KENYA

FIFTH REVIEW UNDER THE THREE–YEAR ARRANGEMENT UNDER THE EXTENDED CREDIT FACILITY AND REQUEST FOR A WAIVER AND MODIFICATION OF PERFORMANCE CRITERIA—DEBT SUSTAINABILITY ANALYSIS

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Since the last Debt Sustainability Analysis (DSA) was published in December 2011 (supplement in Country Report No. 12/14), Kenya's debt outlook has strengthened. Despite weaker than projected economic growth, all debt indicators have improved as a result of lower fiscal and current account deficits in 2011 and 2012, and more favorable exchange rate developments. Kenya's risk of external debt distress remains low, while overall public sector debt dynamics continue to be sustainable.[1] Moreover, under the baseline scenario and all the stress tests, Kenya's external debt burden indicators do not breach any of the relevant policy-dependent thresholds.

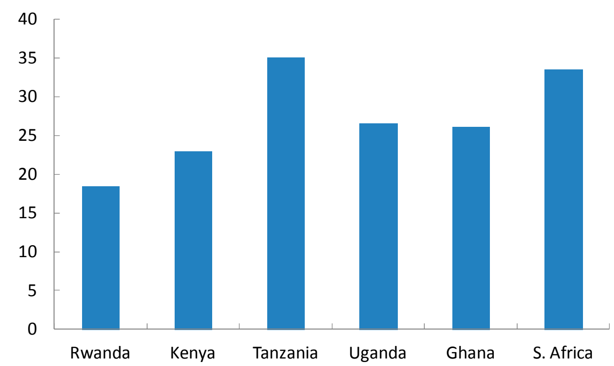
[1] World Bank classifies Kenya as a "medium performer" in terms of the quality of its policies and institutions as measured by a three-year average of the World Bank's Country Policy and Institutional Assessment (CPIA) Index. The relevant indicative thresholds for this category are: 40 percent for the NPV of debt-to-GDP ratio, 150 percent for the NPV of debt-to-exports ratio, 250 percent for the NPV of debt-to-revenue ratio, 20 percent for the debt service-to-exports ratio, and 30 percent for the debt service-to-revenue ratio. These thresholds are applicable to public and publicly guaranteed external debt.

BACKGROUND

1. **Kenya's overall net public debt-to GDP-ratio has declined over the past two years as a result of prudent fiscal policy and a stable macroeconomic environment.** At end-2012, this ratio stood at 43 percent, down from 48 percent at end-2011. Overall public debt is almost evenly split between domestic and external creditors.

2. **Most of Kenya's external debt remains on concessional terms, although its commercial component has increased.** At end-2012, nominal public external debt stood at 23 percent of GDP (USD 9.1 billion)—a ratio below that of comparable SSA countries (Figure 1). Multilaterals continue to be the largest source of external credit to Kenya, though their relative share has declined since 2011 (Table 1). Similarly, the share of bilateral creditors, the second most important source of external credit, has declined since 2010. The share of commercial debt has increased to about 10 percent at end-2012, mainly as a result of a syndicated loan of about US $600 million-on which Kenya managed to negotiate favorable conditions thanks to the strengthened macroeconomic environment and investment climate.[3] Kenya has not benefitted from debt relief under either the HIPC or MDRI initiatives.

Figure 1: External Public Debt in Selected SSA Countries
(percent of GDP, 2012)



Sources: Country authorities, and IMF staff estimates.

Table 1. Kenya: External Debt

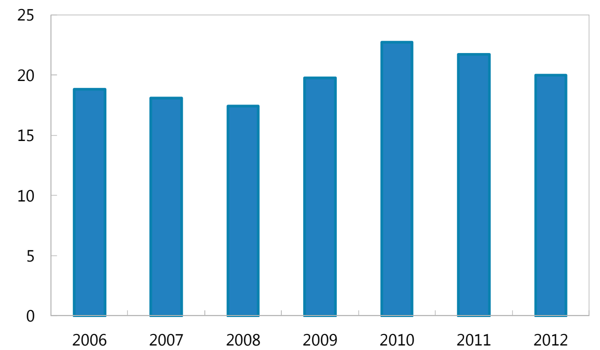
	2011		2012	
	Billion USD	Share	Billion USD	Share
Multilateral creditors	6.12	65.7	5.58	61.3
Bilateral creditors	2.96	31.7	2.65	29.2
Commercial Banks	0.24	2.5	0.86	9.5
Total	9.32	100.0	9.09	100.0

Source: Authorities' data.

[3] For the first time, Moody assigned Kenya a rating B1, and S&P a rating of B+, with a stable outlook, which should enable Kenya to negotiate a favorable rate for the planned sovereign bond issuance in 2013-2014.

3. Kenya's net domestic debt[4] stood at 20 percent of GDP (KShs 708 billion) at end-2012, around the average for 2006-2012 (Figure 2). It is mostly held by commercial banks in the form of T-bills and government bonds (comprising of 30 percent and 70 percent of domestic debt, respectively). However, the share of domestic debt held by non-banks has increased from 40.8 percent to 43 percent of the total between 2011 and 2012, reflecting a diversification of the domestic investor base. Despite the relatively large size of the domestic debt, rollover risks appear moderate as Kenya has focused on extending the average maturity of its debt, which is now 5.6 years.

Figure 2. Kenya: Public Domestic Debt (percent of GDP)



Sources: Authorities' data.

4. The authorities have continued to improve debt management. In July 2012, a new PFM law was approved, which raised the Debt Management Office to the level of agency within the Ministry of Finance, with overarching responsibility on managing Kenya's public debt. In fact, the 2012 PEFA assessment highlighted the improved debt and budget management capacities.[5] In 2012, the Debt Management Department produced on its own, the Medium Term Debt Strategy (MTDS).[6]

[4]Net domestic debt refers to net of public sector assets (deposits).

[5] http://www.treasury.go.ke/index.php/resource-center/doc_download/505-public-expenditure-and-financial-accountability-pefa-assessment-final-report

[6] On Budget Management the following improvements were made: (i) a new independent Office of the Comptroller of the Budget was established, which has sole authority to authorize debt payments. In addition, this office audits budget execution and produces independent reports; (ii) a new Attorney General has been appointed, using a new constitutionally-mandated vetting process. The Attorney General Office has broad PFM functions, including the authorization of signing any new external loans (such as the syndicated loan); and (iii) the new PFM law has been approved and enacted in August, 2012.

UNDERLYING ASSUMPTIONS

5. **This DSA is based on macroeconomic assumptions that are consistent with the framework outlined in the staff report for the Fifth Review under the Extended Credit Facility.**[7] Notable revisions compared to the December 2011 DSA include:

- Real GDP growth is projected to be somewhat lower over the short and medium term to reflect the impact of the weaker global economic environment. (Table 2)
- The primary fiscal deficit is projected to be lower in the medium and long term, reflecting the authorities' revised fiscal consolidation path.
- The GDP deflator is projected to be lower in the short term as a result of the recent success in bringing down inflationary expectations.
- The projected current account deficit in the short and medium term is wider because of surging imports associated with oil exploration-related investment.
- The discount rate in the DSA template, used to calculate the present value (PV) of external debt, was reduced from 4 percent to 3 percent.

Table 2. Kenya: Selected Macroeconomic Assumptions

	2011	2012	2013	2014	Long term
Real GDP Growth					
Current DSA	4.4	4.7	5.8	6.1	6.0
Previous DSA	5.0	5.6	6.0	6.4	6.1
Primary Fiscal Deficit (percent of GDP)					
Current DSA	1.9	2.2	2.0	1.6	1.1
Previous DSA	2.5	2.3	1.9	1.2	1.6
Non-interest Current Account Deficit (percent of GDP)					
Current DSA	9.4	8.7	7.1	7.8	3.9
Previous DSA	9.9	9.5	5.9	6.8	2.4

[7] This DSA consists of two parts: external and public. The external DSA covers external debt of the central government and the central bank. The public DSA covers total debt-external and domestic-incurred or guaranteed by the central government. Public domestic debt comprises central government debt. In this analysis, total public debt refers to the sum of public domestic and public external debt, but does not cover the entire public sector (e.g., parastatal borrowing without a government guarantee is not covered).

Box 1. Kenya: Macroeconomic Assumptions for 2013-2033

- **Real GDP growth** in 2011 and 2012 remained at an average 4.5 percent, lower than the last DSA, because of the Horn of Africa drought that hit agricultural production and hydro-power generation, and the weak global economic environment. In 2013, real GDP growth is projected to recover close to its projected long-term average (6 percent), similar to the last DSA.
- **Inflation**, measured by the GDP deflator, dropped down from 14 percent in 2011 to 10 percent in 2012, lower than projected in the last DSA, thanks to successful monetary tightening and the reversal of the large depreciation of the Kenyan shilling experienced in 2011. It is assumed to average about 6 percent over the medium term.
- The **growth of exports of goods and services** averages about 7 percent in the medium term, broadly unchanged from the previous DSA. Despite assuming continued strong import volume growth, the overall import growth of goods and services is smaller than in the previous DSA thanks to projected lower commodity prices, in particular, fuel.
- The **noninterest current account deficit** in 2011 hit a high 9.4 percent of GDP, because the drought in the Horn of Africa reduced hydropower generation and increased fuel imports. It is projected to remain at 9 percent in 2012 because of rising capital imports associated with oil-exploration-related investment, financed by foreign direct investment inflows. Both our average long-run projections of the non-interest current account deficit and net FDI inflows are higher than under the previous DSA reflecting the assumed acceleration in oil-exploration-related investments and the improved business climate.
- **The external DSA has been revised to reflect the following:** (a) A loan of US $80 million (to finance the Biometric Voter Registration Kits) contracted in 2012; and (b) a planned sovereign bond in the amount of $1 billion to be disbursed in 2013-2014 (as opposed to $500 million assumed in the 2011 DSA), part of which will be used to repay the 2012 syndicated loan.
- A lower **grant element on new public sector borrowing** in 2013 and 2014 that reflects the planned issuance of a sovereign bond. The grant element on new borrowing is projected to decline gradually as the country develops and relies more on commercial borrowing. [8]
- The **primary fiscal deficit** in percent of GDP averages around 1.4 percent of GDP during 2013–18 and to 1.1 percent in the longer term projections, lower than under the previous DSA, reflecting the favorable developments in fiscal accounts in recent years.

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[8] The grant element on new borrowing in the medium term is projected at 11 percent and in the long-term is 12 percent compared to 19 and 23 percent, respectively, in the last DSA, reflecting more conservative assumptions for access to concessional financing. The projected share of commercial external borrowing increases from 15 percent in 2015 to 43 percent by 2033. In 2012, the share of external debt stock contracted from multilateral institutions was 60 percent; from official bilateral institutions was 30 percent, and 10 percent from commercial creditors and other.

EXTERNAL DEBT SUSTAINABILITY ANALYSIS

6. **All external debt indicators remain well below the policy-dependent debt burden thresholds under the baseline scenario, and no thresholds are breached under any of the standard stress tests.** The main results of the external DSA are the following:

- **The debt burden would decline substantially over the 20-year projection period (Table 1a) under the baseline scenario.** As a result of the planned issuance of a sovereign bond, the NPV of external debt to GDP ratio would rise to 20 percent at end-2013 (1 percentage point of GDP higher than the last DSA), but by 2033, this ratio would decline to 8 percent of GDP (well below the 40 percent indicative threshold). The NPV of debt-to-exports ratio would rise to about 90 percent by 2018 but then would gradually decline to 49 percent by 2033 (compared to an indicative threshold of 150 percent).

- **Standard stress tests do not reveal any significant vulnerability (Table 1b and Figure 1) as even the shocks with the highest impact would maintain debt levels below the relevant indicative thresholds.** The shock that would have the largest impact on external debt dynamics results from a one-time 30 percent nominal depreciation of the exchange rate (similar to the previous DSA) in 2014 and from a permanent shock to the terms of new public sector loans, increasing the PV of debt to GDP ratio from 16 to 22 percent, still well below the relevant threshold.

PUBLIC DEBT SUSTAINABILITY ANALYSIS

7. **The debt dynamics for public debt are now more favorable than under the last DSA.** At 43 percent, the public debt-to-GDP ratio in 2012 was lower than the originally projected 48 percent. The PV of public debt-to-GDP ratio would edge down from 40 percent in 2013 to 39 percent by end-2018 (Table 2b). The PV of public debt-to-revenue ratio gradually would decline from 166 percent to 157 between 2013 and 2018.

8. **The alternative scenarios and bound tests indicate that the projected paths for all debt indicators do not breach the relevant thresholds (Table 2b and Figure 2).** The shock with the highest negative impact on debt dynamics is a two-year growth shock in 2014-2015, which pushes the ratio of PV of debt-to-GDP to 54 percent in 2023 from the baseline 36 percent; the PV of

debt-to-revenue ratio to 213 percent from 144 percent, and the PV of debt service-to-revenue ratio to 28 percent from 22 percent by 2023.

MAIN FINDINGS AND CONCLUSIONS

9. The analysis of this DSA shows that Kenya continues to face low risk of external debt distress. Moreover, total public debt dynamics have improved compared to the last DSA as a result of significant fiscal consolidation and still prudent external borrowing as well as a strengthened macroeconomic environment.

10. The biggest risks to external debt sustainability come from exchange rate shocks and less favorable terms on new public sector loans. For the overall public debt, sustainability could deteriorate if a significantly lower than anticipated growth materializes. In particular, this could be triggered by the following adverse developments:

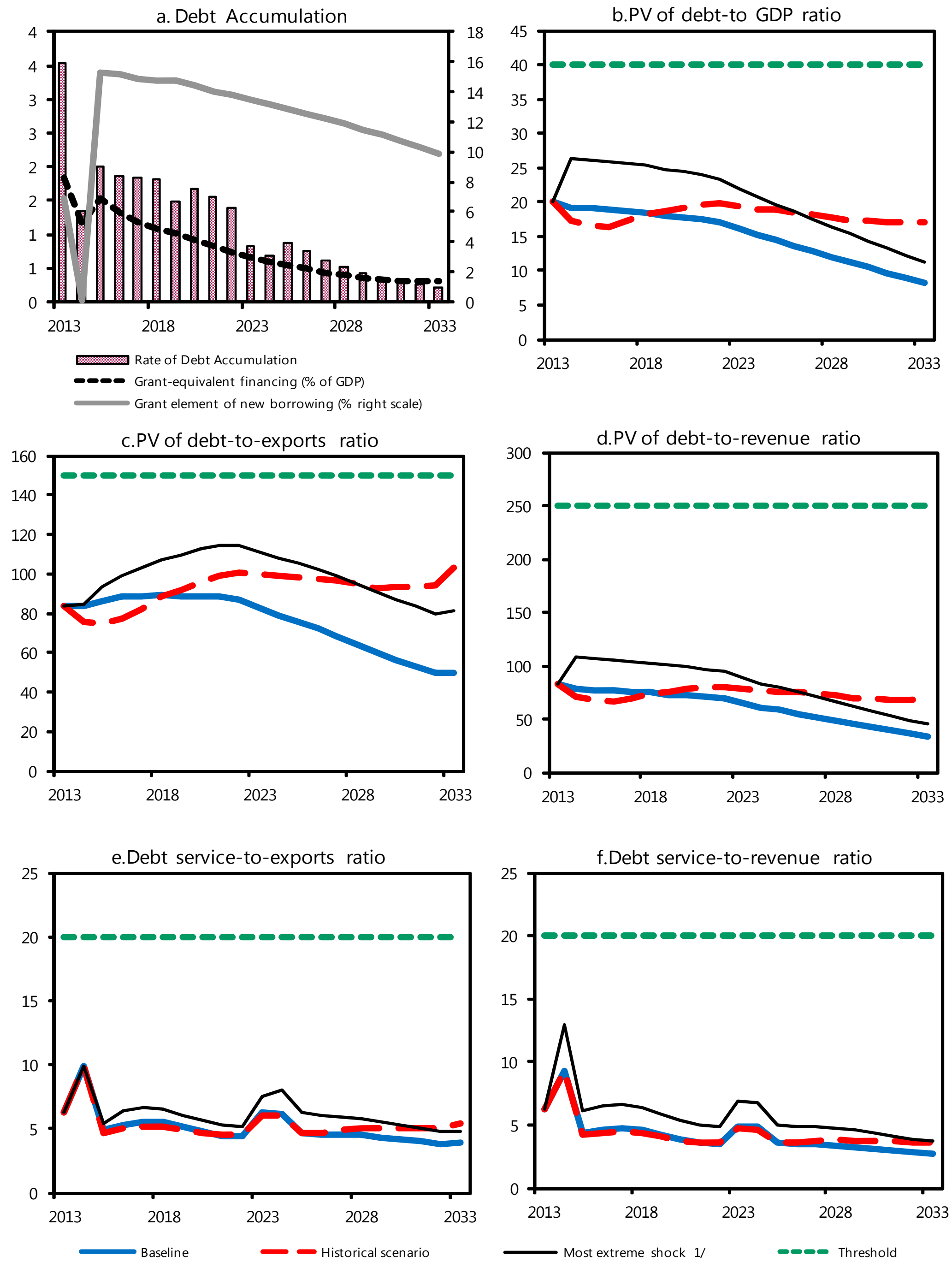
- a repeated and more severe drought could adversely affect agricultural production and hydro-power generation that would reduce economic growth, increase food and oil-related imports and lead to a widening of the current account deficit.

- a protracted slowdown in trading partner growth, in particular, in the Euro area, coupled with declining commodity prices that would lower tourism and main export earnings (e.g. tea, horticulture and coffee), reduce remittance and FDI inflows, with a significant impact on economic growth. However, in the external balances, these effects would be more than offset by a likely decline in oil prices.

- an increase in global food and fuel prices would raise the import bill and put pressure on the current account and the exchange rate.

11. The DSA has been produced jointly with the authorities, who fully concur with its conclusions. The Kenyan authorities have used it to analyze alternative policy scenarios to help maintain a prudent borrowing strategy. They concur on the importance of relying further on concessional financing, analyzing the impact of new borrowing on debt sustainability, maintaining fiscal discipline, and continuing to build up international reserves to mitigate adverse effects from exogenous shocks to the economy.

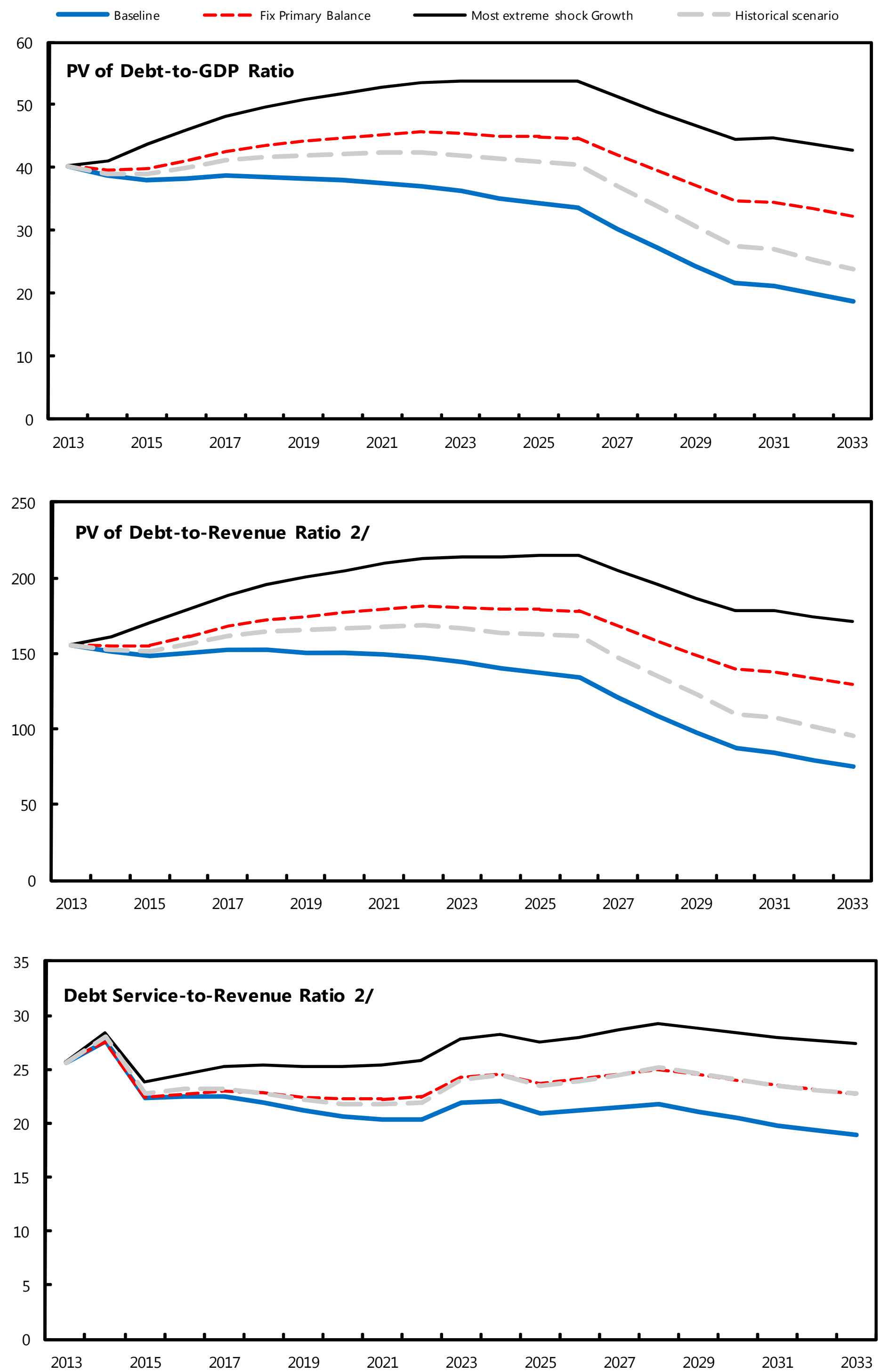
Figure 1. Kenya: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2013-2033 1/



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 Terms shock; in d. to a One-time depreciation shock; in e. to a Non-debt flows shock and in figure f. to a One-time depreciation shock

Figure 2.Kenya: Indicators of Public Debt Under Alternative Scenarios, 2013-2033 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 1a.: External Debt Sustainability Framework, Baseline Scenario, 2010-2033 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical 6/	Standard 6/	Projections									
	2010	2011	2012	Average	Deviation	2013	2014	2015	2016	2017	2018	2013-2018 Average	2023	2033	2019-2033 Average
External debt (nominal) 1/	**23.1**	**26.2**	**22.5**			**23.3**	**21.8**	**21.8**	**21.6**	**21.5**	**21.4**		**18.9**	**9.8**	
of which: public and publicly guaranteed (PPG)	23.1	26.2	22.5			23.3	21.8	21.8	21.6	21.5	21.4		18.9	9.8	
Change in external debt	0.2	3.1	-3.7			0.8	-1.5	-0.1	-0.2	-0.1	-0.1		-1.0	-0.8	
Identified net debt-creating flows	4.5	6.2	1.7			2.8	2.9	2.1	1.5	0.5	0.3		0.6	0.1	
Non-interest current account deficit	**6.5**	**9.4**	**8.7**	**4.1**	**3.8**	**7.1**	**7.8**	**7.1**	**6.5**	**5.2**	**4.9**		**4.4**	**2.3**	3.9
Deficit in balance of goods and services	14.5	18.1	17.0			15.7	16.0	15.2	14.3	13.0	12.6		11.7	8.6	
Exports	26.9	29.1	26.4			24.1	23.0	22.2	21.3	21.1	20.7		19.4	16.7	
Imports	41.4	47.2	43.4			39.8	39.0	37.4	35.6	34.1	33.3		31.1	25.3	
Net current transfers (negative = inflow)	-7.6	-8.5	-8.5	-7.4	0.9	-8.8	-8.3	-8.2	-7.8	-7.7	-7.6		-7.0	-5.5	-6.6
of which: official	0.1	0.1	0.0			-0.4	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	-0.4	-0.3	0.3			0.2	0.1	0.1	0.0	-0.1	-0.1		-0.3	-0.9	
Net FDI (negative = inflow)	**-1.2**	**-2.2**	**-2.8**	**-1.8**	**1.0**	**-3.5**	**-4.0**	**-4.2**	**-4.2**	**-4.0**	**-3.9**		**-3.2**	**-1.8**	-2.8
Endogenous debt dynamics 2/	**-0.9**	**-1.0**	**-4.2**			**-0.8**	**-0.8**	**-0.8**	**-0.8**	**-0.7**	**-0.7**		**-0.6**	**-0.4**	
Contribution from nominal interest rate	0.3	0.3	0.3			0.4	0.4	0.4	0.5	0.5	0.5		0.4	0.2	
Contribution from real GDP growth	-1.3	-1.0	-1.0			-1.2	-1.3	-1.2	-1.3	-1.1	-1.2		-1.1	-0.6	
Contribution from price and exchange rate changes	0.1	-0.3	-3.5			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-4.2**	**-3.1**	**-5.4**			**-2.0**	**-4.4**	**-2.2**	**-1.7**	**-0.5**	**-0.5**		**-1.6**	**-1.0**	
of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.3		-0.1	0.0	
PV of external debt 4/	...	...	19.0			20.1	19.2	19.1	18.8	18.7	18.5		16.1	8.2	
In percent of exports	...	...	72.1			83.6	83.3	86.0	88.1	88.5	89.5		82.9	49.4	
PV of PPG external debt	**...**	**...**	**19.0**			**20.1**	**19.2**	**19.1**	**18.8**	**18.7**	**18.5**		**16.1**	**8.2**	
In percent of exports	**...**	**...**	**72.1**			**83.6**	**83.3**	**86.0**	**88.1**	**88.5**	**89.5**		**82.9**	**49.4**	
In percent of government revenues	**...**	**...**	**79.7**			**82.9**	**78.5**	**77.3**	**76.4**	**75.7**	**75.0**		**65.1**	**33.2**	
Debt service-to-exports ratio (in percent)	**5.0**	**5.0**	**4.8**			**7.3**	**11.0**	**6.0**	**6.8**	**6.9**	**6.6**		**6.9**	**4.0**	
PPG debt service-to-exports ratio (in percent)	**4.0**	**3.7**	**4.1**			**6.3**	**9.8**	**4.9**	**5.3**	**5.6**	**5.5**		**6.2**	**4.0**	
PPG debt service-to-revenue ratio (in percent)	**4.5**	**4.7**	**4.6**			**6.3**	**9.3**	**4.4**	**4.6**	**4.8**	**4.6**		**4.9**	**2.7**	
Total gross financing need (Billions of U.S. dollars)	2.1	2.9	3.0			2.5	3.3	2.4	2.4	1.9	1.9		3.4	4.4	
Non-interest current account deficit that stabilizes debt ratio	6.3	6.3	12.4			6.3	9.3	7.2	6.7	5.2	5.1		5.4	3.1	
Key macroeconomic assumptions															
Real GDP growth (in percent)	5.8	4.4	4.7	4.6	1.8	5.8	6.1	6.3	6.6	5.8	6.1	6.1	6.0	6.1	6.0
GDP deflator in US dollar terms (change in percent)	-0.6	1.4	15.3	7.3	6.3	6.1	5.7	4.7	4.5	4.6	4.8	5.1	4.7	4.7	4.7
Effective interest rate (percent) 5/	1.3	1.4	1.5	1.7	0.6	1.8	2.1	2.2	2.4	2.4	2.5	2.2	2.5	2.3	2.4
Growth of exports of G&S (US dollar terms, in percent)	16.8	14.5	9.4	13.1	9.4	2.6	7.2	7.2	7.3	9.4	8.8	7.1	10.0	2.5	9.5
Growth of imports of G&S (US dollar terms, in percent)	18.4	20.7	10.9	17.4	11.0	2.9	10.0	6.7	6.1	5.9	8.5	6.7	9.5	1.9	9.0
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	6.8	0.1	15.3	15.2	14.9	14.8	11.2	13.5	9.9	12.4
Government revenues (excluding grants, in percent of GDP)	23.8	23.4	23.9			24.3	24.4	24.6	24.6	24.7	24.6		24.7	24.8	24.7
Aid flows (in Billions of US dollars) 7/	0.2	0.2	0.5			1.2	1.0	1.3	1.3	1.3	1.4		1.4	1.7	
of which: Grants	0.2	0.2	0.5			0.7	0.6	0.6	0.6	0.5	0.5		0.6	0.9	
of which: Concessional loans	0.0	0.0	0.0			0.5	0.4	0.7	0.7	0.8	0.8		0.9	0.8	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			1.8	1.2	1.5	1.3	1.2	1.1		0.7	0.3	0.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			30.9	28.3	39.1	36.1	33.5	32.3		30.5	32.6	30.4
Memorandum items:															
Nominal GDP (Billions of US dollars)	32.2	34.1	41.1			46.1	51.8	57.6	64.2	71.1	79.0		132.8	378.8	
Nominal dollar GDP growth	5.2	5.8	20.7			12.2	12.2	11.3	11.4	10.7	11.1	11.5	11.0	11.2	11.0
PV of PPG external debt (in Billions of US dollars)			7.7			9.1	9.8	10.8	11.9	13.0	14.3		21.0	30.7	
(PVt-PVt-1)/GDPt-1 (in percent)						3.5	1.3	2.0	1.9	1.8	1.8	2.1	0.8	0.2	0.8
Gross workers' remittances (Billions of US dollars)	1.1	1.4	2.0			2.3	2.6	2.9	3.1	3.4	3.7		5.7	12.8	
PV of PPG external debt (in percent of GDP + remittances)	...	...	18.1			19.2	18.3	18.1	17.9	17.8	17.7		15.4	8.0	
PV of PPG external debt (in percent of exports + remittances)	...	...	60.9			69.4	68.4	70.1	71.8	72.2	73.0		67.9	41.1	
Debt service of PPG external debt (in percent of exports + remittanc	...	...	3.5			5.3	8.1	4.0	4.4	4.6	4.5		5.1	3.3	

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 1b.Kenya: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013-2033
(In percent)

	Projections							
	2013	2014	2015	2016	2017	2018	**2023**	2033
PV of debt-to GDP ratio								
Baseline	20	19	19	19	19	18	**16**	8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	20	17	17	16	17	18	**19**	17
A2. New public sector loans on less favorable terms in 2013-2033 2	20	19	21	21	22	22	**22**	14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	20	19	20	20	20	19	**17**	9
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	20	20	21	20	20	20	**17**	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	20	20	20	20	20	20	**17**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	20	24	28	27	26	26	**21**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	20	24	28	27	27	26	**21**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	20	26	26	26	26	25	**22**	11
PV of debt-to-exports ratio								
Baseline	84	83	86	88	89	89	**83**	49
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	84	76	75	77	82	88	**100**	103
A2. New public sector loans on less favorable terms in 2013-2033 2	84	85	93	99	103	107	**111**	81
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	84	82	84	86	87	88	**81**	48
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	84	88	100	102	101	102	**93**	53
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	84	82	84	86	87	88	**81**	48
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	84	103	127	128	126	124	**107**	56
B5. Combination of B1-B4 using one-half standard deviation shocks	84	98	117	118	116	115	**100**	53
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	84	82	84	86	87	88	**81**	48
PV of debt-to-revenue ratio								
Baseline	83	78	77	76	76	75	**65**	33
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2013-2033 1/	83	71	68	67	70	74	**79**	69
A2. New public sector loans on less favorable terms in 2013-2033 2	83	80	84	86	88	90	**87**	55
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2014-2015	83	80	81	80	79	78	**68**	35
B2. Export value growth at historical average minus one standard deviation in 2014-2015 3/	83	80	84	83	81	80	**68**	33
B3. US dollar GDP deflator at historical average minus one standard deviation in 2014-2015	83	81	82	81	81	80	**69**	35
B4. Net non-debt creating flows at historical average minus one standard deviation in 2014-2015 4/	83	97	115	111	107	104	**84**	37
B5. Combination of B1-B4 using one-half standard deviation shocks	83	97	115	112	109	106	**86**	39
B6. One-time 30 percent nominal depreciation relative to the baseline in 2014 5/	83	108	106	105	104	103	**89**	45

Table 1b.Kenya: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2013-2033 (continued)

(In percent)

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

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 2a.Kenya: Public Sector Debt Sustainability Framework, Baseline Scenario, 2010-2033

(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections								
	2010	2011	2012			2013	2014	2015	2016	2017	2018	2013-18 Average	2023	2033	2019-33 Average
Public sector debt 1/	45.8	47.2	42.9			43.5	41.4	40.8	41.1	41.5	41.4		39.0	20.3	
of which: foreign-currency denominated	23.1	26.2	22.5			23.3	21.8	21.8	21.6	21.5	21.4		18.9	9.8	
Change in public sector debt	3.2	1.3	-4.3			0.6	-2.1	-0.6	0.2	0.5	-0.1		-1.0	-1.3	
Identified debt-creating flows	3.4	-2.0	-1.4			-0.9	-1.2	-1.0	-1.0	-0.9	-1.2		-1.0	0.1	
Primary deficit	2.8	1.9	2.2	0.9	1.8	2.0	1.6	1.4	1.2	1.1	1.1	1.4	1.1	1.2	1.1
Revenue and grants	24.6	24.0	25.2			25.9	25.6	25.7	25.5	25.4	25.3		25.2	25.1	
of which: grants	0.8	0.6	1.3			1.5	1.2	1.1	0.9	0.8	0.7		0.4	0.2	
Primary (noninterest) expenditure	27.5	25.8	27.4			27.8	27.2	27.1	26.8	26.5	26.4		26.2	26.2	
Automatic debt dynamics	0.5	-3.9	-3.6			-2.9	-2.8	-2.3	-2.3	-2.0	-2.3		-2.1	-1.0	
Contribution from interest rate/growth differential	-0.8	-2.7	-2.0			-1.9	-1.9	-1.7	-1.8	-1.5	-1.8		-1.5	-0.7	
of which: contribution from average real interest rate	1.6	-0.8	0.1			0.4	0.6	0.7	0.8	0.7	0.6		0.7	0.5	
of which: contribution from real GDP growth	-2.3	-1.9	-2.1			-2.4	-2.5	-2.5	-2.5	-2.3	-2.4		-2.3	-1.2	
Contribution from real exchange rate depreciation	1.3	-1.2	-1.6			-1.0	-0.9	-0.6	-0.5	-0.5	-0.5		...	...	
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	-0.2	3.3	-2.9			1.5	-0.9	0.4	1.3	1.4	1.1		0.0	-1.4	
Other Sustainability Indicators															
PV of public sector debt	...	...	39.4			40.3	38.7	38.1	38.3	38.7	38.6		36.2	18.8	
of which: foreign-currency denominated	...	...	19.0			20.1	19.2	19.1	18.8	18.7	18.5		16.1	8.2	
of which: external	...	...	19.0			20.1	19.2	19.1	18.8	18.7	18.5		16.1	8.2	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	14.8	15.2	15.5			15.5	15.5	13.9	13.6	13.6	13.5		13.5	9.6	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	156.5			155.9	151.3	148.0	150.1	152.0	152.2		144.0	74.9	
PV of public sector debt-to-revenue ratio (in percent)	...	...	165.1			165.7	158.5	154.6	155.6	156.7	156.5		146.5	75.6	
of which: external 3/	...	...	79.7			82.9	78.5	77.3	76.4	75.7	75.0		65.1	33.2	
Debt service-to-revenue and grants ratio (in percent) 4/	25.5	26.1	25.2			25.6	27.6	22.3	22.4	22.4	21.9		21.9	19.0	
Debt service-to-revenue ratio (in percent) 4/	26.3	26.8	26.6			27.3	28.9	23.3	23.3	23.1	22.5		22.2	19.1	
Primary deficit that stabilizes the debt-to-GDP ratio	-0.3	0.6	6.5			1.4	3.6	1.9	1.0	0.7	1.1		2.1	2.4	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	5.8	4.4	4.7	4.6	1.8	5.8	6.1	6.3	6.6	5.8	6.1	6.1	6.0	6.1	6.0
Average nominal interest rate on forex debt (in percent)	1.0	1.2	1.3	1.6	0.7	1.5	1.8	2.0	2.1	2.1	2.2	1.9	2.4	2.3	2.3
Average real interest rate on domestic debt (in percent)	8.7	-2.6	1.1	1.6	3.3	2.0	3.0	3.7	4.1	3.8	3.3	3.3	3.0	4.3	3.6
Real exchange rate depreciation (in percent, + indicates depreciation)	6.0	-5.3	-6.3	-3.9	7.4	-4.5	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.9	13.7	9.7	7.9	3.7	8.2	6.0	5.0	4.8	4.9	5.1	5.7	5.0	5.0	5.0
Growth of real primary spending (deflated by GDP deflator, in percent	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	6.8	0.1	15.3	15.2	14.9	14.8	11.2	13.5	9.9	...

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or 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 2b.Kenya: Sensitivity Analysis for Key Indicators of Public Debt 2013-2033

		Projections						
	2013	2014	2015	2016	2017	2018	2023	2033
PV of Debt-to-GDP Ratio								
Baseline	40	39	38	38	39	39	36	19
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	40	39	39	40	41	42	42	24
A2. Primary balance is unchanged from 2013	40	40	40	41	43	44	45	32
A3. Permanently lower GDP growth 1/	40	39	39	40	42	42	45	38
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	40	41	44	46	48	50	54	43
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	40	40	41	42	42	42	40	23
B3. Combination of B1-B2 using one half standard deviation shocks	40	40	41	43	45	46	49	37
B4. One-time 30 percent real depreciation in 2014	40	47	46	46	46	46	43	26
B5. 10 percent of GDP increase in other debt-creating flows in 2014	40	49	48	48	49	48	45	25
PV of Debt-to-Revenue Ratio 2/								
Baseline	156	151	148	150	152	152	144	75
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	156	153	152	157	161	164	167	95
A2. Primary balance is unchanged from 2013	156	155	155	161	168	172	180	129
A3. Permanently lower GDP growth 1/	156	154	153	159	164	167	177	151
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	156	161	170	180	189	195	213	171
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	156	157	161	164	166	167	161	92
B3. Combination of B1-B2 using one half standard deviation shocks	156	157	161	169	176	182	195	147
B4. One-time 30 percent real depreciation in 2014	156	185	180	181	182	182	172	102
B5. 10 percent of GDP increase in other debt-creating flows in 2014	156	191	187	189	191	191	178	101
Debt Service-to-Revenue Ratio 2/								
Baseline	26	28	22	22	22	22	22	19
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	26	28	23	23	23	23	24	23
A2. Primary balance is unchanged from 2013	26	28	22	23	23	23	24	23
A3. Permanently lower GDP growth 1/	26	28	22	23	23	23	24	25
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2014-2015	26	28	24	25	25	25	28	27
B2. Primary balance is at historical average minus one standard deviations in 2014-2015	26	28	23	23	23	23	22	19
B3. Combination of B1-B2 using one half standard deviation shocks	26	28	23	24	24	24	26	25
B4. One-time 30 percent real depreciation in 2014	26	30	24	25	25	25	25	22
B5. 10 percent of GDP increase in other debt-creating flows in 2014	26	28	24	27	27	26	24	20

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.