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STAFF REPORT FOR THE 2018 ARTICLE IV CONSULTATION, FIFTH REVIEW UNDER THE EXTENDED CREDIT FACILITY, REQUEST FOR WAIVERS FOR NONOBSERVANCE OF PERFORMANCE CRITERIA AND FINANCING ASSURANCES REVIEW—DEBT SUSTAINABILITY ANALYSIS[1]

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Prepared by International Monetary Fund and International Development Association staffs in collaboration with the authorities of São Tomé and Príncipe.

São Tomé and Príncipe is classified as being in debt distress according to this joint World Bank-IMF low-income country debt sustainability analysis (DSA). *This assessment has changed from the previous DSA completed in December 2017 (high risk of external debt distress) due to the prolonged negotiations on rescheduling external arrears. Nonetheless, São Tomé and Príncipe's debt ratios have improved since the previous DSA. Specifically, the ratio of the present value of public and publicly-guaranteed (PPG) external debt to GDP no longer exceeds its threshold under the baseline scenario, due to lower-than-expected loan disbursements in 2017, an appreciation of the euro vis-à-vis the U.S. dollar, and higher-than-expected GDP deflator growth. As in the previous DSA, the debt service ratios stay below their respective thresholds under almost all scenarios. Nevertheless, the ratios of the present value of debt to exports and to revenue still exceed their respective thresholds under the baseline scenario early in the projection period, though they decline over time. This DSA underscores the importance of lowering all PPG external debt indicators below their thresholds by continuing fiscal consolidation, eschewing non-concessional loans, promoting growth, and expanding the export base.*

[1] The DSA update was prepared by IMF and World Bank staffs in collaboration with the authorities of São Tomé and Príncipe. The analysis updates the previous Joint DSA dated December 11, 2017 (IMF Country Report No. 17/382). The DSA follows the IMF and World Bank Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries (November 5, 2013). The DSA uses the unified discount rate of 5 percent set out in Decision No. 15462 (October 11, 2013). For the purpose of defining debt burden thresholds under the Debt Sustainability Framework (DSF), São Tomé and Príncipe is classified as a weak policy performer. São Tomé and Príncipe's average rating on the World Bank's Country Policy and Institutional Assessment (CPIA) for the period 2014-16 is 3.07. The corresponding indicative thresholds are: 30 percent for the NPV of debt-to-GDP ratio; 100 percent for the net present value (NPV) of debt-to-exports ratio; 200 percent for NPV of debt-to-revenue ratio; 15 percent for the debt service-to-exports ratio; and 18 percent for the debt service-to-revenue ratio.

BACKGROUND

1. **This debt sustainability analysis (DSA) updates the DSA for São Tomé and Príncipe that was completed on December 11, 2017 (IMF Country Report No. 17/382).** That DSA concluded that São Tomé and Príncipe stood at high risk of debt distress.

2. **Total public and publicly guaranteed (PPG) external debt decreased from 52.5 percent of GDP in 2016 to 45.7 percent of GDP in 2017** (Text Table 1).[2] PPG external debt at end-2017 was also lower than the previous projection of 49.9 percent of GDP. This decline was mainly driven by lower-than-expected disbursements due to absorption constraints (Text Table 2), an appreciation of the euro vis-à-vis the U.S. dollar, and higher-than-expected GDP deflator growth. Meanwhile, preliminary data indicate that the stock of domestic debt also decreased, bringing total PPG debt from 67.6 percent of GDP in 2016 to 64.4 percent of GDP in 2017, mainly due to the positive price differential between imported and pump oil prices, which was used to reduce the debt owed to the oil importing company, ENCO. Domestic debt includes domestic arrears and government securities issued in the domestic market (around 4.2 percent of GDP).

Text Table 1. São Tomé and Príncipe: Public Debt Stock

(As of end 2017)	Million USD	Share of GDP (%)
Total PPG debt	**267.6**	**64.4%**
Total PPG external debt	**189.8**	**45.7%**
Multilateral Creditors	**45.3**	**10.9%**
IDA	11.9	**2.9%**
BADEA	12.0	**2.9%**
FIDA	5.8	**1.4%**
AfDB	6.9	**1.7%**
IMF	6.7	**1.6%**
OPEC	2.0	**0.5%**
Bilateral Creditors	**131.9**	**31.7%**
Portugal	59.6	**14.3%**
Angola	55.6	**13.4%**
China[1]	10.0	**2.4%**
Brazil[1]	4.3	**1.0%**
Equatorial Guinea	1.7	**0.4%**
Belgium	0.8	**0.2%**
External suppliers' debt	**12.5**	**3.0%**
Domestic debt[2]	**77.8**	**18.7%**
Domestic arrears	**60.3**	**14.5%**
ENCO (oil importing company)	38.5	**9.3%**
CST (telecom)	5.8	**1.4%**
EMAE (water and electricity)	2.6	**0.6%**
Other suppliers	13.4	**3.2%**
Domestic debt (other)	**17.5**	**4.2%**
Memorandum items:		**0.0%**
Pre-HIPC legacy arrears	**54.9**	**13.2%**
Italy[1]	24.3	**5.8%**
Angola	30.6	**7.4%**
Arrears from EMAE to ENCO[2]	**66.6**	**16.0%**

Sources: Country authorities and IMF staff estimates
[1] Commercial debt guaranteed by the government.
[2] Preliminary data

3. **Looking forward, the 2018 budget foresees $11.0 million (2.4 percent of GDP) in loan disbursements** (Text Table 2). A large share of this is expected to come from the AfDB. Already contracted debt that was not disbursed in 2017 and is not expected to be disbursed in 2018 is projected to be disbursed in 2019-21.

4. **In terms of coverage, the DSA includes only debt contracted or guaranteed by the central government**. State-owned enterprises (SOEs) do not have external debt.

5. **São Tomé and Príncipe continues to have post-HIPC arrears with bilateral creditors.** These arrears are to Angola (US$4.8 million), Brazil (US$4.3

[2] These debt numbers exclude pre-HIPC initiative arrears equal to 14.0 percent of GDP (on the assumption of debt forgiveness) and a disputed loan from Nigeria equal to 7.6 percent of GDP.

million), and Equatorial Guinea (US$1.7 million). In total, they equal 2.8 percent of GDP. In addition, a loan from Nigeria equal to 7.6 percent of GDP is excluded from the debt stock, as it is under dispute according to information provided by the São Tomé and Príncipe authorities. Text Table 3 provides more details on the arrears and disputed debt.

Text Table 2. Loan Disbursements
(millions of USD)

	2016	Proj. 2017[1]	2017	Proj. 2018	Proj. 2019-21
Kuwait	0.0	1.7	0.0	1.7	14.7
EIB	0.0	0.0	0.0	0.0	12.7
AfDB	0.9	7.6	2.2	4.5	13.4
Portugal	2.7	2.2	0.0	0.0	6.8
BADEA	1.4	1.2	0.3	1.2	6.0
IMF	1.8	1.8	1.8	1.8	0.0
Angola	4.5	4.5	4.5	0.0	0.0
IFAD	0.0	1.9	0.0	1.8	0.0
Sum	**11.3**	**20.9**	**8.8**	**11.0**	**53.6**
Percent of GDP	**3.2**	**5.3**	**1.9**	**2.4**	**3.1**

[1]Projection in the December 2017 DSA.

Text Table 3. Arrears and Disputed Debt
(As of end-December 2017)

Type	Description	DSA Treatment
Pre-HIPC legacy arrears (14.0 percent of GDP)	São Tomé and Príncipe has pre-HIPC legacy arrears to Angola ($30.6 million) and Italy ($24.3 million), in total $54.9 million. São Tomé and Príncipe is making best efforts to reach an agreement consistent with the representative Paris Club agreement. In 2017 São Tomé and Príncipe was able to secure relief from pre-HIPC legacy arrears to China of $18.4 million.	Not included in the DSA.
Post-HIPC bilateral arrears (2.8 percent of GDP)	São Tomé and Príncipe has post-HIPC arrears to Angola ($4.8 million), Brazil ($4.3 million), and Equatorial Guinea ($1.7 million), in total $10.8 million. The government has actively sought debt rescheduling agreements with Angola and Equatorial Guinea through correspondence and high-level meetings. However, responses are pending from these two countries on continuing the negotiations. These arrears are the result of weak debt management, and staff assesses that São Tomé and Príncipe has the capacity to repay them over time.	Included in the DSA.

Text Table 3. Arrears and Disputed Debt (concluded)
(As of end-December 2017)

Type	Description	DSA Treatment
Domestic arrears (14.5 percent of GDP)	São Tomé and Príncipe has domestic arrears to the oil-company ENCO ($38.5 million), the telecom company CST ($5.8 million), and the water and electricity company EMAE ($2.6 million). There are also arrears to other suppliers amounting to $13.4 million. In total, the domestic arrears amount to $60.3 million. The government has a domestic arrears clearance plan.	Included in the DSA.
Disputed debt (7.6 percent of GDP)	A loan from Nigeria in the amount of $30 million was excluded from the debt stock as there is no signed contract with repayment conditions between the two countries. Nonetheless, the authorities acknowledged the receipt of the funds, which were spent as evidenced by budget documents. This loan was extended as advances on oil revenues in the context of the joint development zone between these two countries, but this project has stalled. According to São Tomé and Príncipe authorities, this loan is under dispute since it should only be repaid in case revenues from oil are materialized. The authorities are still waiting for responses from Nigeria on discussing the disputed loan.	Not included in the DSA.

6. São Tomé and Príncipe continues to engage actively in rescheduling negotiations with these creditors. An agreement with the Brazilian government was reached, pending ratification by the Brazilian Senate. The government has actively sought debt rescheduling agreements with Angola and Equatorial Guinea through correspondence and high-level meetings. However, responses are pending from these two countries on continuing the negotiations. Similarly, Nigeria is yet to respond to the authorities' request for discussing the disputed loan.

MACROECONOMIC ASSUMPTIONS

7. The macroeconomic assumptions have changed modestly from the previous DSA. The current DSA assumes lower long-run real GDP growth (4.9 percent instead of 5.4) due to uncertainty about the implementation of large projects. At the same time, the GDP deflator has been raised in line with recently released deflator series by the authorities. In addition, FDI and the current account deficit[3] have been raised in line with the recently heightened interest in oil exploration (Text Table 4),

[3] Higher FDI inflows will lead to more imports of investment goods, and thus a higher current account deficit.

as evidenced by the large oil signature bonus and the announcement of tenders on new exploration blocks.

Text Table 4. Macroeconomic Assumptions

	Historical			Forecasts	
	2017 DSA[1]	2018 DSA[1]	Last 4 years	2017 DSA[1]	2018 DSA
	2007-16	2008-17	2014-17	2017-37	2018-38
Real GDP growth (percent)	4.3	4.8	4.6	5.4	4.9
Inflation (percent average)	13.2	11.9	5.8	3.4	3.4
GDP deflator (percent)	5.6	5.8	2.4	2.2	2.9
Domestic primary balance (percent of GDP)	-4.5	-3.9	-3.1	-1.3	-1.0
Primary balance (percent of GDP)	-9.3	-8.7	-5.5	-2.4	-1.6
Grants (percent of GDP)	17.3	16.7	11.8	7.6	7.4
New borrowing (percent of GDP)	7.6	7.5	5.5	2.3	2.3
FDI (percent of GDP)	15.7	13.0	7.8	3.8	11.9
USD export growth (percent)	21.9	24.6	24.3	6.6	6.2
USD import growth (percent)	9.6	10.3	3.3	5.5	6.3
Current account balance, excluding grants (percent of GDP)	-38.7	-36.3	-24.2	-13.2	-17.1
Current account balance, including grants (percent of GDP)	-21.4	-19.6	-12.4	-5.6	-9.7

[1] IMF Country Report No. 17/382

EXTERNAL DEBT SUSTAINABILITY

8. **Under the baseline scenario, the present value (PV) of debt to exports and the PV of debt to revenue both breach their indicative thresholds, but debt *service* ratios remain below their thresholds under almost all scenarios** (Figure 1).[4] These breaches also occurred in the previous DSA. However, the PV of PPG debt to GDP no longer breaches its threshold. This improvement from the previous DSA is driven by lower-than-expected disbursements in 2017, an appreciation of the euro vis-à-vis the U.S. dollar, and higher-than-expected GDP deflator growth. Like in the previous DSA, the debt service ratios continue to stay below their thresholds under all scenarios, except the debt-service-to-exports ratio under the historical scenario. All indicators improve over time under the baseline and the most extreme scenarios as a result of economic growth, fiscal consolidation, slower debt accumulation, expansion of the export base, and constrained imports.

[4] São Tomé and Príncipe's quality of policies and institutions, as measured by the average World Bank's Country Policy and Institutional Assessment (CPIA) for the period 2014-16, is 3.07 (weak performer). The corresponding indicative thresholds are: 30 percent for the net present value (NPV) of debt-to-GDP ratio; 100 percent for the NPV of debt-to-export ratio; 200 percent for NPV of debt-to-revenue ratio; 15 percent for the debt service-to-exports ratio; and 18 percent for the debt service-to-revenue ratio.

9. Under stress tests with the most extreme shock, all external debt *stock* indicators breach their respective thresholds early in the projection period, albeit with a declining trend (Figure 1, solid black lines). As in the previous DSA, export-based indicators are most sensitive to exports shocks, while the remaining indicators are most sensitive to a one-time 30-percent depreciation shock. This highlights the need to diversify the export base and maintain the credibility of the exchange rate peg.

PUBLIC DEBT SUSTAINABILITY

10. Unlike the previous DSA, the PV of total public debt to GDP ratio no longer breaches the benchmark under the baseline and fixed primary balance scenarios (Figure 2). The baseline scenario has improved for the reasons discussed above. The fixed primary balance scenario has also improved because a primary surplus of 0.6 percent of GDP is expected for 2018, in contrast with the primary deficit in 2017 of 1.0 percent of GDP, on account of a signing bonus for oil exploration. As is the case in the previous DSA, public debt dynamics appear unsustainable under the historical scenario, underscoring the importance of continued fiscal consolidation and fostering private-sector led growth through structural reforms. The PV of debt to revenue ratio is most sensitive to a deterioration of one standard deviation in the historical primary deficit. The other two indicators are most sensitive to a one-time 30-percent depreciation.

DEBT DISTRESS QUALIFICATION AND CONCLUSIONS

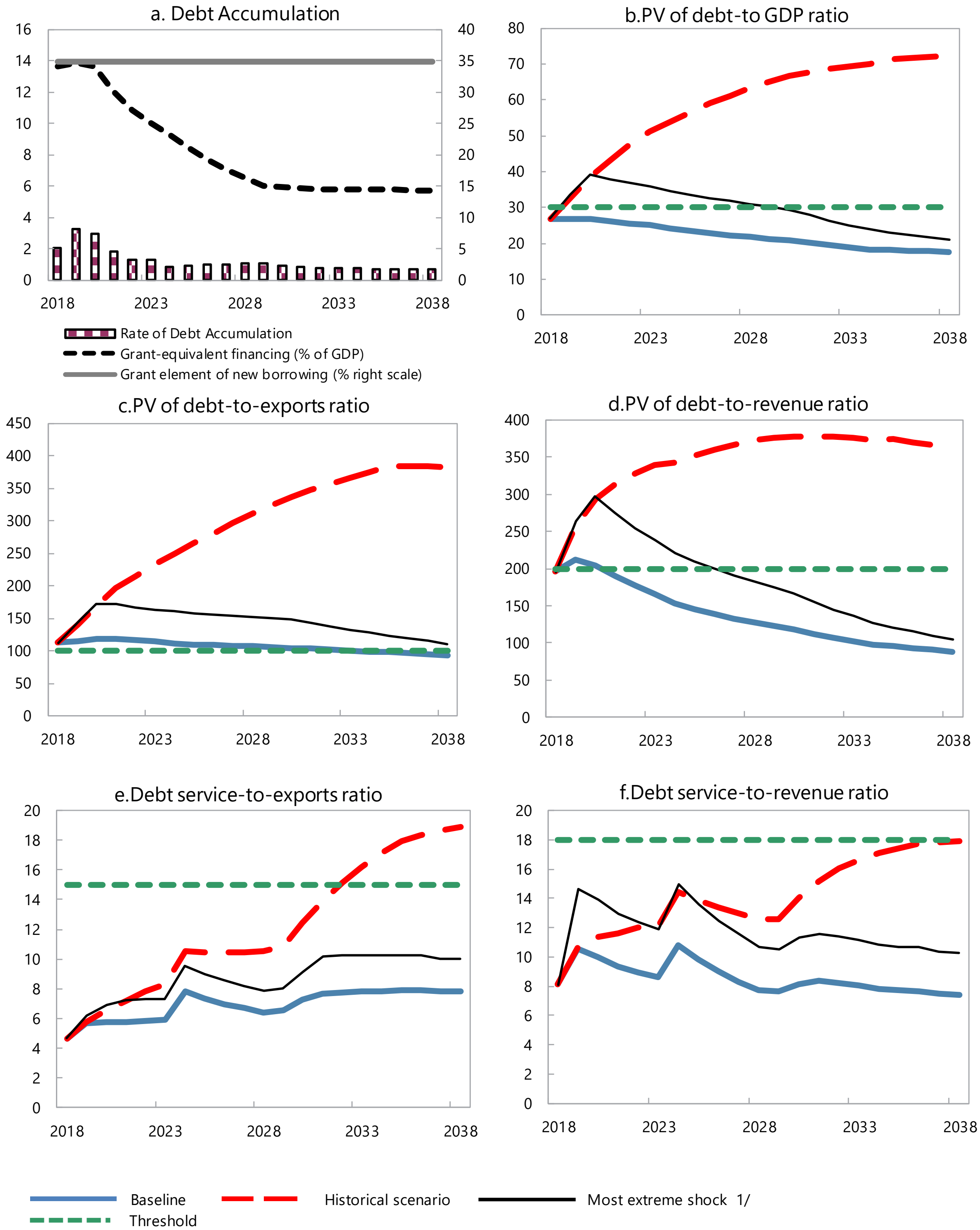
11. São Tomé and Príncipe's classification has been updated to stand in debt distress. This change was not made at the time of the previous DSA because the regularization of São Tomé and Príncipe's post-HIPC sovereign arrears (to Angola, Brazil, and Equatorial Guinea, totaling around 2.8 percent of GDP) was considered imminent. As these arrears are still not regularized, staff now views the appropriate classification as being in debt distress. São Tomé and Príncipe continues to actively seek rescheduling agreements.

12. Absent these arrears, São Tomé and Príncipe would be classified at high risk of debt distress. This reflects the threshold breaches under the baseline scenario. Two other aggravating factors are that (i) a large part of the government's domestic arrears, namely those to ENCO, are denominated in U.S. dollars and ENCO is majority foreign-owned and (ii) there are considerable contingent liabilities stemming from the state-owned electricity enterprise EMAE, which are not considered in this DSA, as it focuses only on the central government. However, the World Bank is providing technical assistance to São Tomé and Príncipe to improve its debt and SOE management, which should help reduce the incidence of external and domestic arrears. Fiscal consolidation, prudence in contracting new debt, and continued diversification of the economy and export base are needed to improve debt indicators over the medium term.

13. These findings underscore the importance of maintaining strong policies in order to reduce debt-related risks. Such policies include continuing fiscal consolidation, eschewing non-concessional loans, promoting growth, and expanding the export base.

14. Authorities' views: In response to the staff's presentation of this analysis in March-April 2018, the authorities broadly agreed with the assessment. They understood that the main reason for being classified as being in debt distress is the existence of long-standing external arrears. Moreover, they reiterated their commitment to borrow at a measured pace, to strive for debt sustainability, and to actively seek restructuring of the current arrears.

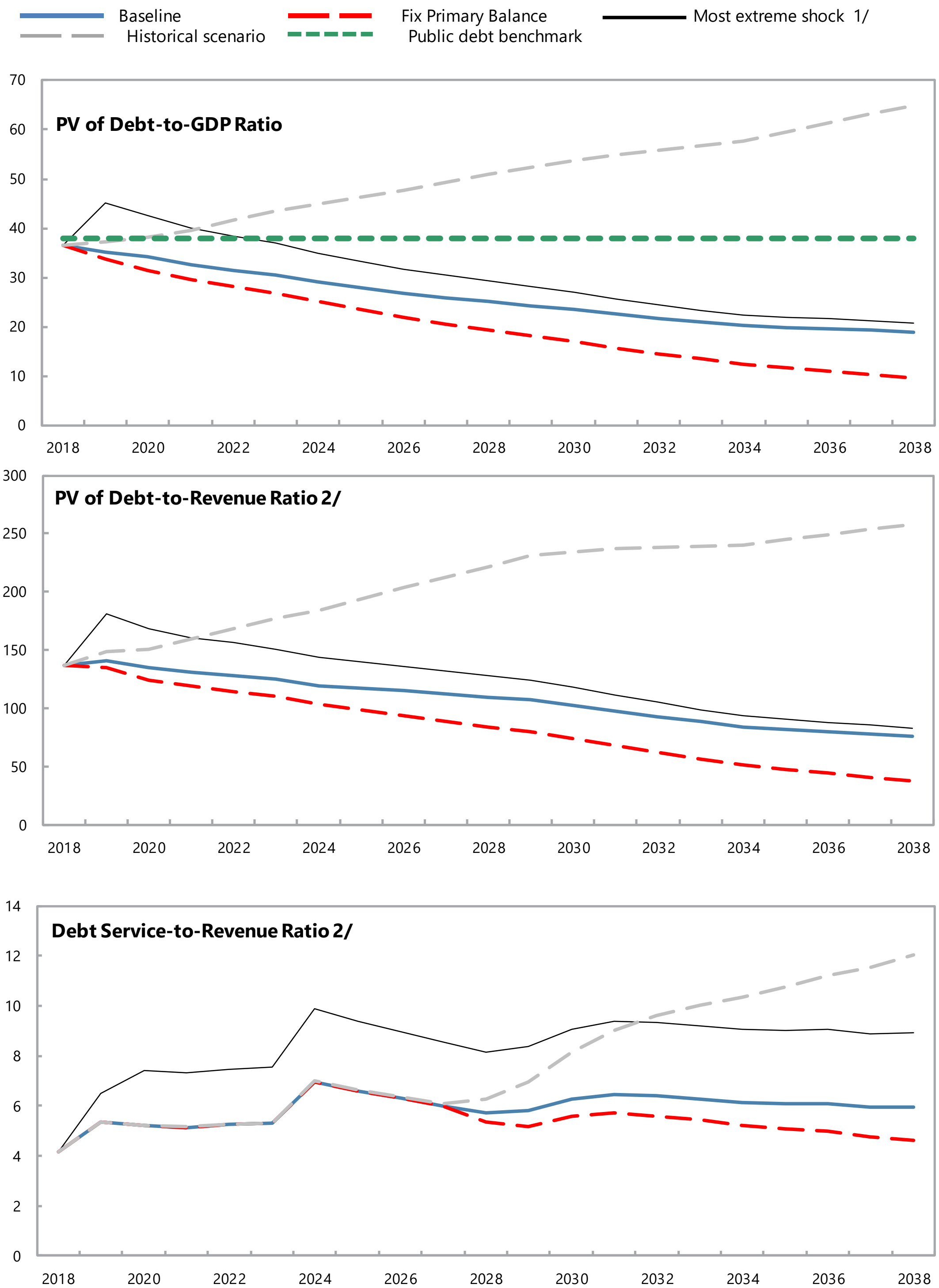
Figure 1. São Tomé and Príncipe: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2018–38



Sources: São Tomé and Príncipe's authorities, and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2028. The most extreme shocks are a one-time 30-percent nominal depreciation in Figures a, b, d, and f; and a one standard deviation decrease in the historical export value growth in the case of c and e.

Figure 2. São Tomé and Príncipe: Indicators of Public Debt Under Alternative Scenarios, 2018–38



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 2028.
2/ Revenues are defined inclusive of grants.

Table 1. São Tomé and Príncipe: External Debt Sustainability Framework, Baseline Scenario, 2015–38

(Percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2015	2016	2017			2018	2019	2020	2021	2022	2023	2018-2023 Average	2028	2038	2024-2038 Average
External debt (nominal) 1/	**62.8**	**52.5**	**45.7**			**42.1**	**41.4**	**40.5**	**38.8**	**37.4**	**36.1**		**29.9**	**24.1**	
of which: public and publicly guaranteed (PPG)	62.8	52.5	45.7			42.1	41.4	40.5	38.8	37.4	36.1		29.9	24.1	
Change in external debt	11.5	-10.3	-6.8			-3.5	-0.8	-0.8	-1.7	-1.4	-1.3		-0.9	-0.2	
Identified net debt-creating flows	10.3	-6.2	-7.5			-5.5	-3.3	-4.6	-5.1	-4.5	-4.6		-3.3	-3.3	
Non-interest current account deficit	**12.7**	**6.2**	**7.8**	**19.3**	**8.8**	**6.4**	**9.3**	**8.1**	**7.5**	**8.1**	**8.1**		**9.5**	**10.9**	9.8
Deficit in balance of goods and services	31.1	25.7	22.3			22.9	24.0	22.0	19.8	19.0	18.1		16.0	16.3	
Exports	28.5	27.3	26.9			23.9	23.5	22.8	22.1	22.1	22.0		20.4	19.0	
Imports	59.6	53.0	49.2			46.9	47.5	44.9	42.0	41.0	40.1		36.4	35.3	
Net current transfers (negative = inflow)	-18.4	-18.9	-15.2	-20.2	3.7	-17.3	-16.0	-15.8	-14.7	-13.7	-12.9		-9.6	-9.4	-9.7
of which: official	-12.7	-13.7	-10.6			-13.2	-12.2	-12.2	-11.1	-10.2	-9.3		-5.9	-5.0	
Other current account flows (negative = net inflow)	0.0	-0.5	0.8			0.7	1.3	1.9	2.4	2.9	2.9		3.2	4.0	
Net FDI (negative = inflow)	**-8.2**	**-5.8**	**-10.6**	**-13.0**	**12.0**	**-10.7**	**-11.4**	**-11.4**	**-11.3**	**-11.3**	**-11.4**		**-11.8**	**-13.5**	-12.2
Endogenous debt dynamics 2/	**5.8**	**-6.6**	**-4.8**			**-1.1**	**-1.2**	**-1.4**	**-1.4**	**-1.3**	**-1.3**		**-1.0**	**-0.7**	
Contribution from nominal interest rate	0.3	0.3	0.4			0.4	0.4	0.5	0.5	0.5	0.5		0.5	0.5	
Contribution from real GDP growth	-2.2	-2.3	-1.8			-1.5	-1.7	-1.9	-1.8	-1.8	-1.7		-1.4	-1.2	
Contribution from price and exchange rate changes	7.6	-4.5	-3.3			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**1.2**	**-4.1**	**0.7**			**2.0**	**2.6**	**3.8**	**3.4**	**3.2**	**3.3**		**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		0.0	0.0	
PV of external debt 4/	...	...	28.4			26.9	26.9	26.8	26.1	25.6	25.1		21.7	17.6	
In percent of exports	...	...	105.6			112.6	114.7	117.5	117.9	115.9	114.1		106.5	93.1	
PV of PPG external debt	**...**	**...**	**28.4**			**26.9**	**26.9**	**26.8**	**26.1**	**25.6**	**25.1**		**21.7**	**17.6**	
In percent of exports	**...**	**...**	**105.6**			**112.6**	**114.7**	**117.5**	**117.9**	**115.9**	**114.1**		**106.5**	**93.1**	
In percent of government revenues	**...**	**...**	**219.3**			**195.5**	**211.9**	**203.5**	**189.5**	**177.1**	**166.4**		**127.9**	**88.1**	
Debt service-to-exports ratio (in percent)	**3.8**	**3.3**	**3.1**			**4.7**	**5.7**	**5.8**	**5.8**	**5.8**	**5.9**		**6.4**	**7.8**	
PPG debt service-to-exports ratio (in percent)	**3.8**	**3.3**	**3.1**			**4.7**	**5.7**	**5.8**	**5.8**	**5.8**	**5.9**		**6.4**	**7.8**	
PPG debt service-to-revenue ratio (in percent)	**7.8**	**6.6**	**6.4**			**8.1**	**10.5**	**10.0**	**9.3**	**8.9**	**8.6**		**7.7**	**7.4**	
Total gross financing need (Millions of U.S. dollars)	17.7	4.6	-7.4			-15.1	-4.0	-11.0	-16.0	-13.5	-15.0		-10.9	-22.4	
Non-interest current account deficit that stabilizes debt ratio	1.2	16.6	14.6			9.9	10.1	9.0	9.2	9.5	9.4		10.4	11.1	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.8	4.2	3.9	4.8	1.8	4.0	4.5	5.0	5.0	5.0	5.0	4.8	5.0	5.0	5.0
GDP deflator in US dollar terms (change in percent)	-12.9	7.8	6.7	5.8	9.5	14.2	7.4	6.3	4.5	2.9	2.1	6.2	2.1	0.0	1.6
Effective interest rate (percent) 5/	0.6	0.5	0.8	0.8	0.2	1.1	1.2	1.3	1.3	1.4	1.4	1.3	1.6	2.0	1.7
Growth of exports of G&S (US dollar terms, in percent)	1.7	7.4	9.6	24.6	23.4	5.4	10.1	8.5	6.4	7.7	6.7	7.5	5.6	5.6	5.6
Growth of imports of G&S (US dollar terms, in percent)	-18.2	-0.2	2.9	10.3	19.1	13.1	13.8	5.4	2.6	5.6	4.7	7.5	5.4	6.0	5.8
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9
Government revenues (excluding grants, in percent of GDP)	14.0	13.6	13.0			13.8	12.7	13.2	13.8	14.5	15.1		17.0	20.0	17.9
Aid flows (in Millions of US dollars) 7/	71.0	56.9	50.6			70.9	88.7	95.7	88.2	84.1	84.0		82.7	137.3	
of which: Grants	36.4	46.9	39.5			59.8	64.0	71.0	71.2	70.3	69.2		61.7	98.2	
of which: Concessional loans	34.5	10.1	11.1			11.1	24.7	24.7	17.0	13.8	14.8		21.0	39.1	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			13.7	13.9	13.6	12.0	10.9	10.0		6.6	5.7	6.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			89.8	81.9	83.2	87.4	89.3	88.5		83.5	81.5	83.0
Memorandum items:															
Nominal GDP (Millions of US dollars)	315.5	354.2	392.5			466.1	523.1	583.8	640.5	691.7	741.5		1049.6	1956.3	
Nominal dollar GDP growth	-9.6	12.3	10.8			18.7	12.2	11.6	9.7	8.0	7.2	11.2	7.2	5.0	6.7
PV of PPG external debt (in Millions of US dollars)			118.3			126.3	141.7	157.1	167.9	176.3	185.2		227.3	340.1	
(PVt-PVt-1)/GDPt-1 (in percent)						2.1	3.3	3.0	1.8	1.3	1.3	2.1	1.1	0.7	0.9
Gross workers' remittances (Millions of US dollars)	18.1	18.6	18.1			19.1	19.7	21.0	22.9	24.7	26.7		39.5	86.5	
PV of PPG external debt (in percent of GDP + remittances)	...	...	27.2			25.9	25.9	25.9	25.2	24.7	24.2		21.0	16.9	
PV of PPG external debt (in percent of exports + remittances)	...	...	90.2			96.1	98.8	101.5	101.6	99.8	98.0		89.9	75.5	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	2.6			4.0	4.9	5.0	5.0	5.0	5.1		5.4	6.3	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - \rho(1+g)]/(1+g+\rho+g\rho)$ 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/ 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 2a. São Tomé and Príncipe: Sensitivity Analysis of Key Indicators of Public and Publicly Guaranteed External Debt, 2018-38

(Percent)

	Projections							
	2018	2019	2020	2021	2022	2023	**2028**	2038
PV of debt-to GDP ratio								
Baseline	27	27	27	26	26	25	**22**	18
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	27	33	39	43	48	51	**63**	72
A2. New public sector loans on less favorable terms in 2018-2038 2	27	28	29	29	28	28	**27**	26
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	27	27	28	27	26	26	**22**	18
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	27	28	30	29	29	28	**24**	18
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	27	30	33	32	31	31	**27**	21
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	27	34	39	38	37	36	**31**	21
B5. Combination of B1-B4 using one-half standard deviation shocks	27	31	35	34	33	32	**28**	21
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	27	38	37	36	35	35	**30**	24
PV of debt-to-exports ratio								
Baseline	113	115	118	118	116	114	**107**	93
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	113	139	169	196	215	232	**310**	382
A2. New public sector loans on less favorable terms in 2018-2038 2	113	120	127	130	129	129	**132**	137
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	113	115	118	118	115	114	**106**	92
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	113	131	155	155	151	148	**138**	113
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	113	115	118	118	115	114	**106**	92
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	113	143	172	171	166	163	**152**	111
B5. Combination of B1-B4 using one-half standard deviation shocks	113	121	127	127	124	122	**114**	92
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	113	115	118	118	115	114	**106**	92
PV of debt-to-revenue ratio								
Baseline	196	212	204	189	177	166	**128**	88
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	196	257	293	315	329	339	**372**	362
A2. New public sector loans on less favorable terms in 2018-2038 2	196	222	220	209	197	188	**158**	130
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	196	216	211	197	182	171	**132**	90
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	196	223	229	213	197	185	**142**	92
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	196	238	251	234	217	204	**157**	107
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	196	264	298	275	254	238	**183**	105
B5. Combination of B1-B4 using one-half standard deviation shocks	196	245	267	247	229	215	**165**	105
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	196	296	283	264	245	230	**177**	120

Table 2b. São Tomé and Príncipe: Sensitivity Analysis of Key Indicators of Public and Publicly Guaranteed External Debt, 2018–38 (concluded)

(Percent)

	Projections							
	2018	2019	2020	2021	2022	2023	**2028**	2038
Debt service-to-exports ratio								
Baseline	5	6	6	6	6	6	**6**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	5	6	7	7	8	8	**10**	19
A2. New public sector loans on less favorable terms in 2018-2038 2	5	6	6	6	6	7	**8**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	5	6	6	6	6	6	**6**	8
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	5	6	7	7	7	7	**8**	10
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	5	6	6	6	6	6	**6**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	5	6	7	7	7	7	**8**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	5	6	6	6	6	6	**6**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	5	6	6	6	6	6	**6**	8
Debt service-to-revenue ratio								
Baseline	8	11	10	9	9	9	**8**	7
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2018-2038 1/	8	11	11	12	12	12	**13**	18
A2. New public sector loans on less favorable terms in 2018-2038 2	8	11	10	10	10	10	**10**	11
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2019-2020	8	11	10	10	9	9	**8**	8
B2. Export value growth at historical average minus one standard deviation in 2019-2020 3/	8	11	10	10	10	9	**8**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2019-2020	8	12	12	11	11	11	**9**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2019-2020 4/	8	11	11	12	11	11	**9**	10
B5. Combination of B1-B4 using one-half standard deviation shocks	8	11	12	11	11	10	**9**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2019 5/	8	15	14	13	12	12	**11**	10
Memorandum item:								
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. São Tomé and Príncipe: Public Sector Debt Sustainability Framework, Baseline Scenario, 2015–2038

(Percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2015	2016	2017	Average 5/	Standard Deviation 5/	2018	2019	2020	2021	2022	2023	2018-23 Average	2028	2038	2024-38 Average
Public sector debt 1/	62.8	67.6	56.7			51.7	49.7	47.9	45.3	43.4	41.5		33.3	25.4	
of which: foreign-currency denominated	62.8	52.5	45.7			42.1	41.4	40.5	38.8	37.4	36.1		29.9	24.1	
Change in public sector debt	11.5	4.8	-10.9			-5.0	-2.0	-1.8	-2.5	-2.0	-1.8		-1.2	-0.3	
Identified debt-creating flows	10.5	0.5	-8.1			-5.4	-1.3	-1.4	-2.4	-1.5	-1.3		-0.2	0.8	
Primary deficit	8.7	4.7	3.0	8.7	6.3	0.2	3.8	3.1	1.3	1.1	1.1	1.8	1.7	1.6	1.6
Revenue and grants	25.5	26.8	23.0			26.6	24.9	25.3	24.9	24.6	24.4		22.9	25.0	
of which: grants	11.5	13.2	10.1			12.8	12.2	12.2	11.1	10.2	9.3		5.9	5.0	
Primary (noninterest) expenditure	34.2	31.5	26.1			26.8	28.7	28.4	26.2	25.7	25.5		24.5	26.6	
Automatic debt dynamics	1.8	-4.2	-11.1			-5.6	-5.1	-4.5	-3.7	-2.6	-2.5		-1.9	-0.8	
Contribution from interest rate/growth differential	-2.1	-3.0	-3.7			-3.1	-3.1	-3.0	-2.7	-2.5	-2.4		-1.8	-1.2	
of which: contribution from average real interest rate	-0.2	-0.5	-1.2			-0.9	-0.9	-0.6	-0.5	-0.4	-0.3		-0.2	0.0	
of which: contribution from real GDP growth	-1.9	-2.5	-2.5			-2.2	-2.2	-2.4	-2.3	-2.2	-2.1		-1.6	-1.2	
Contribution from real exchange rate depreciation	3.9	-1.2	-7.4			-2.5	-1.9	-1.5	-0.9	0.0	-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	
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 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	
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 (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	
Residual, including asset changes	1.0	4.2	-2.8			0.5	-0.7	-0.4	-0.1	-0.5	-0.5		-1.0	-1.1	
Other Sustainability Indicators															
PV of public sector debt	...	...	39.5			36.5	35.3	34.1	32.6	31.5	30.5		25.1	18.9	
of which: foreign-currency denominated	...	...	28.4			26.9	26.9	26.8	26.1	25.6	25.1		21.7	17.6	
of which: external	...	...	28.4			26.9	26.9	26.8	26.1	25.6	25.1		21.7	17.6	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	9.8	5.6	3.8			1.3	5.1	4.4	2.5	2.4	2.4		3.0	3.1	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	171.3			137.1	141.3	134.7	131.0	128.1	124.9		109.6	75.6	
PV of public sector debt-to-revenue ratio (in percent)	...	...	304.3			265.0	277.5	259.1	236.7	218.1	202.2		147.5	94.6	
of which: external 3/	...	...	219.3			195.5	211.9	203.5	189.5	177.1	166.4		127.9	88.1	
Debt service-to-revenue and grants ratio (in percent) 4/	4.3	3.4	3.6			4.2	5.4	5.2	5.1	5.2	5.3		5.7	5.9	
Debt service-to-revenue ratio (in percent) 4/	7.8	6.6	6.4			8.1	10.5	10.0	9.3	8.9	8.6		7.7	7.4	
Primary deficit that stabilizes the debt-to-GDP ratio	-2.8	0.0	13.9			5.1	5.8	4.9	3.8	3.1	3.0		2.9	1.9	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.8	4.2	3.9	4.8	1.8	4.0	4.5	5.0	5.0	5.0	5.0	4.8	5.0	5.0	5.0
Average nominal interest rate on forex debt (in percent)	0.6	0.5	0.8	0.8	0.2	1.1	1.2	1.3	1.3	1.4	1.4	1.3	1.6	2.0	1.7
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	8.0	-2.0	-14.9	-4.4	9.2	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	4.2	8.1	4.7	10.8	7.5	3.9	6.2	5.0	3.7	2.9	3.0	4.1	3.0	3.0	3.0
Growth of real primary spending (deflated by GDP deflator, in percent)	18.0	-4.0	-14.1	0.0	7.7	6.8	12.3	3.8	-3.4	3.2	4.3	4.5	4.3	6.1	5.3
Grant element of new external borrowing (in percent)	...	...	...	...	...	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	...

Sources: Country authorities; and staff estimates and projections.

1/ Public debt consists of central government debt. Gross debt is considered.

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. São Tomé and Príncipe: Sensitivity Analysis of Key Indicators of Public Debt, 2018–38

	Projections							
	2018	2019	2020	2021	2022	2023	2028	2038
PV of Debt-to-GDP Ratio								
Baseline	36	35	34	33	32	30	25	19
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	36	37	38	40	42	43	51	65
A2. Primary balance is unchanged from 2018	36	34	32	30	28	27	19	9
A3. Permanently lower GDP growth 1/	36	35	34	33	32	31	27	26
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2019-2020	36	36	36	34	33	32	28	23
B2. Primary balance is at historical average minus one standard deviations in 2019-2020	36	40	43	41	40	39	32	23
B3. Combination of B1-B2 using one half standard deviation shocks	36	39	41	40	38	37	32	24
B4. One-time 30 percent real depreciation in 2019	36	45	43	40	38	37	29	21
B5. 10 percent of GDP increase in other debt-creating flows in 2019	36	39	38	36	35	34	28	21
PV of Debt-to-Revenue Ratio 2/								
Baseline	137	141	135	131	128	125	110	76
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	137	149	151	159	169	178	222	258
A2. Primary balance is unchanged from 2018	137	135	124	119	115	110	84	38
A3. Permanently lower GDP growth 1/	137	142	135	132	130	128	118	101
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2019-2020	137	143	138	135	133	131	120	92
B2. Primary balance is at historical average minus one standard deviations in 2019-2020	137	160	171	166	163	159	142	93
B3. Combination of B1-B2 using one half standard deviation shocks	137	155	162	158	155	152	138	96
B4. One-time 30 percent real depreciation in 2019	137	181	168	161	156	151	128	83
B5. 10 percent of GDP increase in other debt-creating flows in 2019	137	158	150	146	143	139	123	83
Debt Service-to-Revenue Ratio 2/								
Baseline	4	5	5	5	5	5	6	6
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	4	5	5	5	5	5	6	12
A2. Primary balance is unchanged from 2018	4	5	5	5	5	5	5	5
A3. Permanently lower GDP growth 1/	4	5	5	5	5	5	6	7
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2019-2020	4	5	5	5	5	5	6	7
B2. Primary balance is at historical average minus one standard deviations in 2019-2020	4	5	5	5	5	5	7	7
B3. Combination of B1-B2 using one half standard deviation shocks	4	5	5	5	5	5	7	7
B4. One-time 30 percent real depreciation in 2019	4	6	7	7	7	8	8	9
B5. 10 percent of GDP increase in other debt-creating flows in 2019	4	5	5	5	5	5	7	6

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.