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STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION, FIRST REVIEW UNDER THE EXTENDED CREDIT FACILITY AND REQUEST FOR WAIVER FOR NONOBSERVANCE OF PERFORMANCE CRITERION AND MODIFICATION OF PERFORMANCE CRITERIA—DEBT SUSTAINABILITY ANALYSIS UPDATE[1]

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Prepared by:
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Risk of external debt distress:	*HIGH*
Augmented by significant risks stemming from domestic public and/or private external debt?	*NO*

The update of analysis based on the joint IMF-World Bank debt sustainability framework (DSF) for low income countries shows that São Tomé and Príncipe is at a high risk of debt distress. *The assessment of high risk of debt distress is unchanged from the previous Debt Sustainability Analysis (DSA). This update reflects US$14 million of planned new borrowing in 2016, recent economic data and forecasts, including a slightly lower than originally projected end-2015 debt stock out-turns. Debt ratios are projected to follow roughly the same trajectories as in the previous DSA. The risks continue manageable over the medium term if the authorities are able to move forward with a planned fiscal adjustment of 1.5 percent of GDP over 2016–18, and they stay committed to mainly grants and concessional borrowing to fund the public investment program from 2016 onwards.*

[1] The DSA update was prepared by IMF and World Bank staff in collaboration with the authorities of São Tomé and Príncipe. The analysis updates the previous Joint DSA dated June 24, 2015 (IMF Country Report No. 15/196, Supplement 2). 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). São Tomé and Príncipe's CPIA score of 3.05 classifies it as a weak performer. The corresponding indicative thresholds are: 30 percent for the 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.

A. Underlying Assumptions

1. The basic macroeconomic assumptions have changed little from those in the previous DSA. The long-term forecasts for growth, inflation and the primary deficit are essentially unchanged. Exports and imports growths are also unchanged belittling decline in their levels in 2015 with forward rippled effects. Moreover, there is a marked improvement in the long term current account deficit on account of lower commodities prices and slightly lower FDI.

Macroeconomic Assumptions (Averages)

	2015 DSA[1]	2016 DSA	
	2015–35	2015–35	2016–36
Real GDP Growth (%)	5.56	5.48	5.55
Inflation (average)	3.23	3.17	3.07
Domestic Primary Deficit (% of GDP)	-1.30	-1.33	-1.24
Grants (% of GDP)	2.51	1.79	1.79
New Borrowing (% of GDP)	1.53	1.86	1.37
FDI (% of GDP)	9.72	8.55	8.75
US$ Export growth (%)	7.16	6.65	7.43
US$ Import Growth (%)	6.00	4.90	6.01
Current Account Balance, excluding grants (% of GDP)	-24.99	-20.18	-19.43
Current Account Balance, including grants (% of GDP)	-12.66	-8.57	-8.02

[1] IMF Country Report No. 15/196, Supplement 2.

2. The 2016 DSA starts with a lower stock of external debt in comparison to the previous DSA because actual borrowing and disbursements in 2015 were lower than projected. Staff had projected US$35 million in new concessional borrowing in 2015. The actual new borrowing and disbursement of new loan in 2015 ended up US$5 million and US$20 million lower respectively. This resulted in a lower PV of debt-to-GDP ratio in 2015 under the current DSA. The HIPC initiative legacy arrears which were included in the historical stock of external debt but excluded from PV calculations in the previous DSAs on the assumption of expected forgiveness have been completely excluded in this DSA. Their exclusion does not impact debt trajectory.

B. External DSA

3. Like the previous DSA, the three solvency-based indicators remain significantly above their relevant indicative thresholds over the next few years (Figures 1 and 3). However, the PV of PPG external debt- to-exports and to-revenue ratios deteriorate slightly, prolonging periods of the breach of the thresholds by one year relative to the previous DSA. This is due mainly to the level effects of lower 2015 revenue and exports on their projected values. The PV of public and publicly guaranteed (PPG) external debt-to-GDP ratio follows broadly similar trajectory as in the previous DSA, breaching the thresholds until 2022 and remain below thereafter. All indicators of debt service remain below their respective thresholds while showing a modest improvement in the early years of projection relative to the previous DSA due to lower actual disbursements in 2015. Historical scenarios (Figure 1, red dashed lines) for all debt indicators present a generally more deteriorated picture than the previous DSA because of both lower growth and higher primary deficit in 2015. Large residuals in 2016–19 which are in line with recent history are mainly explained by net private financial inflows[2], drawdown from the National Oil account and price changes.

4. Stress tests show the highest vulnerability of debt sustainability extends the period of breach of thresholds for a few additional years beyond those observed in the baseline (Figure 1, solid black lines).[3] The export based indicators are most sensitive to exports shocks while the remaining indicators are most sensitive to a one-time depreciation shock.

C. Public DSA

5. There is essentially no difference between the external and public sector DSAs[4]. The debt indicators continue to rise throughout the projection period when real GDP growth and the primary balance are at historical averages (Figure 2, grey dashed line) or when the primary balance is unchanged from 2016 (Figure 2, red dashed line). These shocks highlight the importance of continued fiscal prudence to ensure debt sustainability and structural reforms to improve the business environment and thus support private sector led growth. Public debt-to-GDP is most sensitive to a worsening primary balance while the public debt and debt service-to-revenue ratios are most sensitive to worsening primary balance and a one-time 30 percent depreciation of the dobra.

D. Conclusion

6. São Tomé and Príncipe remains at a high risk of external debt distress. However, the country is able to service its current obligations and while some external debt indicators are projected to remain above their respective thresholds they show a clear downward trend in the long term. In this context, to mitigate risks, the DSA underlines the need for the authorities to:

- Maintain an adequate level of international reserves to reinforce the peg and boost confidence in the wake of reduced oil prospects;
- Maintain fiscal prudence, particularly in the run-up to the 2016 presidential elections;
- Accelerate reforms to improve policy and institutional performance to enhance the growth potential of the country;
- Ensure favorable financing terms in the form of grants or concessional borrowing; and

[2] The stock of private sector external debt is not included in the DSA as there is no reliable data.

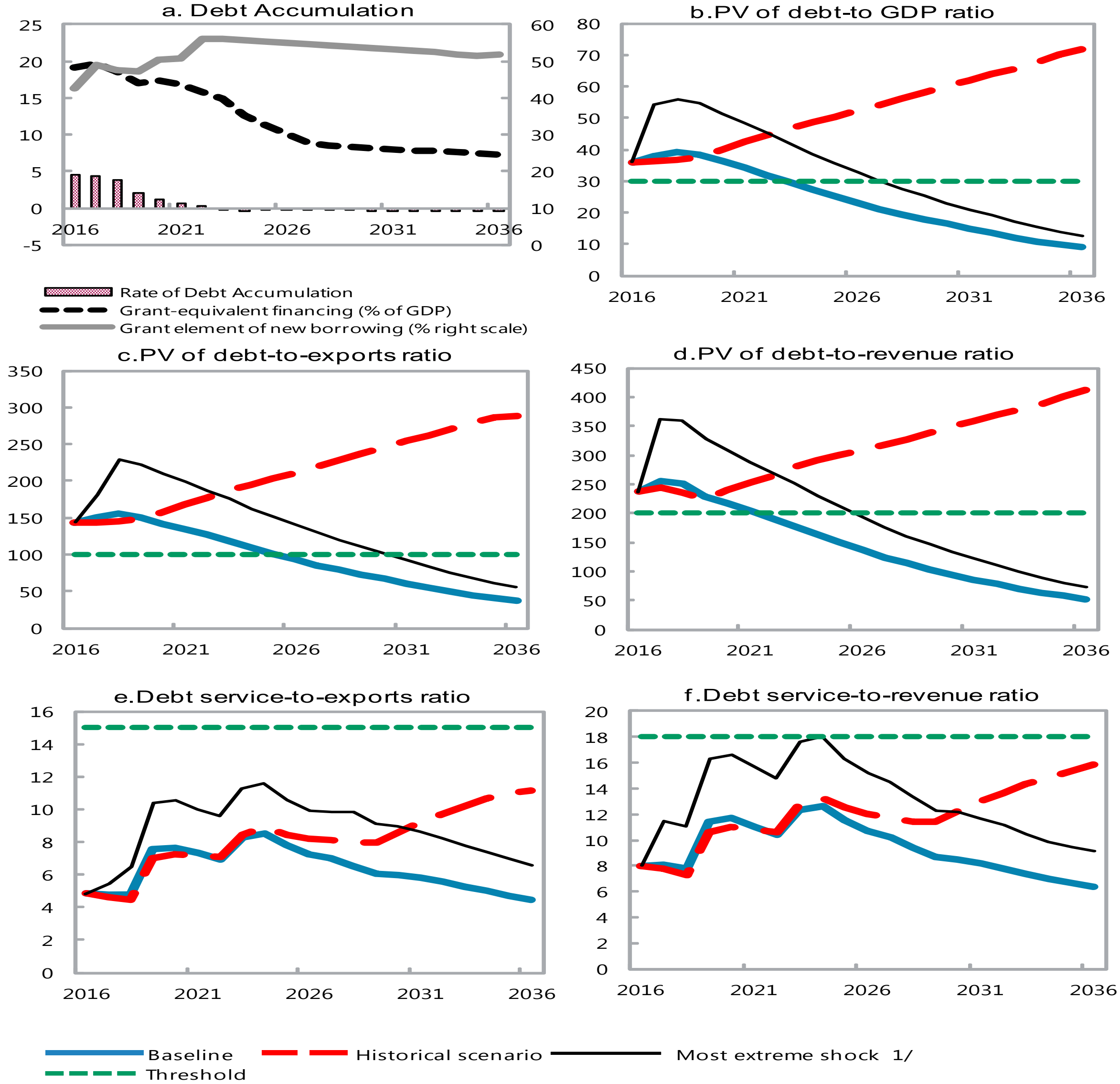
[3] In the previous DSA, the country's debt stock indicators were most vulnerable to non-debt flows shocks while debt service indicators were most vulnerable to exports and one-time depreciation shocks.

[4] Fuel products supplier (ENCO)'s domestic claims on the central government were not included pending the conclusion of formal review to establish the definitive amount.

- Develop and implement a comprehensive strategy to reduce the cost of doing business and attract private investment that can broaden the export base.

7. The biggest risks to external debt sustainability come from exchange rate shocks and shocks to export growth. Debt sustainability could also deteriorate in the event of sharp increase in the international prices of fuel and other commodities, raising the import bill and putting pressure on the current account. The risks appear manageable over the medium term if the authorities are able to move forward with the planned fiscal adjustment in the coming years and build international reserves buffer. The development of sound public debt management, anchored in a medium-term debt management strategy and medium-term fiscal framework, will be essential to guide prioritization of the future public investments and their financing.

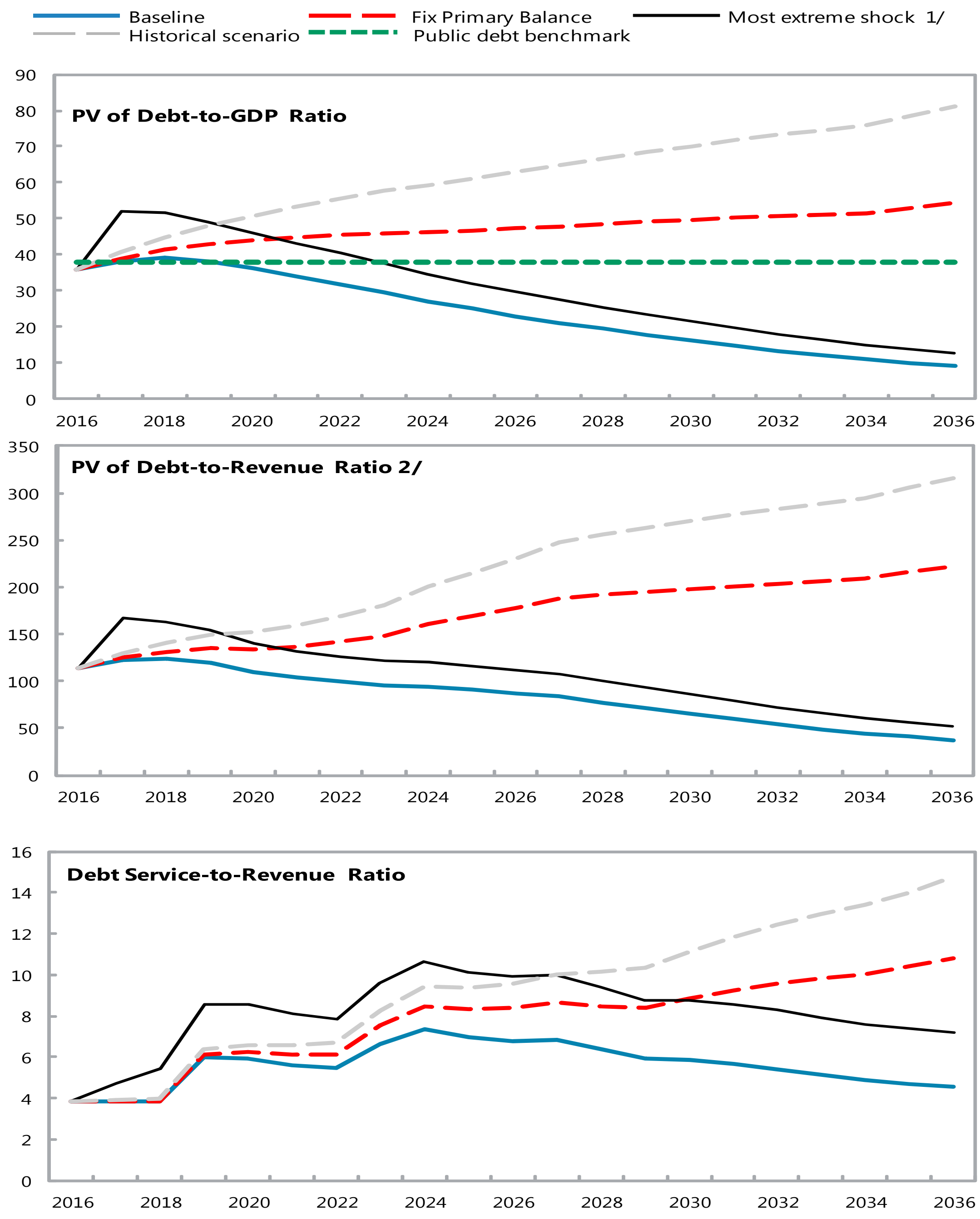
Figure 1. São Tomé and Príncipe: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2016–36 1/



Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2026. In figure b. it corresponds to a One-time depreciation shock; in c. to a Exports shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a One-time depreciation shock

Figure 2. São Tomé and Príncipe: Indicators of Public Debt Under Alternative Scenarios, 2016–36 1/



Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.
1/ The most extreme stress test is the test that yields the highest ratio on or before 2026.
2/ Revenues are defined inclusive of grants.

Table 1. São Tomé and Príncipe: External Debt Sustainability Framework, Baseline Scenario, 2012–36 1/

(Percent of GDP, unless otherwise indicated)

	Actual				Historical 6/ Average	Standard 6/ Deviation	Projections									
	2012	2013	2014	2015			2016	2017	2018	2019	2020	2021	2016-2021 Average	2026	2036	2022-2036 Average
External debt (nominal) 1/	**47.3**	**44.2**	**50.0**	**59.0**			**58.5**	**61.8**	**63.0**	**60.8**	**57.1**	**53.3**		**34.7**	**14.2**	
of which: public and publicly guaranteed (PPG)	47.3	44.2	50.0	59.0			58.5	61.8	63.0	60.8	57.1	53.3		34.7	14.2	
Change in external debt	4.1	-3.1	5.8	9.0			-0.5	3.3	1.2	-2.2	-3.7	-3.7		-3.2	-1.2	
Identified net debt-creating flows	11.9	5.0	11.8	13.6			8.4	7.1	5.4	1.7	-3.3	-4.3		-4.3	-6.1	
Non-interest current account deficit	**20.9**	**12.9**	**21.3**	**16.4**	**23.2**	**6.1**	**11.6**	**12.1**	**11.9**	**9.9**	**8.6**	**7.6**		**7.2**	**5.1**	6.5
Deficit in balance of goods and services	-65.2	-76.7	-94.1	-84.9			-85.9	-86.5	-86.0	-83.0	-82.9	-81.5		-73.0	-69.1	
Exports	12.7	17.8	26.2	25.3			25.1	25.3	25.3	25.3	25.4	25.3		24.8	24.9	
Imports	-52.5	-58.9	-67.9	-59.6			-60.7	-61.1	-60.7	-57.7	-57.5	-56.2		-48.3	-44.2	
Net current transfers (negative = inflow)	-20.3	-27.0	-18.1	-17.6	-19.5	3.6	-23.1	-22.8	-22.5	-21.6	-22.6	-22.4		-15.6	-13.8	-15.5
of which: official	-18.4	-18.4	-10.6	-11.4			-17.3	-17.0	-16.7	-15.8	-16.8	-16.6		-9.6	-7.1	
Other current account flows (negative = net inflow)	106.4	116.6	133.5	118.9			120.5	121.3	120.4	114.4	114.0	111.4		95.9	88.0	
Net FDI (negative = inflow)	**-8.3**	**-1.5**	**-5.6**	**-6.3**	**-15.0**	**12.0**	**-1.2**	**-2.7**	**-4.0**	**-5.6**	**-9.2**	**-9.4**		**-9.9**	**-10.6**	-10.1
Endogenous debt dynamics 2/	**-0.6**	**-6.4**	**-4.0**	**3.5**			**-2.1**	**-2.4**	**-2.5**	**-2.5**	**-2.6**	**-2.5**		**-1.6**	**-0.6**	
Contribution from nominal interest rate	0.4	0.4	0.6	0.3			0.6	0.7	0.7	0.7	0.7	0.6		0.4	0.2	
Contribution from real GDP growth	-1.9	-1.6	-1.8	-2.1			-2.7	-3.0	-3.2	-3.2	-3.3	-3.2		-1.9	-0.8	
Contribution from price and exchange rate changes	0.9	-5.1	-2.8	5.2			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-7.8**	**-8.1**	**-5.9**	**-4.7**			**-8.8**	**-3.8**	**-4.2**	**-3.9**	**-0.4**	**0.5**		**1.1**	**4.9**	
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	0.0	
PV of external debt 4/	...	...	...	35.7			36.0	38.1	39.2	38.2	36.1	34.1		23.1	9.1	
In percent of exports	...	...	...	141.4			143.4	150.4	155.1	150.9	142.1	134.8		93.1	36.6	
PV of PPG external debt	**...**	**...**	**...**	**35.7**			**36.0**	**38.1**	**39.2**	**38.2**	**36.1**	**34.1**		**23.1**	**9.1**	
In percent of exports	**...**	**...**	**...**	**141.4**			**143.4**	**150.4**	**155.1**	**150.9**	**142.1**	**134.8**		**93.1**	**36.6**	
In percent of government revenues	**...**	**...**	**...**	**257.4**			**236.8**	**254.3**	**251.5**	**229.1**	**216.6**	**203.6**		**136.5**	**52.2**	
Debt service-to-exports ratio (in percent)	**7.3**	**5.1**	**3.2**	**3.2**			**4.9**	**4.8**	**4.8**	**7.5**	**7.7**	**7.3**		**7.3**	**4.5**	
PPG debt service-to-exports ratio (in percent)	**7.3**	**5.1**	**3.2**	**3.2**			**4.9**	**4.8**	**4.8**	**7.5**	**7.7**	**7.3**		**7.3**	**4.5**	
PPG debt service-to-revenue ratio (in percent)	**6.2**	**4.9**	**5.7**	**5.8**			**8.0**	**8.1**	**7.7**	**11.5**	**11.7**	**11.0**		**10.7**	**6.4**	
Total gross financing need (Billions of U.S. dollars)	0.0	0.0	0.1	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	-0.1	
Non-interest current account deficit that stabilizes debt ratio	16.8	16.0	15.5	7.5			12.1	8.8	10.7	12.1	12.3	11.4		10.4	6.3	
Key macroeconomic assumptions																
Real GDP growth (in percent)	4.5	4.0	4.5	4.0	4.8	2.3	5.0	5.5	5.5	5.5	6.0	6.0	5.6	5.5	5.5	5.5
GDP deflator in US dollar terms (change in percent)	-2.0	12.2	6.8	-9.5	4.7	9.4	4.5	0.8	1.1	2.6	3.0	2.1	2.4	1.9	-0.2	1.7
Effective interest rate (percent) 5/	0.9	0.9	1.5	0.6	0.9	0.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0	1.2	1.1
Growth of exports of G&S (US dollar terms, in percent)	12.5	63.1	64.3	-9.2	20.2	27.0	9.2	7.2	6.5	8.2	9.6	7.8	8.1	7.1	7.2	7.2
Growth of imports of G&S (US dollar terms, in percent)	-7.3	30.8	28.6	-17.4	14.3	22.0	11.8	7.0	5.8	2.9	8.8	5.7	7.0	5.0	5.8	5.6
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	...	42.7	48.9	47.7	47.3	50.3	51.0	48.0	55.0	51.8	53.9
Government revenues (excluding grants, in percent of GDP)	15.0	18.3	14.9	13.9			15.2	15.0	15.6	16.7	16.7	16.7		16.9	17.4	17.1
Aid flows (in Billions of US dollars) 7/	0.1	0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	
of which: Grants	0.0	0.0	0.0	0.0			0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	
of which: Concessional loans	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...	...			19.1	19.6	18.7	17.0	17.4	16.9		10.1	7.4	9.7
Grant-equivalent financing (in percent of external financing) 8/	...	...	...	...			83.9	84.5	86.2	89.1	93.5	95.5		96.2	96.6	96.4
Memorandum items:																
Nominal GDP (Billions of US dollars)	0.3	0.3	0.3	0.3			0.3	0.4	0.4	0.4	0.5	0.5		0.7	1.5	
Nominal dollar GDP growth	2.4	16.6	11.6	-5.9			9.8	6.3	6.7	8.3	9.2	8.2	8.1	7.5	5.3	7.3
PV of PPG external debt (in Billions of US dollars)				0.1			0.1	0.1	0.2	0.2	0.2	0.2		0.2	0.1	
(PVt-PVt-1)/GDPt-1 (in percent)							4.5	4.4	3.8	2.1	1.1	0.7	2.8	-0.3	-0.4	-0.3
Gross workers' remittances (Billions of US dollars)	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1	
PV of PPG external debt (in percent of GDP + remittances)		...	...	33.6			34.1	36.0	37.1	36.1	34.2	32.2		21.8	8.5	
PV of PPG external debt (in percent of exports + remittances)		...	...	113.7			116.5	122.5	126.3	123.0	116.1	109.9		74.9	28.8	
Debt service of PPG external debt (in percent of exports + remittances)		...	...	2.6			3.9	3.9	3.9	6.2	6.3	5.9		5.9	3.5	

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

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/ 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, 2016–36 1/

(Percent)

	Projections							
	2016	2017	2018	2019	2020	2021	**2026**	2036
PV of debt-to GDP ratio								
Baseline	36	38	39	38	36	34	**23**	9
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	36	36	37	37	40	42	**52**	72
A2. New public sector loans on less favorable terms in 2016-2036 2	36	40	42	42	41	39	**28**	15
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	36	39	42	41	38	36	**24**	9
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	36	40	44	43	40	38	**26**	10
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	36	40	44	43	40	38	**26**	10
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	36	41	46	45	43	40	**28**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	36	39	42	41	38	36	**25**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	36	54	56	55	51	48	**33**	13
PV of debt-to-exports ratio								
Baseline	143	150	155	151	142	135	**93**	37
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	143	144	146	148	157	167	**211**	289
A2. New public sector loans on less favorable terms in 2016-2036 2	143	157	167	167	160	153	**115**	60
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	143	150	155	151	142	134	**93**	36
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	143	181	229	223	209	198	**140**	55
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	143	150	155	151	142	134	**93**	36
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	143	164	183	178	168	159	**114**	45
B5. Combination of B1-B4 using one-half standard deviation shocks	143	150	158	154	144	136	**94**	37
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	143	150	155	151	142	134	**93**	36
PV of debt-to-revenue ratio								
Baseline	237	254	252	229	217	204	**136**	52
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	237	243	236	225	239	252	**310**	412
A2. New public sector loans on less favorable terms in 2016-2036 2	237	266	272	254	244	231	**169**	85
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	237	262	267	244	229	215	**144**	54
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	237	266	282	257	242	227	**157**	60
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	237	269	282	258	242	227	**152**	58
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	237	276	297	271	255	240	**167**	64
B5. Combination of B1-B4 using one-half standard deviation shocks	237	259	269	245	231	216	**145**	55
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	237	362	359	327	308	289	**193**	73

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

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 2b. São Tomé and Príncipe: Sensitivity Analysis of Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36 1/

(Percent)

	Projections							
	2016	2017	2018	2019	2020	2021	**2026**	2036
Debt service-to-exports ratio								
Baseline	5	5	5	8	8	7	**7**	4
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	5	5	4	7	7	7	**8**	11
A2. New public sector loans on less favorable terms in 2016-2036 2	5	5	5	8	8	8	**8**	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	5	5	5	8	8	7	**7**	4
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	5	5	6	10	11	10	**10**	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	5	5	5	8	8	7	**7**	4
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	5	5	5	8	8	8	**8**	5
B5. Combination of B1-B4 using one-half standard deviation shocks	5	5	5	8	8	7	**7**	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	5	5	5	8	8	7	**7**	4
Debt service-to-revenue ratio								
Baseline	8	8	8	11	12	11	**11**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	8	8	7	11	11	11	**12**	16
A2. New public sector loans on less favorable terms in 2016-2036 2	8	8	8	12	13	12	**12**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	8	8	8	12	12	12	**11**	7
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	8	8	8	12	12	12	**11**	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	8	9	9	13	13	12	**12**	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	8	8	8	12	12	12	**11**	8
B5. Combination of B1-B4 using one-half standard deviation shocks	8	8	8	12	12	12	**11**	7
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	8	11	11	16	17	16	**15**	9
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	49	49	49	49	49	49	**49**	49

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

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, 2013–36

(Percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2013	2014	2015	Average 5/	Standard Deviation 5/	2016	2017	2018	2019	2020	2021	2016-21 Average	2026	2036	2022-36 Average
Public sector debt 1/	44.2	50.0	59.0			58.5	61.8	63.0	60.8	57.1	53.3		34.7	14.2	
of which: foreign-currency denominated	44.2	50.0	59.0			58.5	61.8	63.0	60.8	57.1	53.3		34.7	14.2	
Change in public sector debt	-3.1	5.8	9.0			-0.5	3.3	1.2	-2.2	-3.7	-3.7		-3.2	-1.2	
Identified debt-creating flows	-6.8	6.9	8.3			1.3	2.8	0.7	-2.8	-3.8	-3.0		-2.0	-0.1	
Primary deficit	0.0	5.5	8.6	9.9	5.5	6.9	5.4	3.9	1.5	0.4	0.6	3.1	0.3	0.5	0.3
Revenue and grants	31.2	25.2	25.3			31.6	31.2	31.6	31.8	32.9	32.8		26.5	24.5	
of which: grants	12.9	10.3	11.4			16.4	16.2	16.0	15.1	16.2	16.0		9.6	7.1	
Primary (noninterest) expenditure	31.2	30.8	33.9			38.5	36.6	35.5	33.3	33.2	33.3		26.8	25.0	
Automatic debt dynamics	-6.9	1.3	-0.3			-5.6	-2.6	-3.3	-4.2	-4.2	-3.5		-2.3	-0.6	
Contribution from interest rate/growth differential	-2.1	-1.9	-2.1			-2.9	-3.4	-3.8	-3.9	-4.0	-3.7		-2.4	-0.9	
of which: contribution from average real interest rate	-0.3	0.0	-0.2			-0.1	-0.3	-0.5	-0.6	-0.5	-0.5		-0.4	-0.1	
of which: contribution from real GDP growth	-1.8	-1.9	-1.9			-2.8	-3.1	-3.2	-3.3	-3.4	-3.2		-2.0	-0.8	
Contribution from real exchange rate depreciation	-4.7	3.3	1.8			-2.7	0.8	0.5	-0.4	-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	
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	3.8	-1.1	0.6			-1.7	0.5	0.6	0.5	0.1	-0.8		-1.2	-1.1	
Other Sustainability Indicators															
PV of public sector debt	...	...	35.7			36.0	38.1	39.2	38.2	36.1	34.1		23.1	9.1	
of which: foreign-currency denominated	...	...	35.7			36.0	38.1	39.2	38.2	36.1	34.1		23.1	9.1	
of which: external	...	...	35.7			36.0	38.1	39.2	38.2	36.1	34.1		23.1	9.1	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	0.9	6.4	9.4			8.1	6.6	5.1	3.4	2.3	2.4		2.1	1.6	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	141.1			114.0	122.2	124.3	120.0	109.8	104.0		86.9	37.1	
PV of public sector debt-to-revenue ratio (in percent)	...	...	257.4			236.8	254.3	251.5	229.1	216.6	203.6		136.5	52.2	
of which: external 3/	...	...	257.4			236.8	254.3	251.5	229.1	216.6	203.6		136.5	52.2	
Debt service-to-revenue and grants ratio (in percent) 4/	2.9	3.4	3.2			3.9	3.9	3.8	6.0	5.9	5.6		6.8	4.5	
Debt service-to-revenue ratio (in percent) 4/	4.9	5.7	5.8			8.0	8.1	7.7	11.5	11.7	11.0		10.7	6.4	
Primary deficit that stabilizes the debt-to-GDP ratio	3.1	-0.3	-0.4			7.3	2.1	2.7	3.7	4.1	4.3		3.5	1.7	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	4.0	4.5	4.0	4.8	2.3	5.0	5.5	5.5	5.5	6.0	6.0	5.6	5.5	5.5	5.5
Average nominal interest rate on forex debt (in percent)	0.9	1.5	0.6	0.9	0.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0	1.2	1.1
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	-10.4	7.8	3.8	-3.3	7.3	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	8.5	6.9	8.3	12.6	7.4	6.3	0.1	1.1	2.2	2.4	2.6	2.5	2.8	2.8	2.8
Growth of real primary spending (deflated by GDP deflator, in percent)	-27.3	3.1	14.6	-0.9	10.3	19.2	0.2	2.4	-1.1	5.9	6.3	5.5	1.3	5.5	3.6
Grant element of new external borrowing (in percent)	...	...	...	...	...	42.7	48.9	47.7	47.3	50.3	51.0	48.0	55.0	51.8	...

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

1/ The analysis covers gross debt of the central government.

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, 2016–36

		Projections						
	2016	2017	2018	2019	2020	2021	2026	2036
PV of Debt-to-GDP Ratio								
Baseline	36	38	39	38	36	34	23	9
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	36	41	45	48	51	53	63	81
A2. Primary balance is unchanged from 2016	36	39	41	43	44	45	47	54
A3. Permanently lower GDP growth 1/	36	38	40	39	37	35	26	18
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	36	39	42	42	40	38	28	17
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	36	43	50	48	46	43	31	14
B3. Combination of B1-B2 using one half standard deviation shocks	36	42	48	47	45	43	32	17
B4. One-time 30 percent real depreciation in 2017	36	52	52	49	46	43	30	13
B5. 10 percent of GDP increase in other debt-creating flows in 2017	36	43	44	43	40	38	27	11
PV of Debt-to-Revenue Ratio 2/								
Baseline	114	122	124	120	110	104	87	37
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	114	130	141	150	152	159	230	317
A2. Primary balance is unchanged from 2016	114	125	131	135	133	136	178	222
A3. Permanently lower GDP growth 1/	114	123	125	122	112	107	97	70
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	114	125	130	127	118	113	105	68
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	114	138	158	152	139	132	116	56
B3. Combination of B1-B2 using one half standard deviation shocks	114	135	151	146	135	129	118	69
B4. One-time 30 percent real depreciation in 2017	114	167	163	154	140	132	112	52
B5. 10 percent of GDP increase in other debt-creating flows in 2017	114	138	139	134	123	117	100	46
Debt Service-to-Revenue Ratio 2/								
Baseline	4	4	4	6	6	6	7	5
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	4	4	4	6	7	7	10	15
A2. Primary balance is unchanged from 2016	4	4	4	6	6	6	8	11
A3. Permanently lower GDP growth 1/	4	4	4	6	6	6	7	6
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	4	4	4	6	6	6	7	6
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	4	4	4	7	7	6	7	6
B3. Combination of B1-B2 using one half standard deviation shocks	4	4	4	7	7	6	7	6
B4. One-time 30 percent real depreciation in 2017	4	5	5	9	9	8	10	7
B5. 10 percent of GDP increase in other debt-creating flows in 2017	4	4	4	6	6	6	7	5

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.
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.