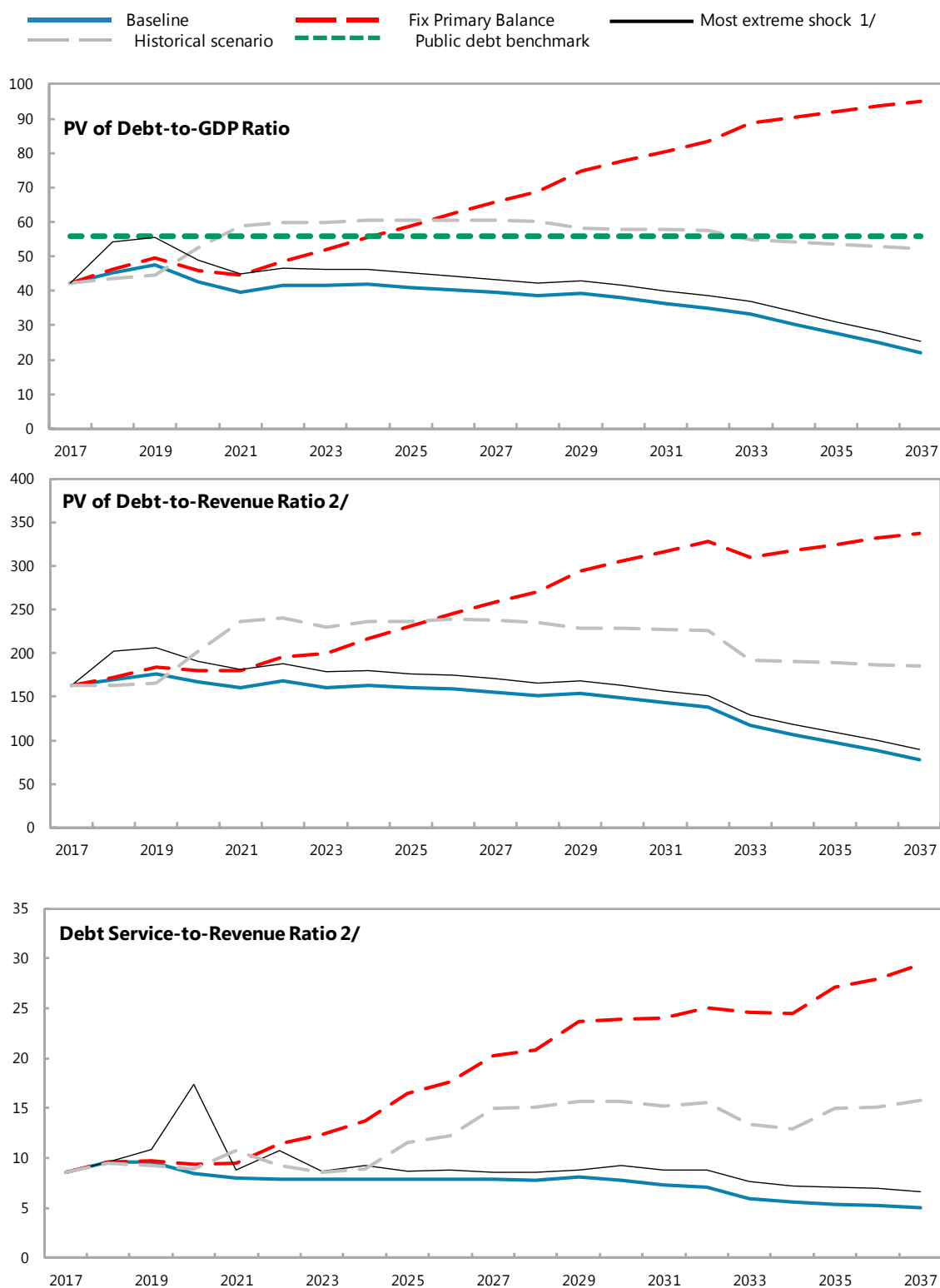
Figure 1. Guyana: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2017-2037 1/



1/ The most extreme stress test is the test that yields the highest ratio on or before 2027.

Sources: Country authorities; and staff estimates and projections.

Figure 2. Guyana: Indicators of Public Debt Under Alternative Scenarios, 2017-2037 ^{1/}

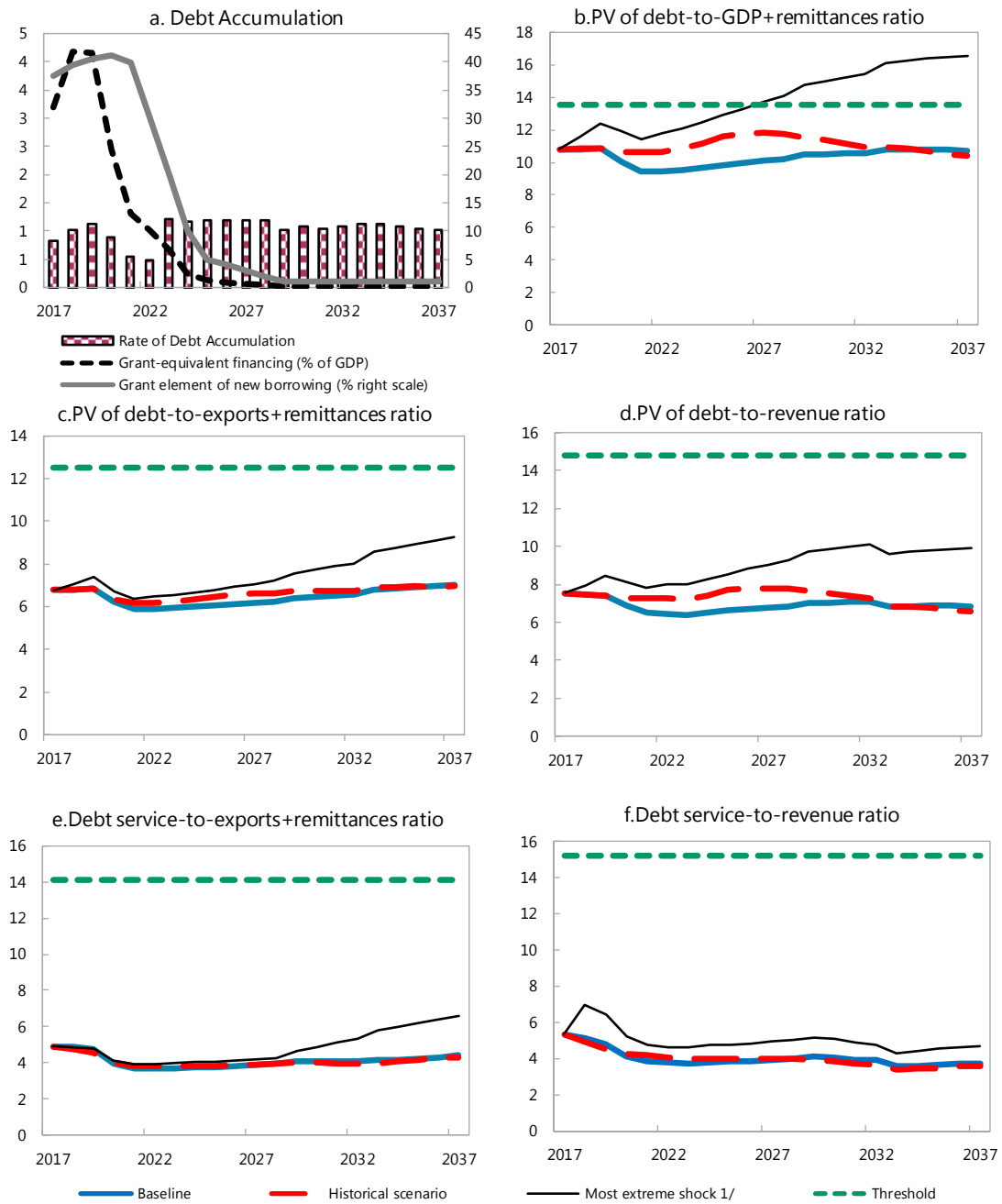


Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2027.

2/ Revenues are defined inclusive of grants.

Figure 3. Guyana: Probability of Debt Distress of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2017-2037 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2027.

Table 1. Guyana: External Debt Sustainability Framework, Baseline Scenario, 2014-2037 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical ^{6/} Standard ^{6/}		Projections									
	2014	2015	2016	Average	Deviation	2017	2018	2019	2020	2021	2022	2017-2022		2023-2037	
												Average	Average		
External debt (nominal) 1/	39.5	35.9	33.8			34.2	34.6	35.0	30.0	26.0	25.7			28.7	30.0
<i>of which: public and publicly guaranteed (PPG)</i>	39.5	35.9	33.8			34.2	34.6	35.0	30.0	26.0	25.7			28.7	30.0
Change in external debt	-2.3	-3.6	-2.1			0.4	0.3	0.4	-5.0	-4.0	-0.3			0.4	-0.5
Identified net debt-creating flows	0.1	0.6	-4.0			-3.0	-0.8	-0.1	-9.2	-7.1	-0.5			0.1	0.7
Non-interest current account deficit	8.9	5.0	-1.1	8.9	4.3	1.2	3.6	4.2	2.2	-1.8	-1.7			-5.2	0.4
Deficit in balance of goods and services	26.5	19.7	8.8			10.8	11.9	12.3	-0.8	-10.8	-10.3			-12.2	2.4
Exports	46.8	44.0	50.2			51.6	51.3	50.8	66.1	77.2	76.1			69.9	46.1
Imports	73.3	63.7	59.0			62.4	63.3	63.1	65.3	66.5	65.7			57.7	48.5
Net current transfers (negative = inflow)	-16.0	-13.1	-9.3	-15.4	2.9	-9.4	-8.4	-8.1	-6.7	-5.8	-5.6			-5.3	-4.1
<i>of which: official</i>	-1.2	0.0	0.0			-1.0	-0.1	-0.1	-0.1	-0.1	-0.1			0.0	0.0
Other current account flows (negative = net inflow)	-1.6	-1.6	-0.5			-0.2	0.0	0.0	9.8	14.8	14.3			12.4	2.1
Net FDI (negative = inflow)	-8.3	-3.8	-0.9	-7.5	2.9	-3.9	-3.8	-3.7	-0.9	1.4	1.4			5.4	0.5
Endogenous debt dynamics 2/	-0.4	-0.6	-2.0			-0.3	-0.6	-0.6	-10.5	-6.8	-0.3			-0.1	-0.2
Contribution from nominal interest rate	0.8	0.7	0.7			0.8	0.6	0.6	0.5	0.4	0.4			0.5	0.6
Contribution from real GDP growth	-1.6	-1.2	-1.1			-1.1	-1.2	-1.2	-11.0	-7.2	-0.7			-0.6	-0.8
Contribution from price and exchange rate changes	0.4	-0.1	-1.5			...	...	...	...	...	...			...	...
Residual (3-4) 3/	-2.4	-4.2	1.9			3.4	1.2	0.6	4.1	3.1	0.3			0.3	-1.1
<i>of which: exceptional financing</i>	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
PV of external debt 4/	...	...	21.2			21.4	21.4	21.5	18.3	15.8	15.6			18.2	20.5
In percent of exports	...	...	42.2			41.5	41.7	42.2	27.6	20.5	20.6			26.1	44.5
PV of PPG external debt	...	...	21.2			21.4	21.4	21.5	18.3	15.8	15.6			18.2	20.5
In percent of exports	...	...	42.2			41.5	41.7	42.2	27.6	20.5	20.6			26.1	44.5
In percent of government revenues	...	...	78.7			88.6	86.5	85.7	73.8	64.8	63.9			71.6	72.9
Debt service-to-exports ratio (in percent)	12.1	7.5	3.5			3.8	3.7	3.5	2.1	1.5	1.5			1.8	2.8
PPG debt service-to-exports ratio (in percent)	12.1	7.5	3.5			3.8	3.7	3.5	2.1	1.5	1.5			1.8	2.8
PPG debt service-to-revenue ratio (in percent)	24.8	12.2	6.4			8.1	7.7	7.0	5.6	4.9	4.7			5.0	4.6
Total gross financing need (Billions of U.S. dollars)	0.2	0.1	0.0			0.0	0.1	0.1	0.1	0.0	0.1			0.1	0.2
Non-interest current account deficit that stabilizes debt ratio	11.2	8.6	1.0			0.8	3.2	3.7	7.2	2.2	-1.4			-5.6	0.8
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.8	3.1	3.3	4.2	1.4	3.5	3.6	3.7	38.5	28.5	2.8	13.4	2.3	2.8	1.4
GDP deflator in US dollar terms (change in percent)	-0.9	0.3	4.5	4.6	4.3	0.9	0.0	1.3	-11.6	-7.4	1.3	-2.6	1.5	3.1	2.6
Effective interest rate (percent) 5/	1.9	1.9	2.1	1.4	0.4	2.5	1.8	1.7	1.7	1.7	1.6	1.8	1.9	2.1	1.9
Growth of exports of G&S (US dollar terms, in percent)	-6.7	-2.7	23.1	9.6	12.5	7.5	3.0	3.9	59.4	39.0	2.5	19.2	1.3	2.5	0.7
Growth of imports of G&S (US dollar terms, in percent)	-4.0	-10.1	0.0	6.8	13.3	10.6	5.0	4.7	26.7	21.2	2.9	11.9	2.8	3.4	2.0
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	37.6	39.5	40.5	41.2	39.8	30.0	38.1	3.0	1.0	3.5
Government revenues (excluding grants, in percent of GDP)	22.9	26.8	26.9			24.2	24.8	25.0	24.7	24.4	24.5			25.5	28.2
Aid flows (in Billions of US dollars) 7/	0.2	0.1	0.1			0.2	0.2	0.2	0.2	0.1	0.1			0.2	0.2
<i>of which: Grants</i>	0.0	0.0	0.0			0.1	0.1	0.1	0.0	0.0	0.0			0.0	0.0
<i>of which: Concessional loans</i>	0.2	0.1	0.1			0.1	0.1	0.1	0.1	0.1	0.1			0.2	0.2
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			3.2	4.2	4.2	2.4	1.3	1.0			0.1	0.0
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			59.2	56.1	56.1	51.9	45.6	36.7			3.0	1.0
Memorandum items:															
Nominal GDP (Billions of US dollars)	3.1	3.2	3.4			3.6	3.7	3.9	4.8	5.7	5.9			7.2	10.8
Nominal dollar GDP growth	2.9	3.4	8.0			4.5	3.6	5.0	22.5	19.0	4.1	9.8	3.8	6.0	4.1
PV of PPG external debt (in Billions of US dollars)	...	...	0.7			0.8	0.8	0.8	0.9	0.9	0.9			1.3	2.2
(Pvt-Pvt-1)/GDPt-1 (in percent)	...	...	...			0.8	1.0	1.1	0.9	0.6	0.5	0.8	1.2	1.0	1.1
Gross workers' remittances (Billions of US dollars)	0.5	0.4	0.3			0.3	0.3	0.3	0.3	0.3	0.3			0.4	0.5
PV of PPG external debt (in percent of GDP + remittances)	...	...	19.4			19.8	19.8	19.9	17.1	15.0	14.8			17.3	19.6
PV of PPG external debt (in percent of exports + remittances)	...	...	35.6			35.7	35.9	36.5	25.1	19.1	19.2			24.2	40.3
Debt service of PPG external debt (in percent of exports + remittances)	...	...	2.9			3.3	3.2	3.0	1.9	1.4	1.4			1.7	2.5

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - p(1+g)] / (1+g+p+gp)$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and p = 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/ Assumes that PV of private sector debt is equivalent to its face value.

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

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

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

8/ 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).

Table 2. Guyana: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017-2037 (In percent)								
	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
PV of debt-to-GDP+remittances ratio								
Baseline	20	20	20	17	15	15	17	20
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	20	20	20	19	19	19	23	18
A2. New public sector loans on less favorable terms in 2017-2037 2	20	22	25	24	22	23	29	37
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	20	20	20	17	15	15	18	20
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	20	21	25	22	19	19	21	22
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	20	20	20	17	15	15	17	20
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	20	16	13	12	10	10	13	17
B5. Combination of B1-B4 using one-half standard deviation shocks	20	14	9	8	7	7	9	15
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	20	27	27	24	21	21	24	28
PV of debt-to-exports+remittances ratio								
Baseline	36	36	36	25	19	19	24	40
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	36	36	37	28	24	25	32	39
A2. New public sector loans on less favorable terms in 2017-2037 2	36	40	46	34	28	30	40	75
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	36	36	36	25	19	19	24	40
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	36	41	52	36	27	27	34	51
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	36	36	36	25	19	19	24	40
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	36	28	23	17	13	13	18	35
B5. Combination of B1-B4 using one-half standard deviation shocks	36	24	16	12	9	9	13	31
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	36	36	36	25	19	19	24	40
PV of debt-to-revenue ratio								
Baseline	89	86	86	74	65	64	72	73
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	89	87	85	82	84	83	95	67
A2. New public sector loans on less favorable terms in 2017-2037 2	89	97	108	101	95	99	120	136
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	89	87	87	75	65	65	73	74
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	89	94	109	94	82	81	89	82
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	89	86	86	74	65	64	72	73
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	89	73	59	50	44	43	52	63
B5. Combination of B1-B4 using one-half standard deviation shocks	89	62	39	34	29	29	37	54
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	89	123	122	105	92	91	102	104

Table 2. Guyana: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2017-2037 (concluded)
(In percent)

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
Debt service-to-exports+remittances ratio								
Baseline	3	3	3	2	1	1	2	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	3	3	3	2	2	2	2	2
A2. New public sector loans on less favorable terms in 2017-2037 2	3	3	3	2	2	2	2	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	3	3	3	2	1	1	2	3
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	3	3	3	2	2	2	2	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	3	3	3	2	1	1	2	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	3	3	3	2	1	1	2	2
B5. Combination of B1-B4 using one-half standard deviation shocks	3	3	2	1	1	1	1	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	3	3	3	2	1	1	2	3
Debt service-to-revenue ratio								
Baseline	8	8	7	6	5	5	5	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	8	7	6	6	6	5	5	4
A2. New public sector loans on less favorable terms in 2017-2037 2	8	8	7	6	6	6	7	10
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	8	8	7	6	5	5	5	5
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	8	8	7	6	5	5	6	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	8	8	7	6	5	5	5	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	8	8	7	5	4	4	5	4
B5. Combination of B1-B4 using one-half standard deviation shocks	8	7	6	4	4	4	4	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	8	11	10	8	7	7	7	7
<i>Memorandum item:</i>								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	35	35	35	35	35	35	35	35
Sources: Country authorities; and staff estimates and projections.								
1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.								
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.								
3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).								
4/ Includes official and private transfers and FDI.								
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.								
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.								

Table 3. Guyana: Public Sector Debt Sustainability Framework, Baseline Scenario, 2014-2037
(In percent of GDP, unless otherwise indicated)

	Actual			Average ^{5/}	Standard Deviation ^{5/}	Estimate											Projections		
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	51.9	48.7	49.6			55.1	58.5	61.2	54.3	49.7	51.6	51.6	52.0	51.2	50.7		50.0	31.6	
<i>of which: foreign-currency denominated</i>	39.5	35.9	33.8			34.2	34.6	35.0	30.0	26.0	25.7	26.1	26.8	27.5	28.2		28.7	30.0	
		0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		
Change in public sector debt	-6.1	-3.2	0.9			5.6	3.3	2.7	-6.9	-4.6	1.9	0.0	0.3	-0.8	-0.5		-0.7	-3.0	
Identified debt-creating flows	3.9	-1.4	-0.7			5.4	3.5	3.0	-6.6	-4.4	2.1	0.0	0.3	-0.8	-0.5		-0.7	-2.9	
Primary deficit	4.7	-0.6	2.0			6.1	5.1	4.6	3.6	3.3	3.1	1.4	1.2	0.0	0.2		0.2	-1.7	
Revenue and grants	23.6	27.8	28.0			26.1	26.8	27.0	25.6	24.7	24.7	25.9	25.6	25.5	25.4		25.5	28.2	
<i>of which: grants</i>	0.7	1.0	1.1			1.9	2.0	1.9	0.9	0.3	0.3	0.2	0.0	0.0	0.0		0.0	0.0	
Primary (noninterest) expenditure	28.3	27.1	29.9			32.2	31.9	31.6	29.2	28.0	27.8	27.4	26.8	25.5	25.6		25.6	26.4	
Automatic debt dynamics	-0.9	-0.8	-2.6			-0.7	-1.5	-1.6	-10.2	-7.7	-1.0	-1.4	-0.8	-0.8	-0.7		-0.9	-1.2	
Contribution from interest rate/growth differential	-1.7	-1.0	-1.6			-1.6	-1.8	-1.8	-14.0	-10.0	-1.1	-1.3	-1.1	-1.0	-0.9		-0.9	-0.9	
<i>of which: contribution from average real interest rate</i>	0.5	0.6	-0.1			0.1	0.2	0.2	3.0	2.0	0.2	0.0	0.3	0.2	0.2		0.3	0.1	
<i>of which: contribution from real GDP growth</i>	-2.1	-1.6	-1.6			-1.7	-1.9	-2.1	-17.0	-12.1	-1.3	-1.3	-1.3	-1.2	-1.1		-1.1	-0.9	
Contribution from real exchange rate depreciation	0.8	0.3	-1.0			0.9	0.2	0.2	3.9	2.3	0.2	-0.1	0.2	0.2	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	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	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	-9.9	-1.8	1.6			0.2	-0.2	-0.3	-0.3	-0.3	-0.2	0.0	0.0	0.0	0.0		0.0	-0.1	
Other Sustainability Indicators																			
PV of public sector debt	...	...	36.9			42.4	45.3	47.7	42.6	39.5	41.5	41.6	41.8	40.9	40.3		39.5	22.1
<i>of which: foreign-currency denominated</i>	...	...	21.2			21.4	21.4	21.5	18.3	15.8	15.6	16.1	16.6	17.2	17.8		18.2	20.5
<i>of which: external</i>	...	...	21.2			21.4	21.4	21.5	18.3	15.8	15.6	16.1	16.6	17.2	17.8		18.2	20.5
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...	...	...	...	...		...	...
Gross financing need 2/	26.2	14.8	15.8			23.2	27.4	29.8	26.9	25.6	27.6	27.9	27.6	26.1	24.9		23.7	3.6	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	131.9			162.6	169.2	176.7	166.5	160.2	167.9	160.3	163.0	160.2	158.5		155.3	78.6
PV of public sector debt-to-revenue ratio (in percent)	...	...	137.3			175.1	183.1	190.5	172.3	162.1	169.7	161.4	163.0	160.2	158.5		155.3	78.6
<i>of which: external 3/</i>	...	...	78.7			88.6	86.5	85.7	73.8	64.8	63.9	62.4	64.8	67.4	70.1		71.6	72.9
Debt service-to-revenue and grants ratio (in percent) 4/	25.1	12.8	7.1			8.6	9.6	9.5	8.4	8.0	7.9	7.9	7.9	7.9	7.9		7.8	5.0	
Debt service-to-revenue ratio (in percent) 4/	25.8	13.2	7.4			9.2	10.4	10.3	8.7	8.1	8.0	7.9	7.9	7.9	7.9		7.8	5.0	
Primary deficit that stabilizes the debt-to-GDP ratio	10.8	2.6	1.1			0.6	1.7	1.9	10.4	7.9	1.2	1.4	0.8	0.8	0.7		0.9	1.3	
Key macroeconomic and fiscal assumptions																			
Real GDP growth (in percent)	3.8	3.1	3.3	4.2	1.4	3.5	3.6	3.7	38.5	28.5	2.8	2.6	2.7	2.4	2.3	13.4	2.3	2.8	1.4
Average nominal interest rate on forex debt (in percent)	1.9	1.9	2.1	1.4	0.4	2.5	1.8	1.7	1.7	1.7	1.6	1.7	1.7	1.8	1.8	1.8	1.9	2.1	1.9
Average real interest rate on domestic debt (in percent)	2.0	1.8	-2.2	-1.5	3.3	-0.8	1.0	1.3	16.1	11.1	1.2	0.2	1.3	1.2	1.2	5.0	1.3	0.7	0.5
Real exchange rate depreciation (in percent, + indicates depreciation)	2.0	0.7	-2.8	-2.8	3.4	2.8
Inflation rate (GDP deflator, in percent)	-0.4	0.3	4.5	4.9	4.4	2.8	2.3	2.3	-10.7	-6.5	2.3	3.3	2.0	2.1	2.1	-1.2	2.0	2.6	2.8
Growth of real primary spending (deflated by GDP deflator, in percent)	6.8	-1.2	14.1	2.0	4.8	11.2	2.6	2.9	27.8	23.4	2.2	0.9	0.7	-2.6	2.5	11.7	2.5	2.7	1.1
Grant element of new external borrowing (in percent)	37.6	39.5	40.5	41.2	39.8	30.0	20.0	10.0	5.0	4.0	38.1	3.0	1.0	...

Sources: Country authorities; and staff estimates and projections.
1/ Gross debt of the nonfinancial public sector.
2/ 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.
3/ Revenues excluding grants.
4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.
5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 4. Guyana: Sensitivity Analysis for Key Indicators of Public Debt 2017-2037

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	42	45	48	43	40	42	40	22
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	42	44	45	52	59	60	60	52
A2. Primary balance is unchanged from 2017	42	46	50	46	44	49	66	95
A3. Permanently lower GDP growth 1/	42	46	48	43	40	43	43	35
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	42	46	49	44	41	43	43	28
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	42	45	48	43	40	42	40	22
B3. Combination of B1-B2 using one half standard deviation shocks	42	45	47	42	39	41	39	22
B4. One-time 30 percent real depreciation in 2018	42	54	56	49	45	47	43	25
B5. 10 percent of GDP increase in other debt-creating flows in 2018	42	53	55	48	44	46	44	26
PV of Debt-to-Revenue Ratio 2/								
Baseline	163	169	177	167	160	168	155	79
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	163	163	166	203	236	240	237	185
A2. Primary balance is unchanged from 2017	163	172	184	180	180	196	258	337
A3. Permanently lower GDP growth 1/	163	170	178	169	164	173	171	124
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	163	171	181	172	166	175	168	98
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	163	169	177	167	160	168	155	79
B3. Combination of B1-B2 using one half standard deviation shocks	163	166	173	163	158	166	154	79
B4. One-time 30 percent real depreciation in 2018	163	202	206	191	181	188	171	90
B5. 10 percent of GDP increase in other debt-creating flows in 2018	163	197	204	188	180	187	173	93
Debt Service-to-Revenue Ratio 2/								
Baseline	9	10	10	8	8	8	8	5
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	9	10	9	9	11	9	15	16
A2. Primary balance is unchanged from 2017	9	10	10	9	9	11	20	29
A3. Permanently lower GDP growth 1/	9	10	10	9	8	8	9	9
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	9	10	10	9	9	9	9	7
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	9	10	10	8	8	8	8	5
B3. Combination of B1-B2 using one half standard deviation shocks	9	10	9	8	7	8	8	5
B4. One-time 30 percent real depreciation in 2018	9	11	12	11	11	11	11	9
B5. 10 percent of GDP increase in other debt-creating flows in 2018	9	10	11	17	9	11	9	7
Sources: Country authorities; and staff estimates and projections.								
1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.								
2/ Revenues are defined inclusive of grants.								