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STAFF REPORT FOR THE 2013 ARTICLE IV CONSULTATION AND SECOND REVIEW UNDER THE EXTENDED CREDIT FACILITY ARRANGEMENT—DEBT SUSTAINABILITY ANALYSIS[1]

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Prepared by:
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São Tomé and Príncipe is at a high risk of debt distress according to this update of the joint Bank-IMF low-income country debt sustainability analysis (DSA). The update reflects the adoption of a non-oil scenario baseline in light of increased uncertainty regarding the volume and timing of the start of oil production following Total's recent withdrawal from Block 1 of the Joint Development Zone (JDZ) with Nigeria, as well as recent economic data and forecasts. Despite the revised projections, the assessment of high risk of debt distress is unchanged from the DSA published in August 2012; the debt ratios, however, are now projected to remain higher for a longer period of time. In particular, the PV of debt-to-exports ratio is expected to remain above the country-specific indicative threshold for an extended period due to the country's narrow export base. Reaching a projected debt profile that is consistent with manageable – if high risk – debt dynamics would require an additional fiscal adjustment of 1 percent of GDP over 2015–17, continued heavy reliance on grants and highly concessional lending, and further efforts to diversify the economy and expand the export base over the medium term.

[1] The DSA 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 July 6, 2012 (IMF Country Report No. 12/216). 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 (January 22, 2010). The DSA uses the unified discount rate of 5 percent set out in Decision No 15462 (October 11, 2013).

BACKGROUND

1. **The previous DSA for São Tomé and Príncipe was undertaken as part of the 2012 Request for a Three-Year Arrangement under the Extended Credit Facility.**[2] It concluded that São Tomé and Príncipe was at a high risk of debt distress, but showed a more favorable dynamics of debt indicators than the current assessment because its baseline scenario included the start of oil production in 2015. The earlier assessment also assumed that disbursements from the National Oil Account (NOA) would be sufficient to fund the government's capital investment program, mitigating the need for additional borrowing.

2. **São Tomé and Príncipe reached the completion point under the enhanced HIPC initiative in March 2007, received topping-up assistance in December 2007, and later on benefited from HIPC/MDRI debt relief.** MDRI, in particular, brought substantial debt service savings, since 54 percent of total debt before the HIPC completion point was with IDA, AfDB, and IMF. Debt relief from Paris Club members also helped improve the country's debt profile.

3. **São Tomé and Príncipe's medium- and long-term public and publicly guaranteed external debt was estimated at $221.6 million (84 percent of GDP) as of December 2012** (Table 1).[3] The debt burden increased from $200.1 million at end-2011 (due to disbursements from Portugal and Nigeria) yet remains significantly below the pre-debt relief high of $359.5 million at end-2006. Total public sector debt is composed solely of debt contracted or guaranteed by the central government, and there is currently no state-owned enterprise external debt. Debt composition has shifted after the HIPC completion point. The share of multilateral debt declined from nearly 60 percent before the completion point to 20 percent. Portugal is now the country's main bilateral creditor, and IDA is its main multilateral creditor.

Table 1. São Tomé and Príncipe: External Debt Stock

(As of end-December 2012)

	Million USD	Share
Multilateral Creditors	41.0	19%
IDA	14.1	6%
FIDA	8.0	4%
BADEA	5.9	3%
IMF	5.5	2%
OPEC	4.5	2%
AfDB	2.1	1%
EIB	0.9	0%
Bilateral Creditors	162.3	73%
Portugal	39.8	18%
Angola [1]	35.4	16%
Nigeria [1, 2]	30.0	14%
Italy [1, 3]	25.8	12%
China [1]	17.3	8%
Yugoslavia [1]	8.8	4%
Brazil [1, 3]	4.3	2%
Belgium	0.9	0%
Private Creditors [1]	18.3	8%
Total	221.6	100%

Sources: Country authorities and IMF staff estimates

[1] Includes debt in dispute.

[2] Advances on oil revenues

[3] Commercial debt guaranteed by the government.

[2] IMF (2012), Country Report for São Tomé and Príncipe 12/216.

[3] $123.4 million of this debt consists of technical arrears (including accrued interest) to Nigeria ($30 million advance on oil revenues), Italy ($25.8 million), Angola ($25.4million), China ($17.3 million), Yugoslavia ($8.8 million), Brazil ($4.3 million), and two private creditors ($11.9 million). The debt to Yugoslavia is guaranteed by the Angolan government.

4. To implement the terms of the May 2007 Agreed Minutes, the authorities have signed bilateral agreements with all its Paris Club creditors. Russia was the final Paris Club member to sign the bilateral agreement in 2012. São Tomé and Príncipe received debt relief from Algeria in 2011. Efforts are underway to conclude additional debt relief with other non-Paris club creditors.

MACROECONOMIC ASSUMPTIONS

5. The authorities have cautiously migrated to a non-oil baseline scenario given increased uncertainty regarding volume and timing of the start of oil production following Total's recent withdrawal from the JDZ. The main assumptions in the baseline scenario for 2013–33 are as follows:

- A subdued recovery from the global economic crisis, with annual output growing at 4 percent in 2013, 5 percent in 2014, and 5½ percent in 2015. Over the long-term, growth is projected to be sustained at around 5½ percent per year, similarly to the historical norm and unchanged from the growth assumption under the alternative non-oil scenario of last year's DSA. The main drivers of growth are expected to be construction, tourism, agriculture, and fisheries. Stronger macroeconomic policies, further measures to enhance the business climate, and successful implementation of a tourism development strategy would be needed to sustain growth at 5½ percent a year over the long term.

- A decline in average annual inflation from 10.6 percent in 2012 to 8.3 percent in 2013, and further to around 5 percent in 2015. Inflation is then assumed to remain around 3 percent over the long term. This reflects continued fiscal prudence and the effects of the peg of the dobra to the euro, which has been in effect since January 2010. The GDP deflator in US dollar terms is projected to decline from an average of 13.3 percent in 2013 to 10 percent in 2014, and further to around 3 percent by 2015. It is expected to remain around 2 percent over the long term.

- A domestic primary deficit that is in line with available non-debt creating financing. Any domestic financing needs are assumed to be met via a drawdown of National Oil Account (NOA) deposits and budget support grants. The domestic primary deficit will be 3 percent of GDP in 2014 but will be adjusted by a cumulative 1 percent of GDP over 2015–17 (i.e., to 2 percent of GDP by 2017) to keep it in line with projected non-debt creating financing. The fiscal adjustment would come mainly through measures to enhance revenue mobilization. No domestic borrowing is envisaged.

- Total grants are projected to increase from their current level of about 14 percent of GDP in 2013 to an average of 17 percent of GDP a year in 2014-17. After peaking at over 18 percent of GDP in 2018, grants will decline in importance and average around 10 percent of GDP a year over the longer term.

- The DSA assumes a level of loan concessionality of at least 50 percent. To fund the government's capital investment program, additional loans of about 8 percent of GDP are projected for 2014. New borrowing will average about 4 percent of GDP a year from 2015-21 and ¼ percent of GDP thereafter. No financing from future privatization operations, no commercial loans, no domestic borrowing, and no short-term loans are assumed throughout the DSA projection period.

- A recovery in capital inflows, as the economy in Europe improves. The authorities expect continued investment in infrastructure projects to support tourism and agriculture development. FDI is projected to stabilize around 7 percent of GDP over the long-term.

- The non-interest current account deficit (including official grants) is expected to narrow as the government further consolidates its position. The current account deficit, currently over 20 percent of GDP, is projected to gradually decline to a longer-term average of 10 percent of GDP. Export growth will be driven by increases in cocoa production, the start of palm oil production, and increased tourism as São Tomé and Príncipe rehabilitates its infrastructure.

- Downside risks include significant spending overruns in the run-up to the 2014 local and parliamentary elections. The outlook could also be adversely impacted by supply shocks (leading to higher inflation and lower growth), spillovers from a further deterioration in financial conditions in Europe (resulting in delays in project execution), and delayed action on reducing the size of the banking sector (leading to continued low profitability for the sector and stagnant credit growth).

6. São Tomé and Príncipe's prospects to become an oil producer, though more uncertain, remain good. For illustrative purposes, the DSA includes an alternative oil scenario to assess the debt outlook in the event of oil. The details of the alternative oil scenario assumptions are as follows:

- Oil production is expected to begin in 2019 in Block 1 of the JDZ, boosting GDP growth to 19 percent in that year and 27 percent in 2020 as oil production approaches its peak. Non-oil real GDP growth is assumed to be equal to the baseline non-oil scenario. The total available reserves in Block 1 of the JDZ have been revised from 100 million barrels to 60 million barrels.

- Production is assumed to be about 5,000 barrels per day in 2019 and peak at about 18,300 barrels per day in 2021–22. Production will average about 8,000 barrels per day over the 20-year life of the project. This is expected to yield, on average, $294 million of annual export earnings, of which $195 million would go to the JDZ partners, with 40 percent ($78 million) belonging to São Tomé and Príncipe.[4] In accordance with the Oil Revenue Management Law (ORML), once oil production starts, the bulk of current revenues are to be transferred into a sub-account of the NOA—the Permanent Fund of São Tomé and Príncipe. Resources in the Permanent Fund are to be invested with a view to generating a permanent income stream for the NOA. In steady state, all revenues are deposited in the Permanent Fund while a long-term real rate of return (capped at 5 percent) applied to the previous year's closing balance will be used to determine the amount annually transferred to the budget.

[4] The DSA assumes an oil price averaging $111 a barrel from 2019-39. The previous DSA prepared by Fund staff assumed a price of $96 per barrel from 2015-35.

- The country would remain eligible for IDA grants until the start of oil production.

EXTERNAL DEBT SUSTAINABILITY

A. Baseline

7. Under the baseline non-oil scenario, several external debt indicators remain just around or significantly above their relevant indicative thresholds over the next few years (Figure 1, blue lines).[5] Reflecting São Tomé and Príncipe's narrow export base, the PV of public and publicly guaranteed (PPG) external debt-to-exports ratio is almost three times the indicative threshold of 100 percent and is expected to remain above the threshold until 2030. The PV of PPG external debt-to GDP ratio remains hovering just above the threshold through 2020 and the debt service-to-exports ratio breaches the threshold through 2014. The PV of external debt-to-revenue and debt service-to-revenue remains below the thresholds for the entire forecast horizon. All of the indicators show improvement over time as a result of growth, fiscal consolidation, slower debt accumulation, and expansion of the export base.

B. Sensitivity Analysis and Alternative Scenario

8. Stress tests show the highest vulnerability of debt sustainability differs for debt stock and debt service indicators (Figure 1, dashed red lines).[6] The country's debt-to-GDP and debt-to-revenue ratios are vulnerable to a one-time 30 percent nominal depreciation, while the debt-to-exports ratio is susceptible to a shock to export growth. This highlights the need to maintain the credibility of the exchange rate peg and to maintain international reserves at prudent levels. A one-time depreciation would significantly alter the PV of debt, leading to each of the indicators breaching the threshold for a long period. The stress test results for the debt-to-exports ratio do not fall below the threshold until almost the end of the projection period. The debt service indicators are particularly susceptible to changes in the terms of public sector borrowing. This shows that the country is highly exposed to changes in the level of concessionality of loans and emphasizes the need for the government to seek out only highly concessional financing. A shock to the terms of public sector borrowing would keep the debt service-to-exports ratio hovering around the threshold until 2025 while the debt service-to-revenue ratio remains well below the threshold for the entire projection period.

9. Under an alternative oil scenario, São Tomé and Príncipe's projected debt indicators would greatly improve and all indicators would fall quickly below the thresholds (Figure 1, orange lines). Under this scenario the levels of concessional financing could be phased out as the country first moves from IDA grants to IDA loans, and then seeks market financing as needed.

[5] 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 2010–12 is 3.03 (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.

[6] The country was most vulnerable to a shock to non-debt creating flows in the previous DSA.

PUBLIC DEBT SUSTAINABILITY

10. There is essentially no difference between the external and public sector DSAs. This is because the government of São Tomé and Príncipe does not have any domestic public debt stock and is not projected to issue domestic debt in the baseline scenario.[7] However, the debt dynamics appear unsustainable under two alternate scenarios. The debt indicators continue to rise throughout the projection period when real GDP growth and the primary balance are at historical averages (Figure 2, dotted green line) or when the primary balance is unchanged from 2013 (Figure 2, black 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 is most sensitive to a combined shock to the projected growth of nominal GDP, exports, private transfers and FDI. The public debt service-to-revenue ratio is most sensitive to a one-time 30 percent depreciation of the dobra.

CONCLUSION AND THE AUTHORITIES' VIEW

11. 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 remain above their respective thresholds they show a clear downward trend in the long term. Compared to the prior DSA, the indicators remain just around or significantly above the thresholds for longer periods due to the absence of oil. In this context, the DSA underlines the need for measures to mitigate risks:

- Remain committed to maintaining the exchange rate peg. It will be important to maintain an adequate level of international reserve to boost confidence in the wake of reduced oil prospects;
- Maintain fiscal prudence, particularly in the run-up to the 2014 local and parliamentary elections;
- Accelerate reforms to improve policy and institutional performance to enhance the growth potential of the country;
- Restructure and strengthen the banking system through either further recapitalization or mergers and/or closure of distressed and weak banks;
- Ensure favorable financing terms in the form of grants or highly concessional borrowing; and
- Develop and implement a comprehensive strategy to reduce the cost of doing business and attract private investment that can broaden the export base.

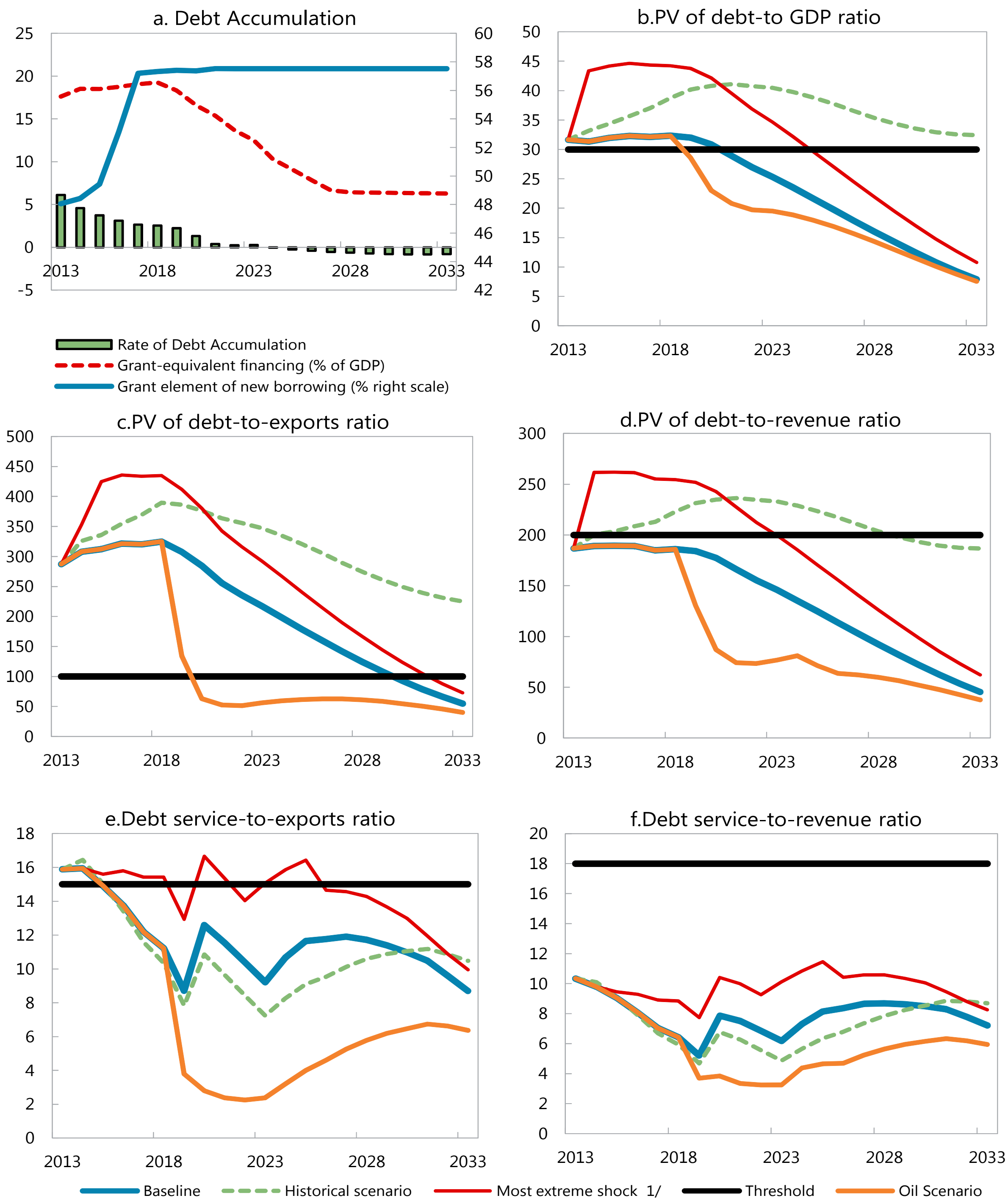
12. The biggest risks to external debt sustainability come from exchange rate shocks and less favorable terms on new public sector loans. Debt sustainability could deteriorate if significantly higher

[7] Data on cross-arrears between the Treasury, the state-owned Water and Electricity Company (EMAE), and National Fuel Company (ENCO) are not included in this analysis as a plan to clear such arrears is being developed.

global food and fuel prices materialize, 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 safeguard international reserves. These vulnerabilities also underscore the importance of sound macroeconomic policies to fulfill the country's growth potential on a sustained basis. 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 future development financing. Additionally, with respect to the public investment plan, priority should be given to projects which would help generate high growth and employment as well as exports to help ensure debt service capacity in the future.

13. The authorities broadly agreed with the key macroeconomic assumptions and analysis underpinning the joint DSA. They have cautiously moved to the non-oil baseline scenario following Total's decision to abandon the Block 1 of the JDZ. However, the authorities remain confident about the prospects for future oil production, citing interest from medium-size firms to take over from Total, the recent signing of a production sharing agreement in the EEZ, and the potential for joint off-shore exploration of along the maritime frontier shared with Equatorial Guinea. While acknowledging that São Tomé and Príncipe remains at high risk of falling back into debt distress, they highlighted that supporting growth and diversification requires mobilizing sufficient resources to implement the country's public investment program, which will continue to require highly-concessional borrowing to the extent that sufficient grant financing is not available. Finally, the authorities noted that additional borrowing did not pose an immediate concern as debt service levels are at or below the thresholds.

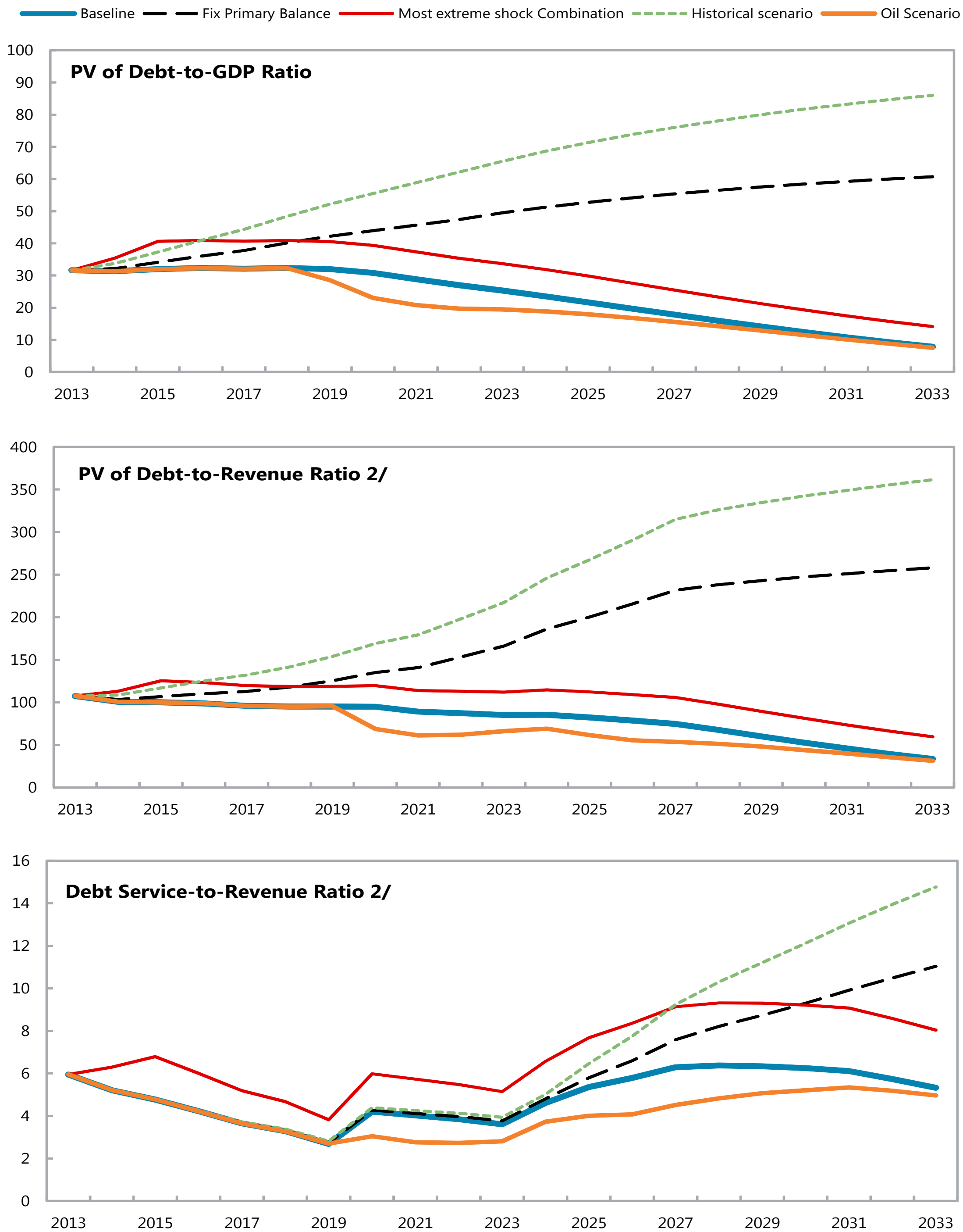
Figure 1. São Tomé and Príncipe: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2013–33[1/]



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2023. 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 Terms shock and in figure f. to a Terms shock

Figure 2. São Tomé and Príncipe: Indicators of Public Debt under Alternatives Scenarios, 2013–33[1/]



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2023.

2/ Revenues are defined inclusive of grants.

Table 1. São Tomé and Príncipe: External Debt Sustainability Framework, Baseline Scenario, 2010–33 1/

(Percent of GDP, unless otherwise indicated)

	Actual			Historical 6/ Average	Standard 6/ Deviation	Projections									
	2010	2011	2012			2013	2014	2015	2016	2017	2018	2013-2018 Average	2023	2033	2019-2033 Average
External debt (nominal) 1/	**32.6**	**38.9**	**49.0**			**51.6**	**51.6**	**52.9**	**53.7**	**53.6**	**53.9**		**38.5**	**10.3**	
of which: public and publicly guaranteed (PPG)	32.6	38.9	49.0			51.6	51.6	52.9	53.7	53.6	53.9		38.5	10.3	
Change in external debt	8.5	6.3	10.1			2.6	0.1	1.2	0.8	-0.1	0.3		-3.6	-1.9	
Identified net debt-creating flows	-2.7	7.6	9.9			9.5	6.6	4.9	3.3	1.6	0.4		1.1	1.4	
Non-interest current account deficit	**22.8**	**26.4**	**20.1**	**25.4**	**5.9**	**19.8**	**15.4**	**14.0**	**12.5**	**11.2**	**10.1**		**10.1**	**9.1**	10.2
Deficit in balance of goods and services	-72.0	-71.1	-65.8			-58.3	-54.7	-53.9	-52.5	-51.4	-50.6		-47.9	-45.2	
Exports	12.1	11.8	12.9			11.0	10.2	10.2	10.1	10.0	10.0		11.7	14.4	
Imports	-59.9	-59.2	-52.8			-47.3	-44.5	-43.6	-42.4	-41.4	-40.7		-36.2	-30.8	
Net current transfers (negative = inflow)	-25.0	-20.9	-20.3	-18.4	3.7	-16.8	-19.3	-19.5	-19.9	-20.3	-20.7		-14.5	-7.3	-11.6
of which: official	-23.5	-19.8	-18.4			-13.9	-16.1	-16.5	-17.1	-17.7	-18.3		-12.7	-6.3	
Other current account flows (negative = net inflow)	119.9	118.4	106.2			94.9	89.4	87.4	84.9	82.9	81.5		72.5	61.7	
Net FDI (negative = inflow)	**-25.1**	**-12.8**	**-8.4**	**-15.3**	**13.5**	**-9.0**	**-7.0**	**-7.0**	**-7.0**	**-7.0**	**-7.0**		**-7.1**	**-7.1**	-7.1
Endogenous debt dynamics 2/	**-0.3**	**-5.9**	**-1.8**			**-1.2**	**-1.8**	**-2.1**	**-2.2**	**-2.5**	**-2.6**		**-1.9**	**-0.6**	
Contribution from nominal interest rate	0.2	0.3	0.4			0.4	0.5	0.5	0.4	0.4	0.4		0.2	0.0	
Contribution from real GDP growth	-1.1	-1.3	-1.5			-1.7	-2.2	-2.6	-2.7	-3.0	-3.0		-2.2	-0.6	
Contribution from price and exchange rate changes	0.5	-4.9	-0.8			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**11.1**	**-1.3**	**0.2**			**-7.0**	**-6.6**	**-3.6**	**-2.5**	**-1.7**	**-0.1**		**-4.7**	**-3.3**	
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/	...	...	30.7			31.6	31.4	32.0	32.3	32.1	32.3		25.3	7.9	
In percent of exports	...	...	237.6			287.2	307.9	312.4	321.4	320.5	324.8		217.2	54.8	
PV of PPG external debt	**...**	**...**	**30.7**			**31.6**	**31.4**	**32.0**	**32.3**	**32.1**	**32.3**		**25.3**	**7.9**	
In percent of exports	**...**	**...**	**237.6**			**287.2**	**307.9**	**312.4**	**321.4**	**320.5**	**324.8**		**217.2**	**54.8**	
In percent of government revenues	**...**	**...**	**200.3**			**186.9**	**189.2**	**189.4**	**189.2**	**184.9**	**186.0**		**145.8**	**45.4**	
Debt service-to-exports ratio (in percent)	**6.6**	**31.9**	**7.1**			**15.9**	**15.9**	**14.9**	**13.8**	**12.2**	**11.2**		**9.2**	**8.7**	
PPG debt service-to-exports ratio (in percent)	**6.6**	**31.9**	**7.1**			**15.9**	**15.9**	**14.9**	**13.8**	**12.2**	**11.2**		**9.2**	**8.7**	
PPG debt service-to-revenue ratio (in percent)	**4.4**	**20.9**	**6.0**			**10.3**	**9.8**	**9.0**	**8.1**	**7.0**	**6.4**		**6.2**	**7.2**	
Total gross financing need (Billions of U.S. dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Non-interest current account deficit that stabilizes debt ratio	14.3	20.1	10.0			17.2	15.3	12.8	11.7	11.3	9.8		13.7	11.0	
Key macroeconomic assumptions															
Real GDP growth (in percent)	4.5	4.9	4.0	5.4	3.3	4.0	5.0	5.5	5.5	6.0	6.0	5.3	5.5	5.5	5.6
GDP deflator in US dollar terms (change in percent)	-2.1	17.7	2.0	6.5	7.2	13.3	10.2	4.0	3.0	2.7	2.1	5.9	1.9	1.9	1.9
Effective interest rate (percent) 5/	0.9	1.0	1.0	0.7	0.3	1.1	1.0	1.0	0.9	0.8	0.8	0.9	0.6	0.3	0.5
Growth of exports of G&S (US dollar terms, in percent)	24.0	20.7	16.1	9.5	13.9	0.3	7.0	10.2	6.7	8.6	7.4	6.7	9.5	10.1	10.4
Growth of imports of G&S (US dollar terms, in percent)	17.3	22.0	-5.4	13.2	18.2	5.4	9.1	7.5	5.6	6.4	6.3	6.7	5.0	6.8	5.7
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	48.1	48.4	49.4	53.1	57.2	57.3	52.3	57.5	57.5	57.5
Government revenues (excluding grants, in percent of GDP)	18.2	18.0	15.3			16.9	16.6	16.9	17.1	17.4	17.4		17.4	17.4	17.4
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	
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	
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	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			17.6	18.5	18.5	18.8	19.1	19.3		12.5	6.3	9.9
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			76.0	81.5	84.1	87.1	89.7	90.8		99.3	98.7	98.1
Memorandum items:															
Nominal GDP (Billions of US dollars)	0.2	0.2	0.3			0.3	0.4	0.4	0.4	0.5	0.5		0.7	1.5	
Nominal dollar GDP growth	2.3	23.5	6.1			17.8	15.7	9.7	8.7	8.9	8.2	11.5	7.6	7.5	7.7
PV of PPG external debt (in Billions of US dollars)			0.1			0.1	0.1	0.1	0.1	0.2	0.2		0.2	0.1	
(PVt-PVt-1)/GDPt-1 (in percent)						**6.1**	4.6	3.7	3.1	2.7	2.5	3.8	0.3	-0.8	-0.1
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	
PV of PPG external debt (in percent of GDP + remittances)	...	...	30.2			30.7	30.4	31.1	31.4	31.3	31.6		24.9	7.8	
PV of PPG external debt (in percent of exports + remittances)	...	...	207.5			227.2	234.3	242.4	252.1	254.9	261.2		188.3	51.2	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	6.2			12.6	12.1	11.6	10.8	9.7	9.0		8.0	8.1	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt. Technical arrears which are currently being renegotiated are excluded.

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 2. São Tomé and Príncipe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013–33

(Percent)

	Projections							
	2013	2014	2015	2016	2017	2018	**2023**	2033
PV of debt-to GDP ratio								
Baseline	32	31	32	32	32	32	**25**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	32	33	34	36	37	39	**40**	32
A2. New public sector loans on less favorable terms in 2013-2033 2	32	34	36	38	39	39	**32**	13
A3. Alternative Scenario :[Costumize, enter title]	32	33	34	36	37	38	**35**	16
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	32	32	34	35	34	34	**27**	8
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	32	32	34	34	34	34	**26**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	32	35	37	38	38	37	**29**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	32	36	41	41	41	40	**32**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	32	36	40	40	40	40	**31**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	32	43	44	45	44	44	**35**	11
PV of debt-to-exports ratio								
Baseline	287	308	312	321	320	325	**217**	55
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	287	326	336	354	369	389	**347**	225
A2. New public sector loans on less favorable terms in 2013-2033 2	287	330	350	374	385	395	**277**	89
A3. Alternative Scenario :[Costumize, enter title]	290	325	335	354	368	384	**300**	113
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	287	310	314	323	322	323	**216**	55
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	287	352	425	436	434	435	**292**	73
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	287	310	314	323	322	323	**216**	55
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	287	354	401	408	404	403	**275**	65
B5. Combination of B1-B4 using one-half standard deviation shocks	287	340	394	404	401	401	**271**	67
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	287	310	314	323	322	323	**216**	55
PV of debt-to-revenue ratio								
Baseline	187	189	189	189	185	186	**146**	45
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	187	200	204	209	213	223	**233**	187
A2. New public sector loans on less favorable terms in 2013-2033 2	187	203	212	220	222	226	**186**	74
A3. Alternative Scenario :[Costumize, enter title]	189	200	203	208	212	220	**201**	93
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	187	196	203	202	197	197	**154**	48
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	187	193	200	199	194	193	**152**	47
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	187	211	221	221	216	215	**169**	53
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	187	217	243	240	233	231	**185**	54
B5. Combination of B1-B4 using one-half standard deviation shocks	187	217	238	236	230	228	**181**	55
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	187	262	262	261	255	254	**199**	62

Table 2. São Tomé and Príncipe: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013–33 (concluded)

(Percent)

	Projections							
	2013	2014	2015	2016	2017	2018	**2023**	2033
Debt service-to-exports ratio								
Baseline	16	16	15	14	12	11	**9**	9
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	16	16	15	13	12	10	**7**	10
A2. New public sector loans on less favorable terms in 2013-2033 2	16	16	16	16	15	15	**15**	10
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	16	16	15	14	12	11	**9**	9
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	16	18	19	18	16	15	**12**	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	16	16	15	14	12	11	**9**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	16	16	15	14	12	11	**9**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	16	17	17	16	14	13	**10**	11
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	16	16	15	14	12	11	**9**	9
Debt service-to-revenue ratio								
Baseline	10	10	9	8	7	6	**6**	7
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	10	10	9	8	7	6	**5**	9
A2. New public sector loans on less favorable terms in 2013-2033 2	10	10	9	9	9	9	**10**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	10	10	10	9	7	7	**7**	8
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	10	10	9	8	7	6	**6**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	10	11	11	9	8	7	**7**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	10	10	9	8	7	7	**6**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	10	11	10	9	8	7	**7**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	10	13	12	11	10	9	**8**	10
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	54	54	54	54	54	54	**54**	54

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, 2010–33

(Percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2010	2011	2012	Average 5/	Standard Deviation 5/	2013	2014	2015	2016	2017	2018	2013-18 Average	2023	2033	2019-33 Average
Public sector debt 1/	32.6	38.9	49.0			51.6	51.6	52.9	53.7	53.6	53.9		38.5	10.3	
of which: foreign-currency denominated	32.6	38.9	49.0			51.6	51.6	52.9	53.7	53.6	53.9		38.5	10.3	
Change in public sector debt	8.5	6.3	10.1			2.6	0.1	1.2	0.8	-0.1	0.3		-3.6	-1.9	
Identified debt-creating flows	9.9	7.3	6.0			2.4	0.4	1.6	1.1	0.1	0.3		-3.6	-1.4	
Primary deficit	10.9	12.8	11.4	12.5	5.4	8.7	6.8	5.7	4.8	4.0	3.5	5.6	-0.9	-0.6	-0.4
Revenue and grants	37.4	35.3	32.3			29.4	31.2	32.0	32.7	33.5	34.0		29.8	23.5	
of which: grants	19.1	17.3	16.9			12.5	14.6	15.1	15.6	16.1	16.6		12.4	6.2	
Primary (noninterest) expenditure	48.3	48.1	43.7			38.1	37.9	37.7	37.5	37.5	37.5		28.9	22.9	
Automatic debt dynamics	-1.0	-4.1	-5.4			-6.3	-6.4	-4.1	-3.7	-3.9	-3.2		-2.7	-0.8	
Contribution from interest rate/growth differential	-1.1	-1.9	-1.8			-2.1	-2.7	-3.1	-3.3	-3.6	-3.7		-2.8	-0.8	
of which: contribution from average real interest rate	-0.1	-0.3	-0.3			-0.2	-0.3	-0.5	-0.6	-0.6	-0.7		-0.6	-0.2	
of which: contribution from real GDP growth	-1.0	-1.5	-1.5			-1.9	-2.5	-2.7	-2.8	-3.0	-3.0		-2.2	-0.6	
Contribution from real exchange rate depreciation	0.1	-2.2	-3.6			-4.2	-3.7	-0.9	-0.4	-0.3	0.5		...	...	
Other identified debt-creating flows	0.0	-1.4	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	-1.4	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	-1.4	-1.0	4.1			0.2	-0.3	-0.4	-0.3	-0.2	0.0		0.0	-0.5	
Other Sustainability Indicators															
PV of public sector debt	...	...	30.7			31.6	31.4	32.0	32.3	32.1	32.3		25.3	7.9	
of which: foreign-currency denominated	...	...	30.7			31.6	31.4	32.0	32.3	32.1	32.3		25.3	7.9	
of which: external	...	...	30.7			31.6	31.4	32.0	32.3	32.1	32.3		25.3	7.9	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	11.7	16.6	12.3			10.4	8.4	7.2	6.2	5.2	4.6		0.2	0.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	95.3			107.6	100.7	100.0	98.8	95.9	95.0		85.1	33.6	
PV of public sector debt-to-revenue ratio (in percent)	...	...	200.3			186.9	189.2	189.4	189.2	184.9	186.0		145.8	45.4	
of which: external 3/	...	...	200.3			186.9	189.2	189.4	189.2	184.9	186.0		145.8	45.4	
Debt service-to-revenue and grants ratio (in percent) 4/	2.2	10.7	2.8			5.9	5.2	4.8	4.2	3.6	3.3		3.6	5.3	
Debt service-to-revenue ratio (in percent) 4/	4.4	20.9	6.0			10.3	9.8	9.0	8.1	7.0	6.4		6.2	7.2	
Primary deficit that stabilizes the debt-to-GDP ratio	2.4	6.5	1.3			6.1	6.7	4.5	4.1	4.1	3.2		2.7	1.3	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	4.5	4.9	4.0	5.4	3.3	4.0	5.0	5.5	5.5	6.0	6.0	5.3	5.5	5.5	5.6
Average nominal interest rate on forex debt (in percent)	0.9	1.0	1.0	0.7	0.3	1.1	1.0	1.0	0.9	0.8	0.8	0.9	0.6	0.3	0.5
Average real interest rate on domestic debt (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	0.6	-7.2	-9.8	-4.0	5.8	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	11.7	12.1	10.3	14.6	4.7	9.8	8.4	2.6	1.8	1.7	2.1	4.4	2.9	2.9	2.9
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.0	-0.1	0.1	0.3	-0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	48.1	48.4	49.4	53.1	57.2	57.3	52.3	57.5	57.5	...

Sources: Country authorities; and staff estimates and projections.

1/ Includes gross debt of the general government. Technical arrears which are currently being renegotiated are excluded.

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 for Key Indicators of Public Debt, 2013–33

(Percent)

		Projections						
	2013	2014	2015	2016	2017	2018	2023	2033
PV of Debt-to-GDP Ratio								
Baseline	32	31	32	32	32	32	25	8
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	32	34	37	41	44	48	66	86
A2. Primary balance is unchanged from 2013	32	32	34	36	38	40	49	61
A3. Permanently lower GDP growth 1/	32	32	33	33	34	34	30	19
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	32	32	35	35	36	36	31	15
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	32	36	42	42	42	42	33	12
B3. Combination of B1-B2 using one half standard deviation shocks	32	35	41	41	41	41	34	14
B4. One-time 30 percent real depreciation in 2014	32	42	40	39	37	36	29	10
B5. 10 percent of GDP increase in other debt-creating flows in 2014	32	36	36	36	36	36	29	9
PV of Debt-to-Revenue Ratio 2/								
Baseline	108	101	100	99	96	95	85	34
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	108	109	117	125	132	142	217	362
A2. Primary balance is unchanged from 2013	108	103	107	110	113	118	166	258
A3. Permanently lower GDP growth 1/	108	101	101	101	99	99	98	78
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	108	103	105	105	103	104	101	64
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	108	116	132	129	124	122	112	50
B3. Combination of B1-B2 using one half standard deviation shocks	108	113	125	123	120	119	112	60
B4. One-time 30 percent real depreciation in 2014	108	134	126	119	111	107	97	43
B5. 10 percent of GDP increase in other debt-creating flows in 2014	108	115	113	111	108	106	96	40

Table 4. São Tomé and Príncipe: Sensitivity Analysis for Key Indicators of Public Debt, 2013–33 (concluded)

(Percent of Revenue)

		Projections						
	2013	2014	2015	2016	2017	2018	2023	2033
Debt Service-to-Revenue Ratio 2/								
Baseline	6	5	5	4	4	3	4	5
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	6	5	5	4	4	3	4	15
A2. Primary balance is unchanged from 2013	6	5	5	4	4	3	4	11
A3. Permanently lower GDP growth 1/	6	5	5	4	4	3	4	7
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	6	5	5	4	4	3	4	7
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	6	5	5	4	4	3	4	7
B3. Combination of B1-B2 using one half standard deviation shocks	6	5	5	4	4	3	4	7
B4. One-time 30 percent real depreciation in 2014	6	6	7	6	5	5	5	8
B5. 10 percent of GDP increase in other debt-creating flows in 2014	6	5	5	4	4	3	4	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.