



KIRIBATI

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION— DEBT SUSTAINABILITY ANALYSIS

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This update of the Debt Sustainability Analysis (DSA) indicates that Kiribati remains at high risk of debt distress. While the fiscal position has improved, underpinned by robust fisheries sector revenue, containing the risk of debt distress will require continued fiscal sustainability through further progress in structural and fiscal reforms; securing grants to finance the country's large development needs will also be needed.

BACKGROUND

1. Kiribati is a Pacific microstate and one of the remotest nations in the world. It consists of 33 geographically dispersed coral atolls and islands over an ocean area of 3½ million square kilometers giving the country one of the largest Exclusive Economic Zones (EEZs). It has a population of around 120,000, with the population growth rate projected to decline from the current 2 percent to below 1.5 percent over the long run. The country's narrow production and export base, limited to tuna fishing and copra, makes it highly dependent on fishing license fees and donor support. Kiribati's sovereign wealth fund, the Revenue Equalization Reserve Fund (RERF), was established in 1956 from phosphate mining proceeds. Mining ceased in 1979 and in recent years, fishing revenues have been used to replenish the fund.

2. Climate change continues to pose significant challenges. Kiribati is one of the island states which stands to lose the most from the effects of climate change, including but not limited to drought, heightened incidences of natural disasters, loss of groundwater, and rising sea levels leading to coastal erosion. This could potentially lead to the relocation of people from the most affected parts of Kiribati to neighboring Pacific Islands. To this end, the previous government had purchased land for resettlement in Fiji in 2014. The costs of mitigating the adverse effects of climate change can partially be met by Kiribati's operating budget. Capital projects, however, require continued support from development partners.

THE BASELINE SCENARIO

3. Under the baseline scenario, it is assumed that the government will continue with structural and other economic reforms; while the major source of revenue, fishing license fees, is based on historical averages. The following are the key macroeconomic assumptions used for the baseline scenario:

- GDP and population growth are projected to moderate over the long run. Economic growth is expected at 3.1 percent in 2016, decelerating to 2.0 percent in the medium term, and moderating to 1.7 percent over the long run, underpinned by the negative impact of climate change on long run growth. Population growth is projected to decline from 2 percent to below 1.5 percent over the long run (based on the United Nations' World Population Prospects).
- Prices are anticipated to rise, albeit marginally in the short term but to increase and remain stable in the long run. Inflation is projected at 1.5 percent in 2016, increasing to 2.5 percent in the long term. This is in line with trading partner inflation and international food and fuel price dynamics, given that the bulk of Kiribati's consumer price basket comprises imported items.
- Following strong growth in the past four years, fishing revenue is expected to moderate in the medium term. Fishing license receipts grew at an average rate of 65 percent during 2012–15. This is partly due to the mid-2012 implementation of the Vessel Day Scheme and its proper

management thereafter; and a stronger U.S. dollar recently.¹ In 2015, fishing revenue was around 97 percent of GDP, however, it is expected to decline to around 45 percent of GDP this year as the positive effects of the El Niño phenomenon have started to wane. Fishing revenue is assumed to normalize at around A\$100 million in the medium to long term. While staff projections place fishing license fees at a stable level, it should be noted that tuna is a highly migratory species, and therefore receipts from the sector can be volatile.

- Some improvement in government's fiscal position in the short run but weak position in the medium to long term. After registering more than a decade of deficit, the government's fiscal position improved since 2013. Overall balance stood at 23.5 and 40.1 percent of GDP, respectively in 2014 and 2015. This was consistent with government's efforts to rein-in expenditure, supported by large external grants; and tax reforms, particularly the introduction of Value Added Tax (VAT). Fiscal position is expected to deteriorate in the near term due to the projected fall in fishing revenue. In the long run, fiscal outturns will likely be weaker stemming from relatively higher spending growth. RERF drawdown is expected to provide 70–80 percent of government's financing needs. RERF returns are expected at 3.0–5.0 percent in the longer term.²
- External grants are projected to decline from 58 percent of GDP in 2016 to around 30 percent of GDP over the medium term as many donor-supported projects are near completion, and to stabilize at around 20 percent of GDP in the long run.
- Higher recurrent spending. Operating expenditure is projected to grow at 9 percent in 2016, and at average rate of 3.6 percent until 2020. In the long run, recurrent spending is projected to grow in line with nominal GDP. Operating expenditure related to climate change contingencies, together with new infrastructure maintenance costs are collectively assumed at around 2–3 percent of GDP.
- Development expenditure will fall in the medium term. Development expenditure is estimated at 45 percent of GDP in 2015 with a significant portion financed by external grants and around 10 percent by external borrowing. Development expenditure is assumed to increase to 67 of GDP this year, average around 37 percent of GDP in the medium term as many donor-supported projects are near completion, and stabilize at around 25 percent of GDP in the long run. The grant element of new borrowing is anticipated at 50 percent in the medium to long term.
- External balance. The current account surplus widened post 2013 underpinned by strong fishing license fees; but will weaken considerably in 2016–17 following the projected slowdown in the fisheries sector. In the medium term, the current account balance will likely improve on account of relatively higher investment returns from RERF and modest increase in fishing license fees. In addition, the completion of large donor financed infrastructure projects will see imports fall in the medium term.

¹ Fishing license fee is denominated in the U.S. dollar.

² This is in line with the lower expected returns from the Australian market.

Kiribati: Key Macroeconomic and Fiscal Assumptions

	2015 DSA 2015-20 avg	2016 DSA 2016-21 avg
Real GDP growth (in percent)	2.0	2.1
Average nominal interest rate on forex debt (in percent)	1.4	1.2
Average real interest rate on domestic debt (in percent)	11.7	11.4
Inflation rate (GDP deflator, in percent)	1.2	1.6
Growth of real primary spending (deflated by GDP deflator, in percent)	-3.2	2.0
Grant element of new external borrowing (in percent)	37.6	44.2
Source: staff estimates.		

RESULTS

4. As in previous Article IV findings, the current DSA analysis indicates that Kiribati continues to be at high risk of debt distress.

- Historically, Kiribati's debt portfolio constituted mainly external debt. On average 94 percent of overall debt, equivalent to 22 percent of GDP in 2015 included foreign currency denominated debt, while domestic debt averaged around 3.5 percent of GDP as reflected in the text table. Government cleared domestic debt by end-2015 with the sale of the state telecom company. The DSA does not include potential SOE liabilities related to the Community Service Obligations (CSO).
- Sensitivity analyses of external debt alludes to higher relative risk. In 2014–15, the present value (PV) of external debt rose substantially as a result of increased loan disbursements. The growth trajectory remains the same however, it will slow down in the medium term. Consequently, the baseline results show that the PV of the external debt-to-GDP ratio breaches the indicative threshold (30 percent) by 2026; while the PV of external-debt-to-exports ratio breaches the threshold (100 percent) after 2036. The expected trend is due mainly to high imports as a percent of GDP as well as the dependence on external financing for development investment.
- Anticipated extreme shocks tend to weigh significantly on external debt stress projections. Under the extreme stress test scenario, the PV of debt-to-GDP and PV of debt-to-export ratios breach their thresholds by 2023 and 2028, respectively. These ratios are vulnerable to shocks emanating from debt financing terms and conditions, and expected trend of exports.
- Public sector debt downside risks remain elevated. Current fiscal surpluses are driven largely by windfall fishing license revenues. However, the PV of total public debt is

Kiribati: Stock of Debt (\$, million)				
	2012	2013	2014	2015
External debt	13.9	16.7	22.9	35.3
<i>Percent of GDP</i>	7.4	8.9	12.3	22.0
Multilateral	13.9	16.7	19.8	26.5
<i>Percent of GDP</i>	7.4	8.9	10.6	16.5
Bilateral	0.0	0.0	3.1	8.7
<i>Percent of GDP</i>	0.0	0.0	1.6	5.4
Commercial	0.0	0.0	0.0	0.0
<i>Percent of GDP</i>	0.0	0.0	0.0	0.0
Domestic debt	6.5	8.0	7.3	3.8
<i>Percent of GDP</i>	3.4	4.2	3.9	2.4
Source: Kiribati Ministry of Finance and Economic Development				

projected to breach its indicative threshold (38 percent of GDP) before 2031, under the baseline scenario.

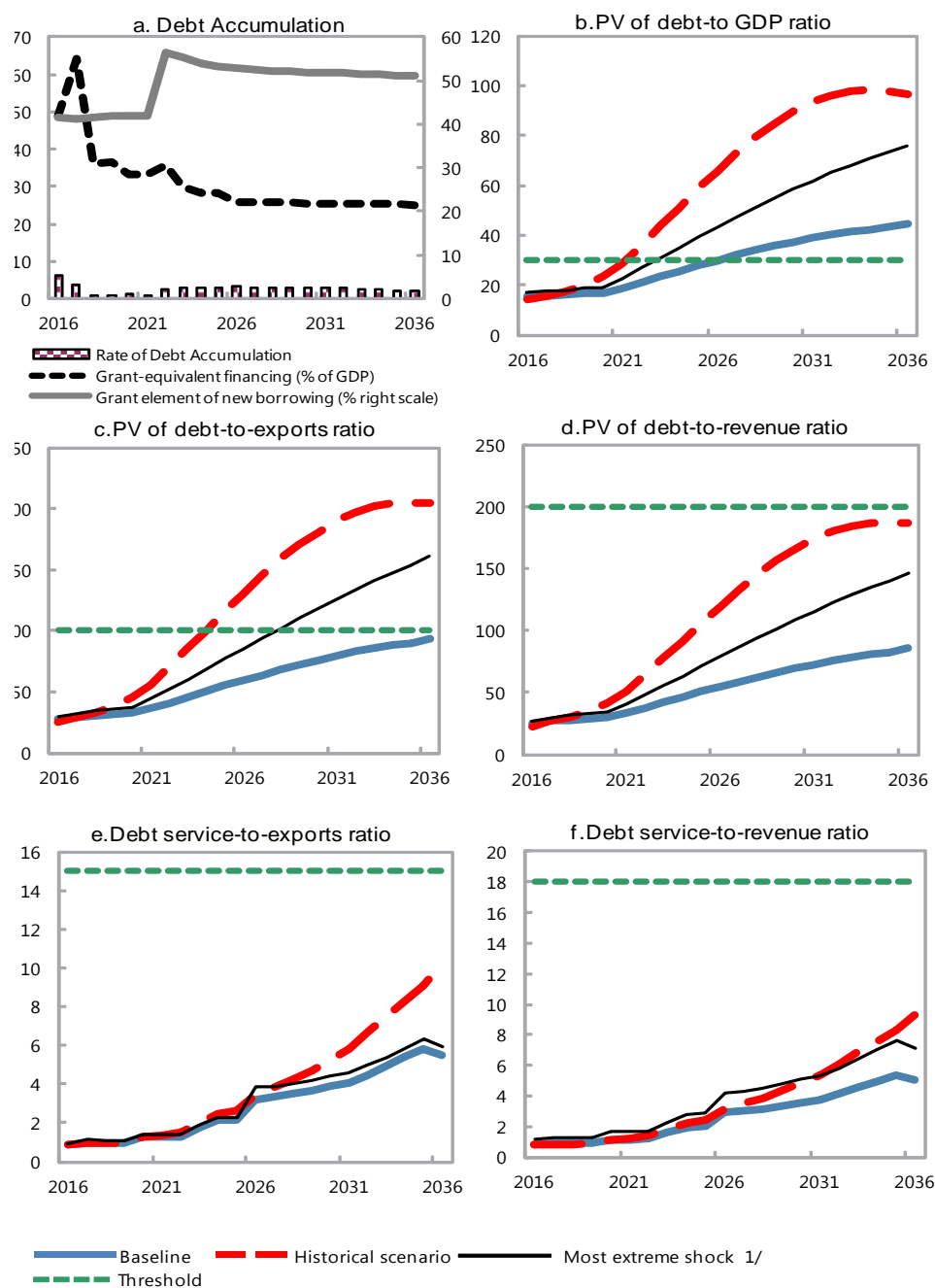
- Public debt is unsustainable under the extreme shock scenario. The most extreme stress test scenario predicts the PV of public-sector-debt-to-GDP ratio breaches the threshold by 2017; and will likely double in the following decade. This is attributed to higher projected borrowings and financing needs of the government.

CONCLUSION

5. Risks of debt distress remain high. The DSA results continue to suggest that Kiribati has limited scope for external borrowing. To build fiscal buffers, immediate to medium term focus should be on revenue management (tax administration and compliance related to VAT), recurrent expenditure restraints, financing of capital expenditure by increasing grant element, and progressing with structural reforms. Windfall revenue from fishing license fees should be invested in RERF to build its long term sustainability and for intergenerational equity. There is significant scope for Kiribati to support its fiscal stance and climate adaptation projects through additional finance from global climate funds, but this may require investment in terms of readiness programs specific to climate financing modalities, and project proposals and management.

6. The authorities broadly agreed with this assessment. They expressed strong commitment to preserving the net value of RERF by efficient management; avoiding non-concessional external borrowing; strongly pursuing state-owned-enterprise (SOE) reforms; and mapping and following a prudent fiscal path.

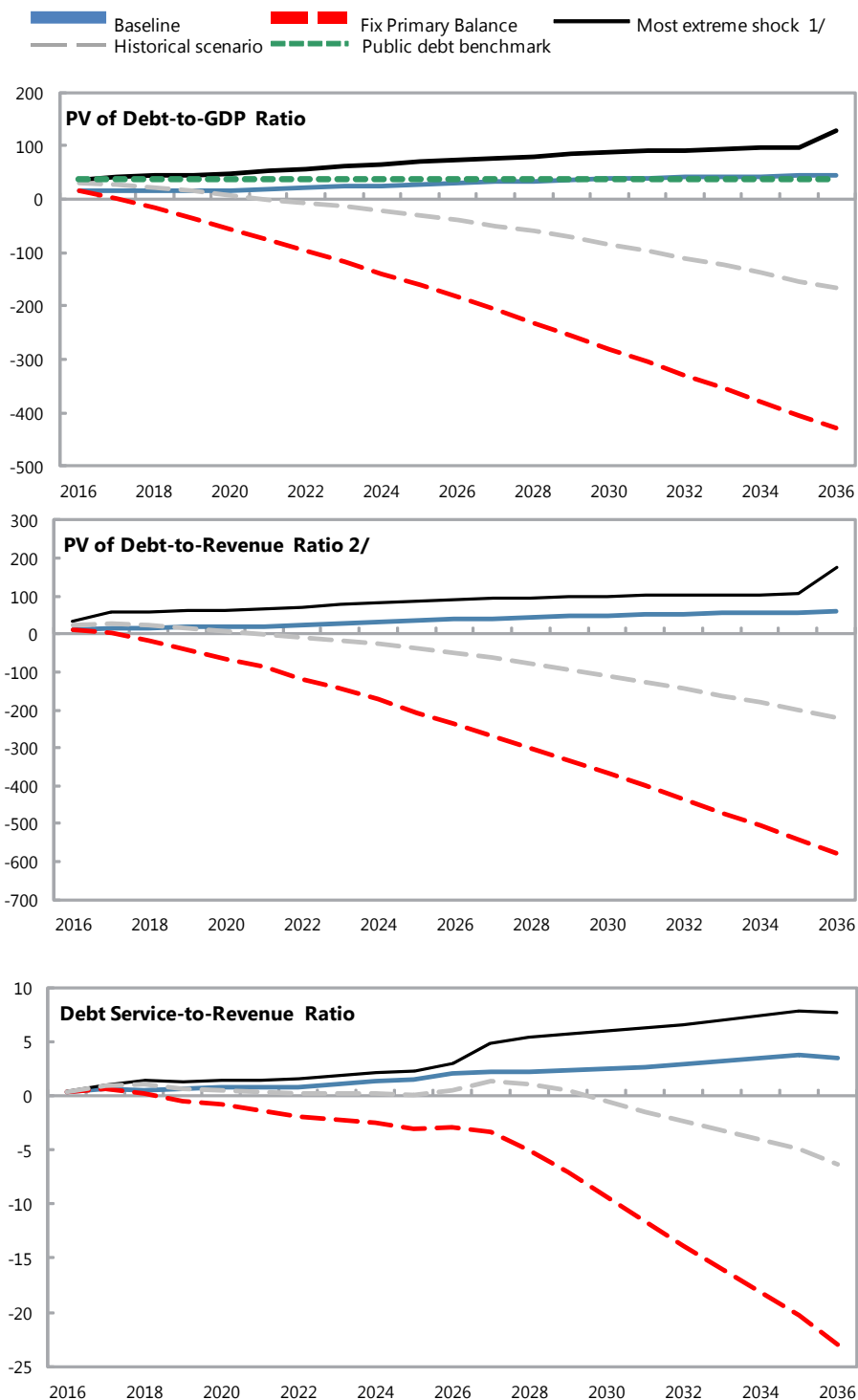
Figure 1. Kiribati: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2016–36 1/



Sources: Country authorities; and staff estimates and projections.

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

Figure 2. Kiribati: Indicators of Public Debt Under Alternative Scenarios, 2016–36 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2026.

2/ Revenues are defined inclusive of grants.

Table 1. Kiribati: Public Sector Debt Sustainability Framework, Baseline Scenario, 2013–36
(In percent of GDP, unless otherwise indicated)

	Actual			Average ^{5/}	Standard Deviation ^{5/}	Estimate					Projections				
	2013	2014	2015			2016	2017	2018	2019	2020	2021	2016-21 Average		2026	2036	2022-36 Average
Public sector debt 1/	14.2	17.7	30.1			31.0	30.4	30.2	30.4	30.2	34.5		56.2	80.2	
<i>of which: foreign-currency denominated</i>	9.6	13.4	27.6			31.0	30.4	30.2	30.4	30.2	34.5		56.2	80.2	
Change in public sector debt	3.4	3.5	12.3			1.0	-0.6	-0.3	0.2	-0.2	4.3		3.8	1.5	
Identified debt-creating flows	14.3	-46.5	-30.7			10.3	-6.3	-1.1	2.9	3.1	2.9		2.7	1.4	
Primary deficit	-10.9	-42.9	-56.1	-2.5	26.3	-27.0	1.3	7.1	13.5	13.8	14.7	3.9	17.5	24.6	20.1
Revenue and grants	96.2	137.1	160.0			124.8	94.0	93.5	89.6	89.2	88.8		77.5	74.3	
<i>of which: grants</i>	31.8	51.2	43.6			61.8	35.8	36.2	32.7	32.7	32.7		22.4	22.4	
Primary (noninterest) expenditure	85.3	94.2	104.0			97.7	95.3	100.6	103.1	103.0	103.5		95.0	98.9	
Automatic debt dynamics	1.0	0.5	2.0			-2.0	-1.0	-0.9	-0.6	-0.3	-0.4		-0.8	-1.5	
Contribution from interest rate/growth differential	-0.2	-0.1	-0.1			-1.1	-1.0	-0.9	-0.7	-0.6	-0.6		-1.2	-2.0	
<i>of which: contribution from average real interest rate</i>	0.4	0.2	0.5			-0.3	-0.3	-0.3	-0.3	-0.1	-0.1		-0.4	-0.7	
<i>of which: contribution from real GDP growth</i>	-0.6	-0.3	-0.6			-0.9	-0.8	-0.6	-0.4	-0.5	-0.5		-0.9	-1.3	
Contribution from real exchange rate depreciation	1.2	0.6	2.1			-0.9	0.0	0.0	0.1	0.3	0.2		...	...
Other identified debt-creating flows	24.3	-4.1	23.5			39.4	-6.6	-7.3	-10.0	-10.4	-11.3		-14.0	-21.6	
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 (RERF)	24.3	-4.1	23.5			39.4	-6.6	-7.3	-10.0	-10.4	-11.3		-14.0	-21.6	
Residual, including asset changes	-10.9	50.0	43.0			-9.4	5.7	0.8	-2.7	-3.2	1.3		1.1	0.1	
Other Sustainability Indicators															
PV of public sector debt	...	9.3	15.5			15.6	15.7	16.0	16.5	16.7	18.7		30.0	44.3	
<i>of which: foreign-currency denominated</i>	...	5.0	13.1			15.6	15.7	16.0	16.5	16.7	18.7		30.0	44.3	
<i>of which: external</i>	...	5.0	13.1			15.6	15.7	16.0	16.5	16.7	18.7		30.0	44.3	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...
Gross financing need 2/	-10.0	-42.2	-55.1			-26.5	1.8	7.6	14.0	14.4	15.3		19.1	27.2	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	6.8	9.7			12.5	16.7	17.1	18.4	18.8	21.1		38.7	59.6	
PV of public sector debt-to-revenue ratio (in percent)	...	10.8	13.3			24.7	27.0	27.9	29.0	29.6	33.4		54.4	85.3	
<i>of which: external 3/</i>	...	5.8	11.2			24.7	27.0	27.9	29.0	29.6	33.4		54.4	85.3	
Debt service-to-revenue and grants ratio (in percent) 4/	1.0	0.6	0.6			0.4	0.6	0.5	0.6	0.7	0.7		2.1	3.5	
Debt service-to-revenue ratio (in percent) 4/	1.4	0.9	0.8			0.8	0.9	0.9	0.9	1.1	1.2		2.9	5.0	
Primary deficit that stabilizes the debt-to-GDP ratio	-14.4	-46.5	-68.4			-28.0	1.9	7.4	13.3	13.9	10.4		13.7	23.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	5.8	2.4	3.5	1.5	2.8	3.1	2.5	2.0	1.5	1.7	1.7	2.1	1.7	1.7	1.7
Average nominal interest rate on forex debt (in percent)	1.0	0.9	1.2	1.0	0.4	1.1	1.0	1.0	1.0	1.5	1.5	1.2	1.2	1.0	1.1
Average real interest rate on domestic debt (in percent)	13.7	6.8	13.6	8.1	4.4	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	17.1	6.6	16.0	0.7	15.1	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	0.9	4.0	-0.2	2.4	2.8	1.5	2.0	2.0	1.3	1.4	1.2	1.6	1.1	1.3	1.1
Growth of real primary spending (deflated by GDP deflator, in percent)	-2.1	13.1	14.2	4.5	8.0	-3.1	-0.1	7.7	4.1	1.6	2.2	2.0	2.3	0.5	1.4
Grant element of new external borrowing (in percent)	...	...	41.8	...	...	41.2	41.4	41.8	42.1	42.0	56.4	44.2	52.6	47.7	...

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 2. Kiribati: Sensitivity Analysis for Key Indicators of Public Debt, 2016–36

	2016	2017	2018	2019	2020	2021	2026	2036
PV of Debt-to-GDP Ratio								
Baseline	16	16	16	17	17	19	30	44
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	29	27	22	15	7	0	-39	-167
A2. Primary balance is unchanged from 2016	16	1	-16	-36	-57	-77	-183	-429
A3. Permanently lower GDP growth 1/	16	16	17	19	20	23	44	93
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	18	21	24	27	30	34	60	98
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	42	53	53	54	55	57	71	79
B3. Combination of B1-B2 using one half standard deviation shocks	36	42	43	46	48	52	74	100
B4. One-time 30 percent real depreciation in 2017	20	20	20	20	21	21	27	36
B5. 10 percent of GDP increase in other debt-creating flows in 2017	2	7	12	18	24	31	68	129
PV of Debt-to-Revenue Ratio 2/								
Baseline	12	17	17	18	19	21	39	60
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	23	29	24	16	7	0	-50	-220
A2. Primary balance is unchanged from 2016	12	1	-17	-40	-64	-87	-237	-578
A3. Permanently lower GDP growth 1/	13	17	18	21	22	26	56	120
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	14	22	25	29	32	37	75	129
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	34	57	57	60	62	65	92	107
B3. Combination of B1-B2 using one half standard deviation shocks	28	43	45	50	53	57	94	132
B4. One-time 30 percent real depreciation in 2017	16	21	21	23	23	24	35	48
B5. 10 percent of GDP increase in other debt-creating flows in 2017	1	7	12	20	27	35	87	174
Debt Service-to-Revenue Ratio 2/								
Baseline	0	1	1	1	1	1	2	4
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	0	1	1	1	1	0	0	-6
A2. Primary balance is unchanged from 2016	0	1	0	0	-1	-1	-3	-23
A3. Permanently lower GDP growth 1/	0	1	1	1	1	1	2	6
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2017-2018	0	1	1	1	1	1	3	7
B2. Primary balance is at historical average minus one standard deviations in 2017-2018	0	1	2	2	1	1	3	7
B3. Combination of B1-B2 using one half standard deviation shocks	0	1	1	1	1	1	3	8
B4. One-time 30 percent real depreciation in 2017	0	1	1	1	1	1	3	5
B5. 10 percent of GDP increase in other debt-creating flows in 2017	0	1	1	1	1	1	1	-2

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.

Table 3. Kiribati: External Debt Sustainability Framework, Baseline Scenario, 2013–36
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average	Standard Deviation	Projections							2016-2021 Average	2026	2036	2022-2036 Average
	2013	2014	2015			2016	2017	2018	2019	2020	2021					
External debt (nominal) 1/	9.6	13.4	27.6			31.0	30.4	30.2	30.4	30.2	34.5		56.2	80.2		
<i>of which: public and publicly guaranteed (PPG)</i>	9.6	13.4	27.6			31.0	30.4	30.2	30.4	30.2	34.5		56.2	80.2		
Change in external debt	2.3	3.8	14.2			3.4	-0.6	-0.3	0.2	-0.2	4.3		3.8	1.5		
Identified net debt-creating flows	-7.7	-23.8	-45.2			6.6	2.0	1.2	-0.3	-1.9	-2.5		-7.7	-0.4		
Non-interest current account deficit	-8.3	-24.1	-45.1	5.1	13.6	6.9	2.2	1.3	-0.4	-2.1	-2.6		-7.7	-0.5	-5.3	
Deficit in balance of goods and services	35.4	14.1	-13.0			43.9	31.1	30.7	29.7	28.7	27.5		18.3	21.4		
Exports	57.6	77.1	109.6			57.1	52.9	52.2	52.1	51.8	51.6		50.5	47.4		
Imports	93.0	91.3	96.7			101.0	84.0	83.0	81.7	80.5	79.2		68.8	68.8		
Net current transfers (negative = inflow)	-21.5	-17.7	-17.4	-21.2	3.7	-23.9	-13.9	-13.7	-13.6	-13.5	-13.3		-9.6	-9.6	-9.9	
<i>of which: official</i>	-19.4	-15.8	-15.8			-22.4	-12.6	-12.6	-12.6	-12.6	-12.6		-8.6	-8.6		
Other current account flows (negative = net inflow)	-22.2	-20.5	-14.7			-13.1	-15.0	-15.7	-16.5	-17.3	-16.8		-16.4	-12.2		
Net FDI (negative = inflow)	0.6	0.2	0.2	0.0	2.1	0.2	0.2	0.2	0.2	0.2	0.2		0.3	0.6	0.4	
Endogenous debt dynamics 2/	0.1	0.2	-0.4			-0.5	-0.4	-0.3	-0.1	-0.1	0.0		-0.3	-0.5		
Contribution from nominal interest rate	0.1	0.1	0.2			0.3	0.3	0.3	0.3	0.4	0.5		0.6	0.8		
Contribution from real GDP growth	-0.4	-0.2	-0.5			-0.8	-0.7	-0.6	-0.4	-0.5	-0.5		-0.9	-1.3		
Contribution from price and exchange rate changes	0.4	0.3	...			...	...	...	...	...	...		...	...
Residual (3-4) 3/	9.9	27.6	59.4			-3.1	-2.6	-1.5	0.5	1.8	6.7		11.5	1.9		
<i>of which: exceptional financing</i>	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/	...	5.0	13.1			15.6	15.7	16.0	16.5	16.7	18.7		30.0	44.3		
In percent of exports	...	6.5	11.9			27.2	29.6	30.6	31.7	32.3	36.3		59.4	93.4		
PV of PPG external debt	...	5.0	13.1			15.6	15.7	16.0	16.5	16.7	18.7		30.0	44.3		
In percent of exports	...	6.5	11.9			27.2	29.6	30.6	31.7	32.3	36.3		59.4	93.4		
In percent of government revenues	...	5.8	11.2			24.7	27.0	27.9	29.0	29.6	33.4		54.4	85.3		
Debt service-to-exports ratio (in percent)	0.8	0.4	0.4			0.9	1.0	1.0	1.0	1.2	1.3		3.2	5.5		
PPG debt service-to-exports ratio (in percent)	0.8	0.4	0.4			0.9	1.0	1.0	1.0	1.2	1.3		3.2	5.5		
PPG debt service-to-revenue ratio (in percent)	0.7	0.3	0.3			0.8	0.9	0.9	0.9	1.1	1.2		2.9	5.0		
Total gross financing need (Millions of U.S. dollars)	-13.7	-44.0	-71.3			12.6	5.1	3.7	0.6	-2.3	-3.5		-13.2	8.3		
Non-interest current account deficit that stabilizes debt ratio	-10.6	-27.9	-59.3			3.4	2.8	1.5	-0.6	-1.9	-6.9		-11.5	-2.0		
Key macroeconomic assumptions																
Real GDP growth (in percent)	5.8	2.4	3.5	1.5	2.8	3.1	2.5	2.0	1.5	1.7	1.7	2.1	1.7	1.7	1.7	
GDP deflator in US dollar terms (change in percent)	-5.7	-3.1	-16.8	2.8	11.9	0.2	3.4	1.9	1.3	1.4	0.7	1.5	1.1	1.3	1.1	
Effective interest rate (percent) 5/	1.0	0.9	1.2	1.0	0.4	1.1	1.0	1.0	1.0	1.5	1.5	1.2	1.2	1.0	1.1	
Growth of exports of G&S (US dollar terms, in percent)	27.5	32.8	22.4	19.0	19.5	-46.2	-1.8	2.5	2.5	2.6	2.0	-6.4	2.3	2.3	2.3	
Growth of imports of G&S (US dollar terms, in percent)	-0.2	-2.6	-8.8	3.1	13.8	7.9	-11.8	2.6	1.3	1.5	0.7	0.4	2.8	3.0	1.9	
Grant element of new public sector borrowing (in percent)	...	...	41.8	...	...	41.2	41.4	41.8	42.1	42.0	56.4	44.2	52.6	47.7	52.1
Government revenues (excluding grants, in percent of GDP)	64.5	86.0	116.4			63.0	58.1	57.2	56.9	56.5	56.1		55.1	51.9	54.1	
Aid flows (in Millions of US dollars) 7/	59.6	95.4	90.1			112.1	64.5	68.1	63.8	64.8	75.4		64.9	83.6		
<i>of which: Grants</i>	59.6	95.4	69.9			102.3	62.9	66.1	61.4	63.3	64.9		50.8	67.6		
<i>of which: Concessional loans</i>	0.0	0.0	20.1			9.8	1.6	2.0	2.4	1.5	10.5		14.1	16.0		
Grant-equivalent financing (in percent of GDP) 8/	...	...	48.8			64.2	36.2	36.7	33.3	33.1	35.7		25.7	25.1	26.1
Grant-equivalent financing (in percent of external financing) 8/	...	...	87.0			94.8	98.5	98.3	97.8	98.6	93.9		89.7	89.5	90.2
Memorandum items:																
Nominal GDP (Millions of US dollars)	187.7	186.3	160.4			165.7	175.6	182.5	187.7	193.5	198.2		226.9	301.9		
Nominal dollar GDP growth	-0.2	-0.7	-13.9			3.3	6.0	3.9	2.9	3.1	2.4	3.6	2.8	3.0	2.8	
PV of PPG external debt (in Millions of US dollars)	...	8.5	20.2			26.1	27.5	29.1	31.0	32.2	37.1		68.0	133.6		
(Pvt-Pvt-1)/GDPT-1 (in percent)	...	...	6.3			3.7	0.8	0.9	1.0	0.6	2.5	1.6	2.8	2.6	2.7
Gross workers' remittances (Millions of US dollars)	12.1	11.3	11.4			10.0	10.6	11.0	11.3	11.7	12.0		14.3	19.1		
PV of PPG external debt (in percent of GDP + remittances)	...	4.7	12.2			14.7	14.8	15.1	15.6	15.8	17.7		28.2	41.6		
PV of PPG external debt (in percent of exports + remittances)	...	6.0	11.2			24.6	26.6	27.4	28.4	28.9	32.5		52.8	82.4		
Debt service of PPG external debt (in percent of exports + remittance)	...	0.3	0.3			0.8	0.9	0.9	0.9	1.1	1.1		2.8	4.9		

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - p(1+g)]/(1+g+p+g)$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and p = 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.

Table 4. Kiribati: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36
(In percent)

	Projections							
	2016	2017	2018	2019	2020	2021	2026	2036
PV of debt-to GDP ratio								
Baseline	16	16	16	17	17	19	30	44
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	14	16	17	20	23	28	66	97
A2. New public sector loans on less favorable terms in 2016-2036 2/	17	17	18	19	19	23	43	76
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	16	17	17	18	18	20	32	48
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	-8	-29	-29	-29	-29	-28	-18	19
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	17	18	18	19	19	21	34	51
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	20	19	19	20	20	22	34	46
B5. Combination of B1-B4 using one-half standard deviation shocks	-11	-47	-47	-47	-48	-47	-37	11
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	23	22	23	24	24	27	43	63
PV of debt-to-exports ratio								
Baseline	27	30	31	32	32	36	59	93
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	25	29	33	38	45	55	130	204
A2. New public sector loans on less favorable terms in 2016-2036 2/	30	33	34	36	37	44	86	161
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	28	30	31	32	32	36	59	93
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	-8	-31	-31	-31	-32	-30	-20	22
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	28	30	31	32	32	36	59	93
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	35	36	37	38	39	43	66	97
B5. Combination of B1-B4 using one-half standard deviation shocks	-9	-38	-38	-39	-39	-38	-32	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	28	30	31	32	32	36	59	93
PV of debt-to-revenue ratio								
Baseline	25	27	28	29	30	33	54	85
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	22	27	30	35	41	51	119	186
A2. New public sector loans on less favorable terms in 2016-2036 2/	27	30	31	33	34	41	79	146
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	26	29	30	32	32	36	59	92
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	-13	-50	-50	-50	-51	-49	-33	36
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	26	31	32	33	34	38	62	98
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	32	33	34	35	36	40	61	89
B5. Combination of B1-B4 using one-half standard deviation shocks	-17	-82	-83	-83	-85	-83	-68	22
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	36	38	40	42	42	48	78	122

Table 4. Kiribati: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36 (concluded)
(In percent)

	Projections							
	2016	2017	2018	2019	2020	2021	2026	2036
Debt service-to-exports ratio								
Baseline	1	1	1	1	1	1	3	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	1	1	1	1	1	1	3	10
A2. New public sector loans on less favorable terms in 2016-2036 2/	1	1	1	1	1	1	3	9
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	1	1	1	1	1	1	3	6
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	0	0	0	0	0	0	-1	0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	1	1	1	1	1	1	3	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	1	1	1	1	1	1	4	6
B5. Combination of B1-B4 using one-half standard deviation shocks	0	0	-1	-1	0	0	-1	-1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	1	1	1	1	1	1	3	6
Debt service-to-revenue ratio								
Baseline	1	1	1	1	1	1	3	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2016-2036 1/	1	1	1	1	1	1	3	9
A2. New public sector loans on less favorable terms in 2016-2036 2/	1	1	1	1	1	1	3	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	1	1	1	1	1	1	3	5
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	1	0	-1	-1	0	0	-1	-1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	1	1	1	1	1	1	3	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	1	1	1	1	1	1	4	5
B5. Combination of B1-B4 using one-half standard deviation shocks	1	0	-1	-1	-1	-1	-2	-3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	1	1	1	1	2	2	4	7
<i>Memorandum item:</i>								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	47	45	43	41	39	37	29	17
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.								