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INTERNATIONAL DEVELOPMENT ASSOCIATION
INTERNATIONAL MONETARY FUND

REPUBLIC OF MOZAMBIQUE

Joint Bank-Fund Debt Sustainability Analysis - 2013 Update

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and the International Monetary Fund

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This debt sustainability analysis (DSA) updates the joint IMF/IDA DSA from May 2012. Mozambique moves from low to moderate risk of debt distress as the result of (i) a lower discount rate, (ii) a significant increase in debt contracted in the last two years related to an ambitious public investment program aimed at narrowing the infrastructure gap, and facilitating the development of natural resources , and (iii) large movements in the underlying balance of payments with the onset of coal exports and significant commercial investments in natural gas exploration and liquefaction. Staffs agree with the authorities on the importance of the public investment program for development. The increased risks to debt sustainability, however, should be contained by moderating public external borrowing compared to its current accelerated pace. The DSA highlights that further improvements in debt management and investment planning capacity are important for continued debt sustainability, notably in the case of commercial borrowing.[1] *As public debt is largely external, the evolution of total public debt indicators mirrors that of public external debt. Private external debt is expected to increase rapidly in importance, mainly driven by investment in the natural gas sector, and to comprise the majority of external debt by the end of this decade.*

[1]The DSA presented in this document is based on the standard low-income countries (LIC) DSA framework. See “Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework, Policy Implications” (IDA/SECM2004/0629, 9/10/04and IMF/SM/05/109). Under the Country Policy and Institutional Assessment (CPIA), Mozambique is rated as a medium performer, albeit close to the threshold of 3.75 for strong performers, with an average rating of 3.71 during 2009–11; the DSA uses the indicative threshold for medium performers.

I. UNDERLYING DSA ASSUMPTIONS

1. **This DSA is consistent with the macroeconomic framework outlined in the Staff Report for the Sixth Review under the PSI** (Box 1). Compared to the previous DSA,[2] the main changes in this DSA are as follows:

a. The medium-term macroeconomic framework has been revised (Text Table 1). In particular, economic growth slows in 2013 as a result of widespread flooding early in the year that damaged agricultural output and transport infrastructure. Growth is projected to bounce back quickly and accelerate over the medium term as agriculture recovers, extractive industries boom, and infrastructure investments materialize. The fiscal deficit was lower in 2012, among other factors because of windfall capital gain tax revenues received. Significant revisions have been made to the balance of payments that result in larger current account deficits and larger FDI inflows—both historically and in the projections. The bulk of the revision is related to megaprojects, particularly the inclusion of imports of goods and services related to exploration in the natural gas sector; the counterpart of these imports is a large increase in recorded inward FDI.

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

	2011	2012	2013	2014	2015
		Est.	Projections		
Real GDP growth (%)					
Previous DSA	7.1	6.7	7.2	7.8	7.8
Current DSA	7.3	7.4	7.0	8.5	8.5
Nominal GDP (US$ million)					
Previous DSA	12.8	14.2	15.5	17.3	19.4
Current DSA	12.6	14.2	14.7	16.0	17.9
Overall fiscal deficit (% of GDP)					
Previous DSA	5.2	6.4	6.6	6.6	6.6
Current DSA	5.3	4.2	6.7	7.2	6.7
Current account deficit (% of GDP)					
Previous DSA	13.1	12.7	12.4	11.9	11.3
Current DSA	24.3	36.5	39.9	41.3	41.4
FDI (% of GDP)					
Previous DSA	16.4	11.2	10.2	10.1	9.7
Current DSA	20.7	36.6	32.2	25.8	20.8
Use of NCB ceiling (% of GDP) 1/					
Previous DSA	1.5	2.5	3.2	3.4	0.0
Current DSA	0.6	0.8	2.4	2.5	1.6
Disbursements under PTL (% of GDP) 2/					
Previous DSA	1.8	0.9	0.9	0.5	0.0
Current DSA	1.0	0.4	0.2	0.3	0.2
Grant financing (% of GDP) 3/					
Previous DSA	9.2	8.7	8.1	8.0	8.0
Current DSA	9.2	6.6	7.5	7.6	7.4

1/ The disbursement pace is not faster as in the previous DSA, because implementation of some projects has been slower than previously expected and the large prospective new loan for the Moamba Major Dam is currently expected to start disbursing only in 2015.
2/ Portuguese credit line.
3/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new disbursements).

[2] See IDA/SecM2012-0441 and IMF Country Report No. EBS/12/64, Supplement 1.

Box 1. Macroeconomic Assumptions 2013–33

The medium-term assumptions in the baseline scenario for 2013-33 are consistent with the medium-term macroeconomic framework underlying the Staff Report for the Sixth Review under the Policy Support Instrument.

Non-LNG Real GDP growth is projected to be around 8 percent on average in the next few years and 7½ percent in the longer term. Growth will slow down in 2013 due to the impact of floods, but is expected to accelerate over the medium term, supported by recovery in agricultural production, expansion in coal mining, and infrastructure investments in the pipeline, including to support coal exports and LNG manufacturing. Growth is sustained in the long term by strong population/labor force growth, continued infrastructure investment, and related productivity gains. Risks to growth include public investment not achieving expected payoffs and thus limiting productivity gains, and the possibility of Dutch disease effects. The government is aware of the risks, and is taking steps to strengthen project evaluation and selection, and is considering options such as fiscal rules and sovereign wealth funds to mitigate the risk of excessive real exchange rate appreciation.

LNG sector. LNG plants are assumed to be under construction during 2014–22. The projection assumes a moderate-sized plant consisting of four LNG manufacturing units ("trains"). One train is assumed to start production in 2020, followed by a second train in 2021, and the third and the fourth train will start production in 2023. Total investment is projected at $40 billion. The sector's contribution to GDP is expected to be small during the construction period due to a high import content. Annual LNG output will reach 20 million tons in 2023, contributing more than 20 percent of nominal GDP by then.

Consumer price inflation is projected to rise to 5–6 percent in 2013, owing to rising food prices and an increase in public transport fares in late 2012 and also reduced domestic food supply as a result of the floods. As per the Central Bank medium term target, inflation is assumed to stabilize at around 5½ percent over the forecast period beginning from 2014.

Growth of exports is projected to stabilize at around 5 percent a year in the longer term as coal and LNG exports stabilize. In the shorter term export growth rates show sharp changes as a result of coal and LNG operations. In particular the growth rate of exports would almost double in 2020-23 due to LNG exports coming on line.

Imports are projected to increase sharply in 2014 during the LNG plant construction phase and their growth would stabilize at around 9 percent a year in the long term.

The non-interest external current account deficit is projected to rise to over 40 percent of GDP in the medium term largely driven by LNG-related imports. The deficit will be primarily financed through FDI and private external borrowing. It would then stabilize at around 8 percent of GDP in the long term as coal exports increase with transport capacity and as LNG exports start.

The non-interest primary fiscal deficit is projected to widen in 2013 and 2014, reflecting high public investment in the pipeline to mitigate the infrastructure gap. The fiscal balance would improve in the medium to long term as public investment tapers off to more sustainable levels and non-interest spending falls in percent of GDP terms. The fiscal balance is expected to improve further from 2020 onwards once LNG revenue commences.

b. **The natural gas sector.** The baseline scenario in this DSA has incorporated the emerging gas sector in Mozambique. The basis for the development of the sector is one of the largest worldwide discoveries of gas. These developments result in: (i) higher foreign direct investment and private external borrowing for exploration (since 2010) and the construction of a 4-train gas liquefaction (LNG) plant (2014-2022); (ii) increased imports of goods and services related to LNG; and (iii) increased GDP and exports from 2020 onwards when the LNG plant becomes operational. Under baseline assumptions, the LNG sector will contribute 20 percent of GDP and half of exports by 2023. LNG-related fiscal revenue will be small in the beginning owing to cost recovery provisions. Revenue will gradually increase over the medium to long term.

c. **The coal mining sector.** Coal production is expected to expand rapidly over the medium term to 20 million tons (6 percent of GDP) in 2017 from about 5 million tons (2 percent of GDP) in 2012. Most of the coal produced will be for exports—high quality coking coal—while the abundant lower-value thermal coal is not currently marketed due to transport capacity constraints. Coal-related investments in mines, railways, ports, and a coal-fired power plant are conservatively expected to amount to $5 billion during 2013–17, financed by FDI inflows. Adverse world coal price movements constitute a risk to these expansion plans, which could result in delayed implementation or scaling back.

d. **The related substantial BOP revisions** show much larger changes in variables, especially FDI, and thus larger volatility than assumed in the last DSA. The related standard shocks in the DSA template produce larger deviations from the baseline scenario, and thus make breaches of the sustainability thresholds more likely and more prolonged than in the last DSA.

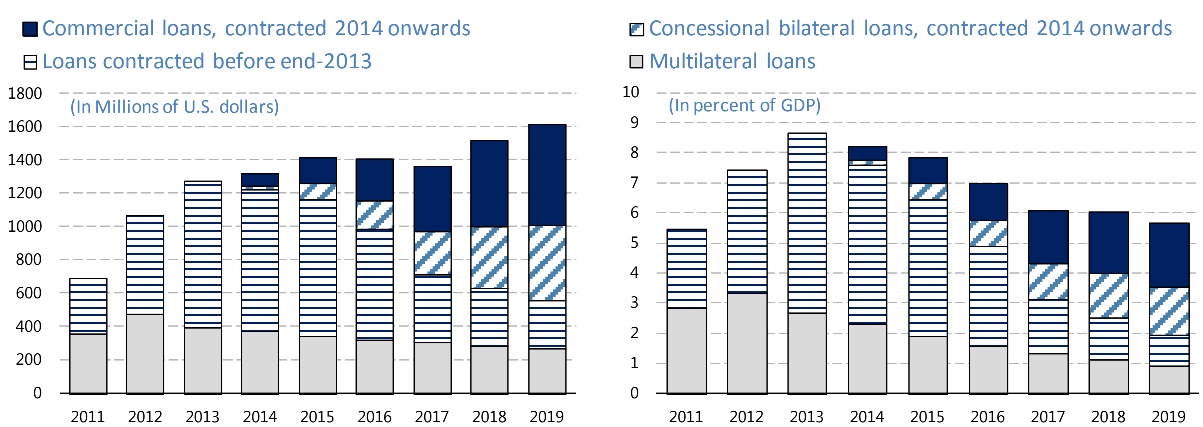
e. **A revised public investment and external borrowing profile.** Thus far, disbursements, particularly of nonconcessional loans, have been lower than expected in the previous DSA, mainly because of a somewhat slower start of projects. Disbursement are projected to increase in 2013–16, in line with the recent increase in the non-concessional borrowing ceiling to $1.6 bil-lion under the current IMF-supported program and the proposed non-concessional borrowing ceiling under the successor program, but also through a notable increase in bilateral concessional loans (Text Table 2). Following the acceleration of external borrowing through end-2013, the authorities plan to moderate the pace of new borrowing over the medium term (Text Figure 1). Starting at the end of this decade, new public sector borrowing is expected to decline gradually relative to GDP in light of the coming on stream of natural resource-related revenue from the coal and natural gas sectors. Nominal disbursements, however, are projected to continue increasing throughout the projection period. Other large potential future investment projects, e.g. in railroads, the LNG and power sectors, are deemed commercially viable by the authorities and would be expected to be undertaken largely by the private sector, without substantial need for government financing or guarantees. However, these projects could constitute a risk for the public debt trajectory if significant government financing became necessary. Another risk is that pressures may emerge and make it difficult to slow the future pace of public loan contracting, particularly in light of the country’s vast infrastructure needs. Finally, project costs could be underestimated, as was the case for the Nacala airport.

Text Table 2. Non-concessional Loans Contracted and in the Pipeline

	Signed on	Loan amount (US$ millions)	Before 5th rev.	Between 5th and 6th rev.	After 6th rev.
Total non-concessional loans		**2,073**	**1,387**	**45**	**641**
Brazil					
Nacala Airport	Apr 28, 2011	80	80		
Study on Dam Moamba Major	Nov 22, 2012	9	9		
Nacala Airport (Augmentation)	Expect to sign by mid-2013	45		45	
Public Transport Maputo-Matola	Expect to sign by end-2013	135			135
Nacala Industrial Free Trade Zone	Expect to sign by end-2013	40			40
Dam Moamba Major	Expect to sign by end-2013	466			466
China					
Maputo Airport	Dec 16, 2010	67	67		
Ring Road *	Feb 17, 2012	300	300		
Katembe Bridge/Ponta D'Ouro Road	July 18, 2012	682	682		
India					
Maputo Power Supply *	Sep 20, 2012	250	250		
Large concessional loans in the pipeline		**946**			**946**
China					
Road Beira-Machipanda	Expect to sign by mid-2013	433			433
India					
Road Tica-Buzi-Nova Sofala	Expect to sign by mid-2013	150			150
400-1000 Basic Houses	Expect to sign by mid-2013	47			47
Agua Rural III	Expect to sign by mid-2013	20			20
KFW					
Mavuzi-Chicamba Rehabilitation	Expect to sign by mid-2013	24			24
Korea					
Nampula - Nametil Road	Expect to sign by end-2013	182			182
Maputo Sanitary Landfills	Expect to sign by mid-2013	25			25
250 Buses in Maputo and Matola	Expect to sign by mid-2013	30			30
Japan					
Chókwè City Dike	Expect to sign by end-2013	19			19
Dam Macarretane Rehabilitation	Expect to sign by end-2013	16			16

* 34 percent grant element.

Text Figure 1. Public Sector External Debt Disbursement Path



f. **A revised grant element in financing terms for future borrowing.** This DSA assumes that the grant element for new borrowing will experience a pronounced decline during the next two decades, contrary to the previous DSA that assumed a roughly constant 30-percent grant element. This reflects revised assumptions on the long-run availability of donor financing with government relying increasingly on commercial borrowing.

g. **The reduction of the DSA discount rate from 4 percent a year ago to 3 percent in this DSA** yields a higher present value of debt/borrowing in this DSA compared to the previous one.

II. EXTERNAL DEBT SUSTAINABILITY ANALYSIS

2. **External debt is projected to rise rapidly during this decade, reflecting mainly private sector investment in the natural gas sector.** External debt (both public and private) is expected to peak at about 128 percent of GDP in 2019, at which time private sector debt will constitute about two thirds of total external debt. With investment in the coal sector projected to be financed through foreign direct investment, this increase in private external debt is mostly driven by investments in the natural gas sector. Public sector debt is also expected to peak in 2018 at 45 percent of GDP (in PV terms) on the back of infrastructure investment. The significant buildup of private sector external debt needs to be monitored by the authorities to contain vulnerabilities. However, with renowned global companies leading investments in the natural resource sector, the risk for government contingent liabilities or other vulnerabilities beyond those specific to the natural resource operations is currently considered to be low.[3]

3. **All baseline public external debt indicators remain below their respective thresholds but now come closer to the thresholds than previously** (Figure 1).[4] While the indicators remain contained throughout the projection period, they are significantly higher than at the time of the last DSA, especially the PV of debt relative to GDP. It now peaks around 39 percent (in 2018), relative to a 28½ percent peak in the previous DSA. The beginning of LNG production, however, and the ensuing surge in GDP would drop the ratio safely back down to below 33 percent in the next decade (Table 1). The increase of debt ratios is partly due to the lowering of the discount rate from 4 to 3 percent, which contributed to about one third (3 percentage points) of the increase in the PV of debt to GDP ratio. PV of debt to GDP ratio would be about 6 percentage points lower throughout the DSA period if the discount rate were at the longer-term historical average benchmark rate of about 5 percent instead of the 3 percent assumed in this DSA (Figure 1 and Table 2).

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[3] Likewise, the risk of BOP pressures emerging as a direct result of mega project-related investment activity is considered to be low. Care will have to be taken in the long term, however, once revenues from these ventures materialize, as these may be volatile reflecting world commodity prices and in relation to imports. Moreover, large natural resource exports then also hold competitiveness risks emerging from a possible exchange rate appreciation, which will have to be carefully managed.

[4] Compared to the DSA of Country Report 12/148 (May 2012).

4. **External debt ratios remain vulnerable to FDI and exchange rate shocks.** The threshold for the PV of debt to GDP ratio is breached under stress tests for a sustained period.[5] A sharp reduction in non-debt creating FDI in 2014-2015 would push the PV Debt/GDP ratio well above the 40 percent threshold during the second half of this decade, with a peak at more than 80 percent (Figure 1). Apart from the FDI shock, a sharp depreciation of the metical in 2014 also leads to breaches of this threshold (Table 2). Both shocks lead to a significant overshooting of the threshold for a sustained period: 13 years for the FDI shock and 19 years for the depreciation shock.[6] The impact of these two shocks is now much larger than in the previous DSA given revisions to historical BOP data to account for FDI-financed natural gas exploration.[7] The PV of debt will also breach two other thresholds: 150 percent of exports, and 250 percent of revenue under the FDI shock scenario.[8] The thresholds for the PV of debt to export ratio is breached by a number of indicators, particularly a shock to non-debt creating flows. In many countries with large natural resource sectors, price volatility adds another source of risks to external debt sustainability. Given the long-term nature of the contracts that usually govern LNG development – including buying prices – the risk of significant volatility for external debt sustainability seems relatively small.

5. **Ensuring that LNG production materilizes is crucial for Mozambique's debt sustainability.** The LNG sector will contribute significantly to GDP, exports and government revenue. A gradual public investment scaling-up under the baseline scenario anticipating some LNG revenue would be appropriate given Mozambique's infrastructure investment needs. If, however, LNG production or revenue is much lower than expected, the debt ratios would be higher over the medium to long term.[9]

III. PUBLIC SECTOR DEBT SUSTAINABILITY

6. **The evolution of public debt indicators (including domestic debt) mirrors that of the external indicators because of the predominance of external debt** (Table 3 and Figure 2)**.** The medium-term increase in public debt reflects the temporary surge in public investment financed in part by external borrowing on non-concessional terms. Under the baseline scenario, the PV of public debt

[5] The scenario in which variables are at their historical levels has been omitted given that it generates negative debt as a result of the large changes in variables in the baseline arising from LNG activities.

[6] The charts in Figure 1 display the stress test with the most adverse outcome in 2023.

[7] The BOP data revisions in 2010-2012 to account for natural gas exploration lead to a higher increase in FDI compared to previous years. As a result, the DSA's stress scenario for non-debt creating capital flows now assumes that these flows are subject to higher volatility than in the previous DSA.

[8] These breaches, however, should not be overemphasized as a fall in FDI would likely be linked to lower imports rather than higher borrowing as implicitly assumed in the standard shock scenario.

[9] See Staff Report for the 2013 Article IV Consultation, Appendix V "Natural Gas, Public Investment and Debt Sustainability" for discussions on public investment scaling up and risks to the debt sustainability from adverse LNG production and price shocks.

emains below 50 percent of GDP throughout, therefore remaining well contained below indicative benchmarks that research has linked to increased probability of debt distress.[10]

7. **The public DSA illustrates that it is essential for debt sustainability to moderate the pace of new borrowing as is planned by the authorities.** In other words, the fiscal primary balance will need to be reduced in the medium and long run. For illustrative purposes, the "Fix Primary Balance" scenario[11] shows the impact if the primary balance were fixed at values of its peak years 2013-15, i.e. if such a slowing in new borrowing would not take place.[12] Debt ratios would continue to rise throughout the projection period, quickly elevating risks to debt sustainability, no matter which assumptions are made on LNG production.

IV. CONCLUSIONS

8. **In staffs view, while the standard DSA shocks indicate that Mozambique would be in the moderate risk of debt distress category, the public investment program should continue to move forward but with a more moderate pace of public borrowing.** Even against the background of a temporarily accelerated borrowing pace for infrastructure projects, the baseline debt trajectories remain below their respective thresholds throughout. Importantly, debt service indicators remain substantially below their thresholds, including under stress tests, and reflect conservative assumptions regarding the grant element for future borrowing.[13] The breaches under the stress tests are temporary, would be reversed by the coming on stream of LNG production, and seem manageable against the backdrop of the authorities' strong track record of prudent economic management.

9. **This analysis highlights three important points for debt sustainability.** First, it will be important to continue to improve debt management and investment planning capacity to ensure that the increasing share of non-concessional resources in the stock of debt is well managed and that the most deserving public investment projects are selected and yield their desired payoff. Second, it will be important for the authorities after 2013 to moderate the pace of new borrowing to maintain debt sustainability, in line with their commitments. Third, it is becoming more important—including from a debt sustainability perspective—to ensure that LNG production materializes in order to lock in the beneficial effects on GDP and fiscal revenue.

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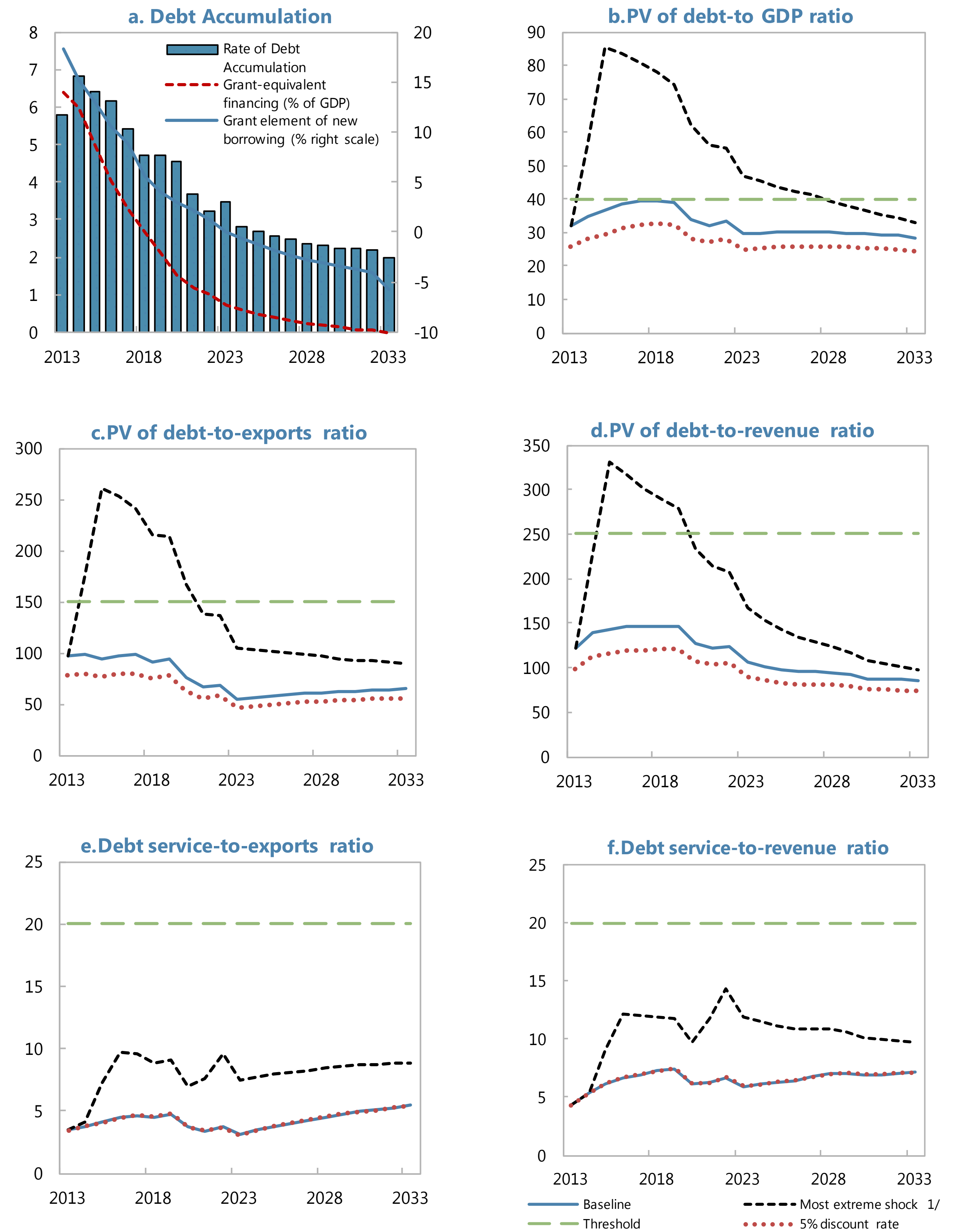
[10] At Mozambique's CPIA rating, the indicative public debt benchmark signaling higher risk of debt distress lies between 56 and 74 percent for the PV of debt-to-GDP ratio. See IMF, 2012, "Revisiting the Debt Sustainability Framework for Low-Income Countries."

[11] See Figure 2 and Table 4 (lines A2).

[12] To provide this illustration, the "Fix Primary Balance" scenario was adapted for this analysis from the standard of fixing the primary balance at 2012, instead fixing the primary balance at its 2013-15 average value in percent of GDP. This change was implemented, because the 2012 primary balance is low compared to those in the near future for two reasons: (i) because of windfall revenues in 2012, and (ii) because major investment projects are only starting.

[13] Moreover, these indicators do not account for other buffers, such as comfortable levels of international reserves relative to non-mega project imports.

Figure 1. Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2013-2033 1/



Sources: Country authorities and IMF staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2023. In each case it corresponds to a Combination shock.

Table 1.Mozambique: External Debt Sustainability Framework, Baseline Scenario, 2010-2033 1/

(Percent of GDP, unless otherwise indicated)

	Actual			Historical [6/]	Standard [6/]	Projections												
				Average	Deviation										2013-2018			2019-2033
	2010	2011	2012			2013	2014	2015	2016	2017	2018	2019	2020	2021	Average	2023	2033	Average
External debt (nominal) 1/	**63.8**	**48.3**	**50.7**			**54.9**	**64.8**	**78.0**	**89.9**	**109.0**	**122.5**	**127.6**	**106.9**	**99.2**		**76.6**	**55.4**	
of which: public and publicly guaranteed (PPG)	40.2	32.6	36.3			41.7	44.7	45.9	47.4	47.7	47.1	45.8	39.3	36.9		33.1	30.0	
Change in external debt	-1.9	-15.6	2.5			4.2	9.8	13.3	11.9	19.0	13.5	5.1	-20.7	-7.7		-17.1	-0.7	
Identified net debt-creating flows	0.5	-11.7	-5.8			4.3	11.3	13.5	13.4	22.6	14.7	7.1	-14.3	-10.8		-17.0	0.1	
Non-interest current account deficit	**10.0**	**22.8**	**35.4**	**14.2**	**8.9**	**38.4**	**39.7**	**39.3**	**36.7**	**44.0**	**34.2**	**26.3**	**15.7**	**7.1**		**4.0**	**8.7**	8.1
Deficit in balance of goods and services	17.7	29.7	41.5			43.5	43.3	42.2	37.4	42.2	31.8	24.0	9.3	2.0		-10.5	4.0	
Exports	31.2	30.7	29.8			32.7	35.7	39.0	39.4	40.1	43.4	41.4	44.5	48.7		53.7	44.1	
Imports	48.9	60.4	71.4			76.3	79.0	81.2	76.8	82.4	75.2	65.4	53.7	50.7		43.2	48.1	
Net current transfers (negative = inflow)	-6.9	-6.9	-5.3	-6.6	1.2	-3.8	-3.6	-3.0	-2.6	-2.2	-1.9	-1.6	-1.2	-1.0		-0.7	-0.3	-0.7
of which: official	-6.3	-6.3	-5.0			-3.5	-3.4	-2.9	-2.4	-2.0	-1.7	-1.4	-1.0	-0.8		-0.5	-0.1	
Other current account flows (negative = net inflow)	-0.7	0.0	-0.8			-1.4	0.0	0.1	1.9	4.1	4.4	3.9	7.7	6.1		15.2	5.0	
Net FDI (negative = inflow)	**-14.0**	**-20.7**	**-36.6**	**-10.7**	**10.8**	**-32.2**	**-25.8**	**-23.1**	**-20.8**	**-18.9**	**-17.0**	**-15.1**	**-11.8**	**-10.1**		**-8.0**	**-6.3**	-8.3
Endogenous debt dynamics 2/	**4.5**	**-13.9**	**-4.6**			**-1.9**	**-2.6**	**-2.7**	**-2.5**	**-2.6**	**-2.5**	**-4.2**	**-18.2**	**-7.9**		**-13.1**	**-2.4**	
Contribution from nominal interest rate	1.7	1.5	1.0			1.6	1.7	2.2	3.1	3.9	5.3	6.3	6.0	4.8		3.2	1.0	
Contribution from real GDP growth	-4.9	-3.5	-3.2			-3.4	-4.3	-4.9	-5.6	-6.4	-7.8	-10.5	-24.2	-12.7		-16.3	-3.4	
Contribution from price and exchange rate changes	7.7	-11.8	-2.5			...	...	...	...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-2.4**	**-3.9**	**8.3**			**-0.2**	**-1.5**	**-0.2**	**-1.5**	**-3.6**	**-1.1**	**-2.0**	**-6.5**	**3.1**		**0.0**	**-0.8**	
of which: exceptional financing	-4.3	-5.5	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/	...	...	41.4			45.0	54.9	68.7	81.0	100.6	114.9	120.7	101.5	94.5		73.1	53.7	
In percent of exports	...	...	138.9			137.6	154.0	175.9	205.4	250.6	264.4	291.6	228.1	194.2		136.1	121.9	
PV of PPG external debt	**...**	**...**	**27.0**			**31.8**	**34.9**	**36.6**	**38.4**	**39.3**	**39.4**	**39.0**	**33.8**	**32.2**		**29.5**	**28.4**	
In percent of exports	**...**	**...**	**90.6**			**97.1**	**97.9**	**93.7**	**97.5**	**97.9**	**90.8**	**94.1**	**76.1**	**66.2**		**54.9**	**64.4**	
In percent of government revenues	**...**	**...**	**110.7**			**121.6**	**138.9**	**142.2**	**146.3**	**146.4**	**146.0**	**146.5**	**127.5**	**122.7**		**105.7**	**84.9**	
Debt service-to-exports ratio (in percent)	**34.4**	**19.4**	**11.0**			**14.7**	**14.3**	**13.4**	**15.4**	**15.1**	**16.9**	**20.1**	**28.4**	**21.6**		**14.0**	**5.6**	
PPG debt service-to-exports ratio (in percent)	**1.9**	**2.0**	**0.0**			**3.4**	**3.8**	**4.1**	**4.4**	**4.7**	**4.5**	**4.8**	**3.7**	**3.4**		**3.1**	**5.4**	
PPG debt service-to-revenue ratio (in percent)	**2.9**	**2.8**	**0.0**			**4.3**	**5.3**	**6.2**	**6.7**	**7.0**	**7.2**	**7.4**	**6.2**	**6.3**		**5.9**	**7.1**	
Total gross financing need (Billions of U.S. dollars)	0.6	1.0	0.3			1.6	3.0	3.8	4.4	7.0	6.1	5.6	6.1	3.3		2.1	6.4	
Non-interest current account deficit that stabilizes debt ratio	11.9	38.4	32.9			34.2	29.9	26.0	24.8	25.0	20.7	21.2	36.4	14.8		21.1	9.4	
Key macroeconomic assumptions																		
Real GDP growth (in percent)	7.1	7.3	7.4	7.4	0.8	7.0	8.5	8.5	8.0	8.0	8.0	9.7	24.4	13.9	8.0	21.6	6.6	8.9
GDP deflator in US dollar terms (change in percent)	-10.5	22.7	5.5	5.6	9.7	-3.7	0.4	3.5	3.5	3.4	3.5	3.5	3.5	2.9	1.8	2.4	2.4	2.6
Effective interest rate (percent) 5/	2.4	3.0	2.4	3.1	1.0	3.2	3.4	3.8	4.4	4.8	5.4	5.9	6.1	5.3	4.2	4.2	1.9	3.5
Growth of exports of G&S (US dollar terms, in percent)	8.0	29.7	9.9	14.8	14.3	13.0	18.8	22.9	12.9	13.7	20.9	8.2	38.3	28.3	17.0	38.4	6.7	12.2
Growth of imports of G&S (US dollar terms, in percent)	3.9	62.8	33.8	18.6	19.1	10.1	12.8	15.5	5.7	19.7	2.1	-1.3	5.7	10.6	11.0	13.7	8.9	8.4
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	18.3	15.3	12.9	10.5	8.8	5.6	4.0	3.0	2.1	11.9	0.0	-5.8	-1.3
Government revenues (excluding grants, in percent of GDP)	20.5	22.2	24.4			26.1	25.1	25.7	26.3	26.9	27.0	26.6	26.5	26.2		27.9	33.5	30.4
Aid flows (in Billions of US dollars) 7/	0.9	1.0	0.8			1.1	1.1	1.0	1.0	0.9	0.8	0.8	0.7	0.7		0.6	0.3	
of which: Grants	0.9	1.0	0.8			0.7	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5		0.4	0.2	
of which: Concessional loans	0.0	0.0	0.0			0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2		0.2	0.1	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			6.4	6.0	4.9	4.0	3.3	2.6	2.1	1.5	1.2		0.7	0.0	0.6
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			51.9	47.1	43.6	39.1	36.7	34.0	29.4	26.2	23.1		16.4	-1.0	11.7
Memorandum items:																		
Nominal GDP (Billions of US dollars)	9.5	12.6	14.2			14.7	16.0	17.9	20.1	22.4	25.0	28.4	36.6	42.9		57.1	129.6	
Nominal dollar GDP growth	-4.2	31.7	13.3			3.0	9.0	12.3	11.8	11.7	11.7	13.5	28.7	17.3	9.9	24.6	9.2	11.8
PV of PPG external debt (in Billions of US dollars)			3.7			4.5	5.5	6.5	7.6	8.7	9.8	11.0	12.3	13.6		16.6	36.3	
(PVt-PVt-1)/GDPt-1 (in percent)						5.8	6.8	6.4	6.2	5.4	4.7	4.7	4.6	3.7	5.9	3.4	2.0	2.9
Gross workers' remittances (Billions of US dollars)	...	...	...			...	...	...	...	...	...	...	...	...		...	...	
PV of PPG external debt (in percent of GDP + remittances)	...	...	27.0			31.8	34.9	36.6	38.4	39.3	39.4	39.0	33.8	32.2		29.5	28.4	
PV of PPG external debt (in percent of exports + remittances)	...	...	90.6			97.1	97.9	93.7	97.5	97.9	90.8	94.1	76.1	66.2		54.9	64.4	
Debt service of PPG external debt (in percent of exports + remittan	...	...	0.0			3.4	3.8	4.1	4.4	4.7	4.5	4.8	3.7	3.4		3.1	5.4	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as [r - g - ρ(1+g)]/(1+g+ρ+gρ) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ 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.Mozambique: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013-2033

(In percent)

	Projections											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	2033
PV of debt-to GDP ratio												
Baseline	32	35	37	38	39	39	39	34	32	33	**29**	28
A. Alternative Scenarios												
A1. 5 percent discount rate 1/	26	28	30	31	32	33	32	28	27	28	**25**	25
A2. New public sector loans on less favorable terms in 2013-2033 2/	32	37	40	44	46	47	47	41	40	42	**37**	40
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	32	35	38	39	40	40	40	35	33	34	**30**	29
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	32	40	54	54	54	53	51	43	40	40	**35**	29
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	32	36	41	43	44	44	43	38	36	37	**33**	31
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	32	59	81	79	77	74	70	59	53	52	**44**	31
B5. Combination of B1-B4 using one-half standard deviation shocks	32	57	85	83	81	78	74	62	56	55	**47**	33
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	32	49	52	54	55	56	55	48	45	46	**41**	40
PV of debt-to-exports ratio												
Baseline	97	98	94	97	98	91	94	76	66	69	**55**	64
A. Alternative Scenarios												
A1. 5 percent discount rate 1/	73	72	78	81	75	75	76	61	53	55	**45**	51
A2. New public sector loans on less favorable terms in 2013-2033 2/	97	103	103	111	114	108	113	93	82	86	**70**	92
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	97	96	93	96	97	90	93	75	65	67	**54**	63
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	97	133	200	199	194	176	178	141	120	121	**94**	96
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	97	96	93	96	97	90	93	75	65	67	**54**	63
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	97	166	207	200	191	170	169	132	109	108	**82**	70
B5. Combination of B1-B4 using one-half standard deviation shocks	97	175	261	253	241	215	214	167	138	137	**104**	89
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	97	96	93	96	97	90	93	75	65	67	**54**	63

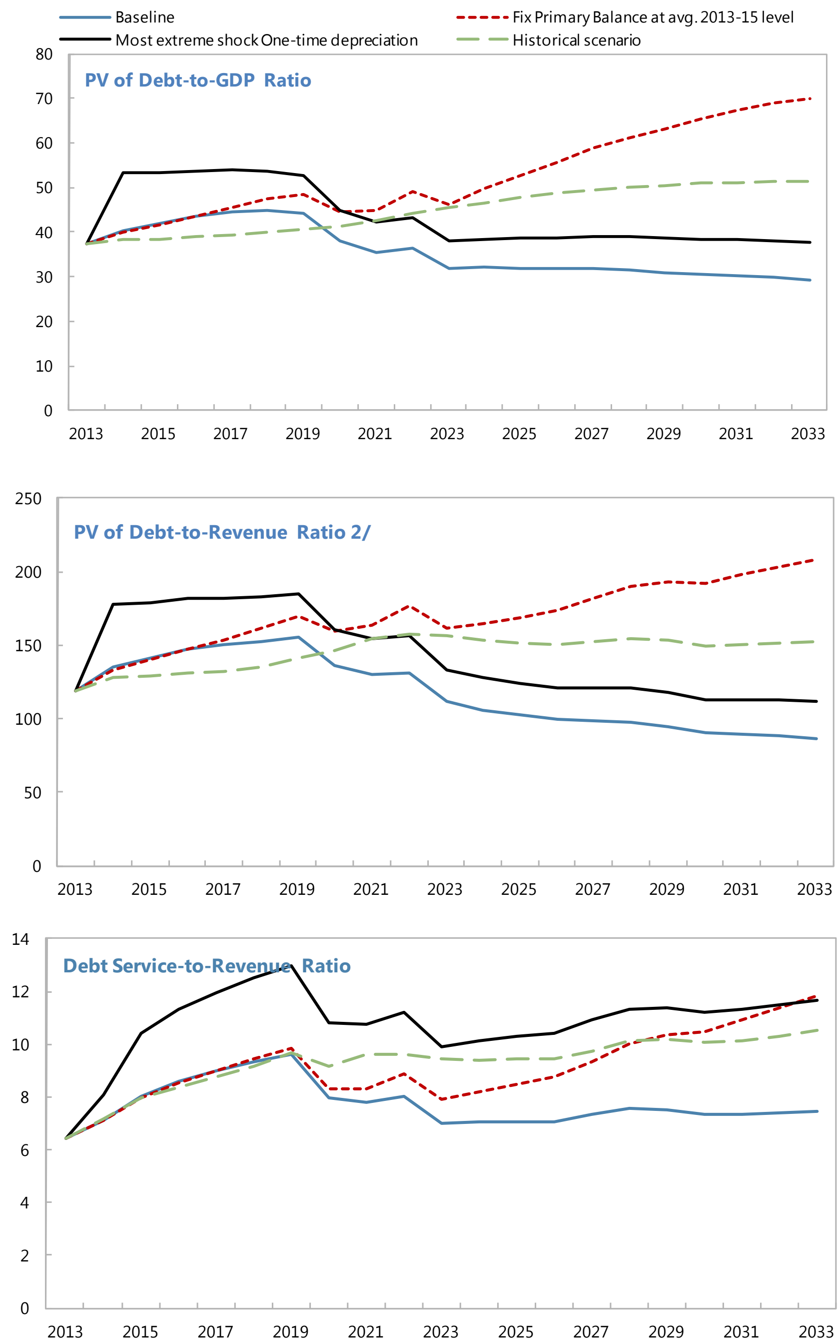
Table 2.Mozambique: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013-2033
(In percent)

	Projections											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	**2023**	2033
						Debt service-to-exports ratio						
Baseline	3	4	4	4	5	5	5	4	3	4	**3**	5
A. Alternative Scenarios												
A1. 5 percent discount rate 1/	3	4	4	4	5	5	5	4	3	4	**3**	5
A2. New public sector loans on less favorable terms in 2013-2033 2/	3	4	4	4	5	4	5	4	4	5	**4**	8
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	3	4	4	4	5	5	5	4	3	4	**3**	5
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	3	4	6	8	8	8	8	6	6	8	**6**	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	3	4	4	4	5	5	5	4	3	4	**3**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	3	4	6	8	8	7	7	5	6	8	**6**	7
B5. Combination of B1-B4 using one-half standard deviation shocks	3	4	7	10	10	9	9	7	8	10	**7**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	3	4	4	4	5	5	5	4	3	4	**3**	5
						Debt service-to-revenue ratio						
Baseline	4	5	6	7	7	7	7	6	6	7	**6**	7
A. Alternative Scenarios												
A1. 5 percent discount rate 1/	4	5	6	7	7	7	7	6	6	7	**6**	7
A2. New public sector loans on less favorable terms in 2013-2033 2/	4	5	6	7	7	7	7	6	7	8	**7**	10
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	4	5	6	7	7	7	8	6	6	7	**6**	7
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	4	5	7	9	9	9	9	7	8	9	**8**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	4	6	7	8	8	8	8	7	7	8	**7**	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	4	5	9	12	11	11	11	9	11	14	**11**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	4	5	9	12	12	12	12	10	12	14	**12**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	4	8	9	10	10	10	11	9	9	9	**8**	10
Memorandum item:												
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	**-4**	-4

Sources: Country authorities; and staff estimates and projections.

1/ A discount rate of 5 percent is applied to the calcualtions of NPV of debt (discount rate is 3 percent in the baseline.)
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.

Figure 2. Indicators of Public Debt Under Alternative Scenarios, 2013-2033 1/



Sources: Country authorities and IMF 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 3.Mozambique: Public Sector Debt Sustainability Framework, Baseline Scenario, 2010-2033

(Percent of GDP, unless otherwise indicated)

	Actual					Projections													
	2010	2011	2012	Average 5/	Standard Deviation 5/	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2013-18 Average	2023	2033	2019-33 Average
Public sector debt 1/	46.1	39.3	42.2			47.1	50.2	51.3	52.5	52.9	52.4	51.2	43.3	40.3	40.7		35.4	30.8	
of which: foreign-currency denominated	40.2	32.6	36.3			41.7	44.7	45.9	47.4	47.7	47.1	45.8	39.3	36.9	37.6		33.1	30.0	
Change in public sector debt	0.5	-6.8	2.9			4.9	3.2	1.1	1.2	0.4	-0.5	-1.2	-7.8	-3.0	0.4		-5.3	-0.9	
Identified debt-creating flows	3.4	-8.1	3.5			3.9	2.3	0.8	1.1	0.2	-0.5	-1.3	-8.4	-3.7	-0.3		-6.0	-1.1	
Primary deficit	3.1	3.3	3.2	3.0	0.9	4.7	5.9	5.2	4.8	4.2	3.4	3.3	1.7	1.3	1.0	4.7	0.9	0.5	0.9
Revenue and grants	29.5	30.0	29.8			31.2	29.9	29.7	29.6	29.6	29.4	28.5	27.9	27.3	27.7		28.6	33.6	
Of which: grants	9.0	7.8	5.4			5.1	4.8	4.0	3.3	2.8	2.3	1.9	1.4	1.1	1.0		0.7	0.2	
Primary (noninterest) expenditure	32.5	33.4	33.0			35.9	35.8	34.9	34.4	33.8	32.8	31.8	29.6	28.6	28.7		29.5	34.1	
Automatic debt dynamics	0.5	-11.4	0.3			-0.8	-3.6	-4.5	-3.8	-4.0	-3.9	-4.6	-10.1	-5.0	-1.4		-6.9	-1.6	
Contribution from interest rate/growth differential	2.0	-9.5	-3.2			-0.5	-2.8	-4.1	-4.0	-3.9	-3.9	-4.6	-10.1	-5.1	-1.4		-6.9	-1.6	
Of which: contribution from average real interest rate	5.0	-6.3	-0.5			2.3	0.9	-0.2	-0.2	0.0	0.0	0.0	0.0	0.2	0.3		0.3	0.3	
Of which: contribution from real GDP growth	-3.0	-3.1	-2.7			-2.8	-3.7	-3.9	-3.8	-3.9	-3.9	-4.6	-10.0	-5.3	-1.7		-7.2	-2.0	
Contribution from real exchange rate depreciation	-1.5	-1.9	3.5			-0.3	-0.8	-0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.0		...	...	
Other identified debt-creating flows	-0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.1	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	-0.1	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	-2.9	1.3	-0.6			1.0	0.9	0.3	0.1	0.2	0.0	0.1	0.6	0.6	0.8		0.7	0.3	
Other Sustainability Indicators																			
PV of public sector debt	...	...	32.9			37.2	40.4	41.9	43.5	44.5	44.7	44.3	37.9	35.6	36.2		31.8	29.2	
Of which: foreign-currency denominated	...	...	27.0			31.8	34.9	36.6	38.4	39.3	39.4	39.0	33.8	32.2	33.2		29.5	28.4	
Of which: external	...	...	27.0			31.8	34.9	36.6	38.4	39.3	39.4	39.0	33.8	32.2	33.2		29.5	28.4	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...	...	...	...	...		...	...	
Gross financing need 2/	4.5	4.7	3.9			6.7	8.0	7.6	7.4	6.8	6.2	6.0	3.9	3.4	3.2		2.9	3.0	
PV of public sector debt-to-revenue and grants ratio (percent)	...	...	110.2			119.3	135.2	141.2	147.1	150.3	152.3	155.3	135.7	130.1	130.9		111.3	86.8	
PV of public sector debt-to-revenue ratio (percent)	...	...	134.8			142.3	160.8	163.1	165.6	165.7	165.5	166.5	142.8	135.5	135.6		114.2	87.2	
Of which: external 3/	...	...	110.7			121.6	138.9	142.2	146.3	146.4	146.0	146.5	127.5	122.7	124.2		105.7	84.9	
Debt service-to-revenue and grants ratio (percent) 4/	4.8	4.6	2.4			6.4	7.1	8.0	8.6	9.0	9.3	9.6	8.0	7.8	8.0		7.0	7.4	
Debt service-to-revenue ratio (percent) 4/	7.0	6.3	2.9			7.6	8.4	9.2	9.7	9.9	10.2	10.3	8.4	8.1	8.3		7.2	7.5	
Primary deficit that stabilizes the debt-to-GDP ratio	2.6	10.1	0.3			-0.1	2.7	4.2	3.7	3.8	3.9	4.5	9.5	4.3	0.6		6.2	1.4	
Key macroeconomic and fiscal assumptions																			
Real GDP growth (percent)	7.1	7.3	7.4	7.4	0.8	7.0	8.5	8.5	8.0	8.0	8.0	9.7	24.4	13.9	4.4	8.0	21.6	6.6	8.9
Average nominal interest rate on forex debt (percent)	0.6	0.9	0.0	0.6	0.4	1.2	1.5	1.7	1.9	2.0	2.1	2.3	2.4	2.5	2.6	1.7	2.7	3.4	2.9
Average real interest rate on domestic debt (percent)	4.6	5.3	8.6	6.1	7.6	9.5	10.4	10.1	10.5	11.3	11.0	10.8	8.4	8.4	8.4	10.5	8.4	8.4	8.6
Real exchange rate depreciation (percent, + indicates depreciatio	-3.4	-6.2	11.9	1.0	12.2	-1.0	...	...	...	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, percent)	10.5	8.1	3.0	7.2	2.4	5.0	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.6
Growth of real primary spending (deflated by GDP deflator, perc	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.3	0.1	0.1
Grant element of new external borrowing (percent)	...	...	...	...	...	18.3	15.3	12.9	10.5	8.8	5.6	4.0	3.0	2.1	1.2	11.9	0.0	-5.8	-1.3

Sources: Country authorities; and staff estimates and projections.

1/ Covers nonfinancial public sector. Gross debt is used.

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.Mozambique: Sensitivity Analysis for Key Indicators of Public Debt 2013-2033

	Projections										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2023	2033
PV of Debt-to-GDP Ratio											
Baseline	37	40	42	44	45	45	44	38	36	32	29
A. Alternative scenarios											
A1. Real GDP growth and primary balance are at historical averages	37	38	38	39	39	40	40	41	43	45	51
A2. Primary balance is unchanged from 2013-15 average	37	40	42	44	46	47	48	44	45	46	70
A3. Permanently lower GDP growth 1/	37	41	42	44	45	46	45	39	37	34	37
B. Bound tests											
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	37	42	45	47	49	50	50	43	41	38	41
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	37	39	39	41	42	43	42	36	34	31	29
B3. Combination of B1-B2 using one half standard deviation shocks	37	39	39	42	44	45	45	39	38	35	38
B4. One-time 30 percent real depreciation in 2014	37	53	53	54	54	54	53	45	42	38	38
B5. 10 percent of GDP increase in other debt-creating flows in 2014	37	49	50	51	51	51	50	42	40	35	31
PV of Debt-to-Revenue Ratio 2/											
Baseline	119	135	141	147	150	152	155	136	130	111	87
A. Alternative scenarios											
A1. Real GDP growth and primary balance are at historical averages	119	128	129	131	133	135	141	147	154	157	152
A2. Primary balance is unchanged from 2013-15 average	119	134	140	147	154	161	170	159	164	162	208
A3. Permanently lower GDP growth 1/	119	135	142	148	152	155	159	140	135	118	109
B. Bound tests											
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	119	138	150	158	164	168	174	154	150	132	122
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	119	129	132	139	142	145	148	130	125	108	85
B3. Combination of B1-B2 using one half standard deviation shocks	119	129	132	141	148	153	158	141	137	122	112
B4. One-time 30 percent real depreciation in 2014	119	178	179	182	182	183	185	161	155	133	112
B5. 10 percent of GDP increase in other debt-creating flows in 2014	119	165	168	172	173	174	175	152	145	122	92
Debt Service-to-Revenue Ratio 2/											
Baseline	6	7	8	9	9	9	10	8	8	7	7
A. Alternative scenarios											
A1. Real GDP growth and primary balance are at historical averages	6	7	8	8	9	9	10	9	10	9	11
A2. Primary balance is unchanged from 2013-15 average	6	7	8	9	9	9	10	8	8	8	12
A3. Permanently lower GDP growth 1/	6	7	8	9	9	9	10	8	8	7	8
B. Bound tests											
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	6	7	8	9	9	10	10	9	8	8	9
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	6	7	8	8	9	9	9	8	8	7	7
B3. Combination of B1-B2 using one half standard deviation shocks	6	7	8	8	9	9	10	8	8	7	8
B4. One-time 30 percent real depreciation in 2014	6	8	10	11	12	13	13	11	11	10	12
B5. 10 percent of GDP increase in other debt-creating flows in 2014	6	7	9	9	10	10	10	8	8	8	8

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.