INTERNATIONAL MONETARY FUND

KIRIBATI

STAFF REPORT FOR THE 2017 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 despite the improved fiscal positions and economic fundamentals. Safeguarding long run fiscal sustainability requires continued effort to build fiscal buffers, as well as securing grants to finance the country's large infrastructure investment needs.

[1] The DSA was prepared jointly with the World Bank, in accordance with the standard Debt Sustainability Framework for Low-income Countries approved by the Executive Boards of the IMF and the IDA. Debt sustainability is assessed in relation to policy-dependent debt burden thresholds. Kiribati, with an average Country Policy and Institutional Assessment (CPIA) score of 2.9 over the last three years, is considered to have weak policy and institutional capacity for the purposes of the DSA framework, and assessed against relatively lower debt thresholds. Thus, the external debt burden thresholds for Kiribati are (i) PV of debt-to-GDP ratio: 30 percent; (ii) PV of debt-to-exports ratio: 100 percent; (iii) PV of debt-to-revenue ratio: 200 percent; (iv) debt service-to-exports ratio: 15 percent: and (v) debt service-to-revenue ratio: 18 percent.

BACKGROUND

1. Kiribati is a microstate in the Pacific and one of the remotest nations in the world. With a population of nearly 120,000 people, the island group consists of 33 geographically dispersed coral atolls over an ocean area of 3½ million square kilometers giving the country one of the largest Exclusive Economic Zones (EEZs) in the region. Impediments including Kiribati's geographic disadvantages and narrow production and export base (mainly limited to tuna fishing and copra) make the country highly dependent on revenue from selling fishing licenses and on donor support for infrastructure investment. Kiribati has a sovereign wealth fund, the Revenue Equalization Reserve Fund (RERF), which was established in 1956 from phosphate mining proceeds. Strong fishing revenue in recent years halted a prolonged period of relying on drawdowns from the RERF to finance budget deficits. As of August 2017, the RERF's net capitalization value registered nearly A$900 million, an increase of more than 50 percent since its end-2010 balance.

2. Prudent management of public resources remains the key policy challenge especially given the considerable spending needs in development and climate change adaptation. Kiribati stands to lose the most from the negative effects of climate change, including but not limited to drought, higher 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. The costs of mitigating the adverse effects of climate change can partially be met by Kiribati's operating budget. Capital projects, however, require continued financial support from development partners.

THE BASELINE SCENARIO

3. The following are the key macroeconomic assumptions used for the baseline scenario.

- GDP and population growth are projected to moderate over the long run. Real GDP growth is projected to moderate to 2¼ percent over the medium term and decline further to 1.7 percent over the long run in line with the historical average before the fishing revenue boom (1997-2014). The moderation in growth is mainly due to the envisaged decline in population growth from around 2 percent to below 1.5 percent over the long run, based on the United Nations' World Population Prospects, as well as a decline in infrastructure investment as a share of GDP and the negative growth impact of climate change (currently estimated to reduce the long-term growth rate by 0.1 percentage point).

- Inflation rose to 1.9 percent in 2016 and is projected to rise to 2.2 percent in 2017. In the medium to long term, inflation rises to 2.5 percent 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 and the Australian dollar remains the legal tender.

- Fiscal revenue from the fisheries sector has been strong over the past several years. After lackluster performance in the late 2000s, fishing license revenue grew at an average rate of

65 percent during 2012–15. This was primarily a result of the 2012 implementation of the Vessel Day Scheme; and a stronger U.S. dollar during the same period.[2] Nonetheless, fishing revenue declined by over 20 percent in 2016 and is projected to remain around A $150 million in 2017. The baseline assumption is that fishing revenue will remain constant in real terms at A$130 million in the projection horizon (2018-37). It is worth noting that this assumption is subject to considerable uncertainties, especially related to the cyclical pattern of the El Nino Southern Oscillation.

- The government's fiscal position improved significantly since 2014. It is assumed that the government will maintain a broadly balanced recurrent budget in the medium term by reining in the growth of recurrent spending to offset the decline in fishing revenue as a share of GDP. In the longer term, recurrent spending is expected to increase from 70 percent of GDP to 73 percent of GDP with operating expenditure related to climate change adaptation and infrastructure maintenance rising from 3 percent of GDP to 6 percent of GDP.3 An annual withdraw of the RERF is needed to finance the recurrent deficit as the climate change adaptation cost rises. While the nominal RERF balance remains above A$1 billion over the projection horizon, the real RERF balance declines by 30 percent from its end-2016 level.

- Development expenditure is expected at 60 percent of GDP in the short to medium term, thereafter falling to around 20 percent of GDP in the long term as ongoing and pipeline infrastructure projects are completed. Over the medium term (2018-22), development spending is projected to be financed by a combination of grants and loans, reflecting historical trend and the likely outcome of the upcoming development financing programs of the multilateral donors. Over the long run, however, the share of the development spending financed by concessional loans is assumed to increase from 10 percent to 30 percent as project financing by the major multilateral donors (currently 20 percent of the total grants) are assumed to be exclusively on credit terms.

- External balance. The current account surplus averaged around 40 percent of GDP during 2014-16 owing to the strong fishing license fees. As the growth in fisheries factor income slows down as a share of GDP, the current account balance will narrow considerably over the medium term. Over the long run, the current account balance will rise again due to the envisaged decline in imports related to development spending.

[2] Fishing license fee is denominated in the U.S. dollar.

[3] Climate Change and Disaster Management (The World Bank, 2016) estimated that the additional cost of coastal protection and infrastructure adaptation due to rainfall and temperature increases for Kiribati in the low sea level rise scenario at about 12 percent of GDP annually by 2040. It is assumed that half of the cost is financed by the budget while the other half by development partners.

RESULTS

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

- Kiribati's current debt portfolio constitutes external debt only since all domestic debt was cleared in 2015, therefore the baseline and alternative scenarios do not assume any domestic debt in the short, medium and long terms.

- Sensitivity analyses of Kiribati's external debt exhibits higher relative risk. With the current set of assumptions, the baseline results show that the PV of external debt-to-GDP ratio breaches the indicative threshold (30 percent) by 2023; while the PV of external-debt-to-exports ratio breaches the threshold (100 percent) by 2025. The expected trend is mainly due to dependence on external financing for development investment.4

- Under the extreme test scenario, the PV of debt-to-GDP and PV of debt-to-export ratios breach their thresholds by 2022 and 2025, 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. While historical fiscal surpluses were driven by robust fishing license fees, the tapering of the windfall revenue pose some risks unless strong fiscal commitment is shown by the authorities. Under the baseline scenario, the PV of total public debt to GDP is projected to breach its indicative threshold (38 percent of GDP) by 2025.5

- 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 more than double in the following decade. This is attributed to higher government external borrowing for project financing.

Kiribati: External Debt Balance as of end-2016

Creditor	Balance
Asian Development Bank	AUD 29,740,905
International Cooperation and Development Fund, Taiwan Province of China	AUD 20,227,983

Source: Kiribati Ministry of Finance, 2017 Budget.

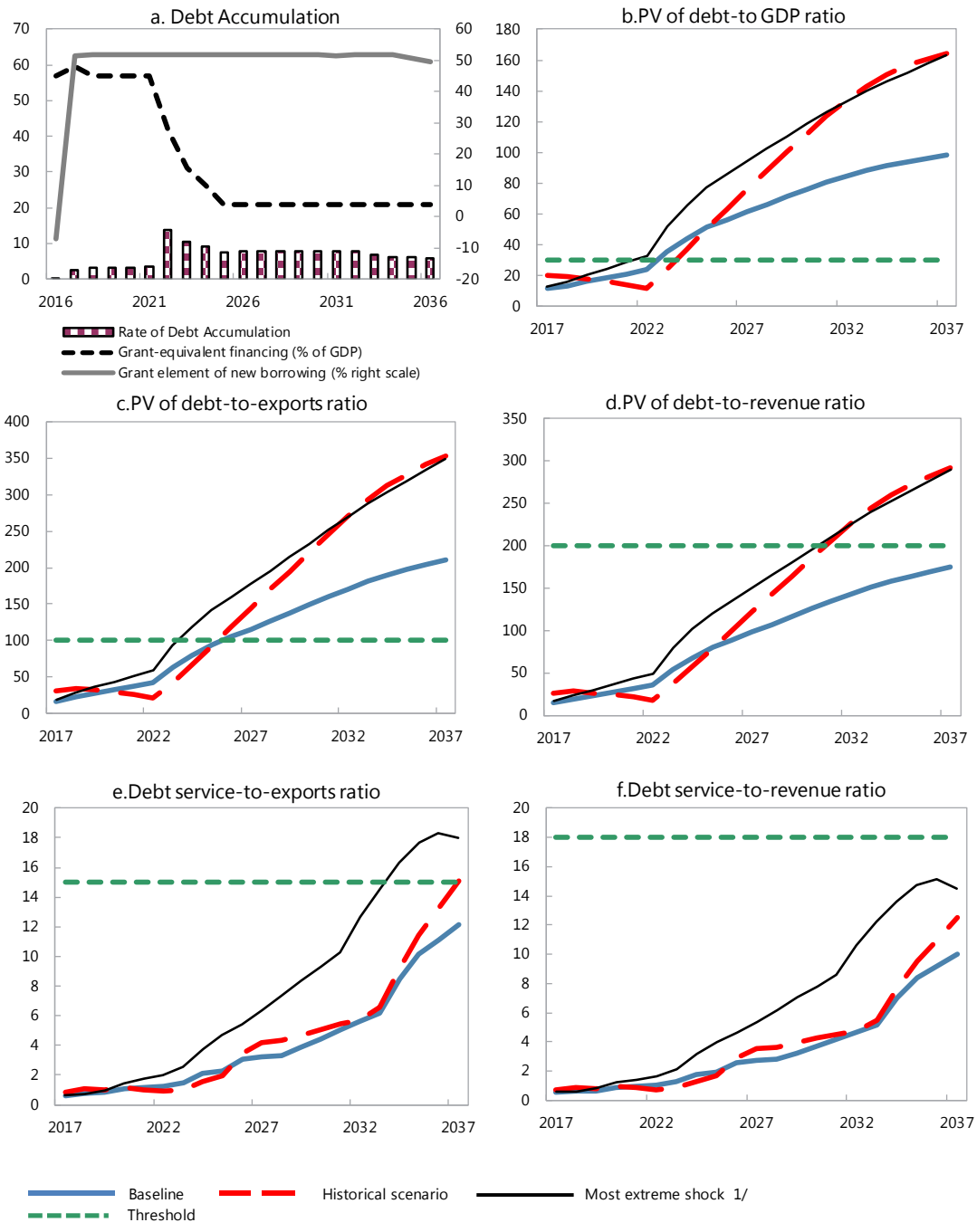
[4] The large residual in the external DSA table for the outer years reflects the projected sharp decline in development expenditure financed by grants. The gap between grants and capital and financial transfers reflects the historical data (registered BOP net transfers to the government is about 64 percent of pledged grants).

[5] The large residual in the public sector DSA table reflects the volatility of fishing revenue (and RERF withdraw/deposit). Although the fiscal position has registered large surplus in recent years thanks to strong revenue, the surplus was largely saved in the RERF rather than used to repay government debt.

CONCLUSION

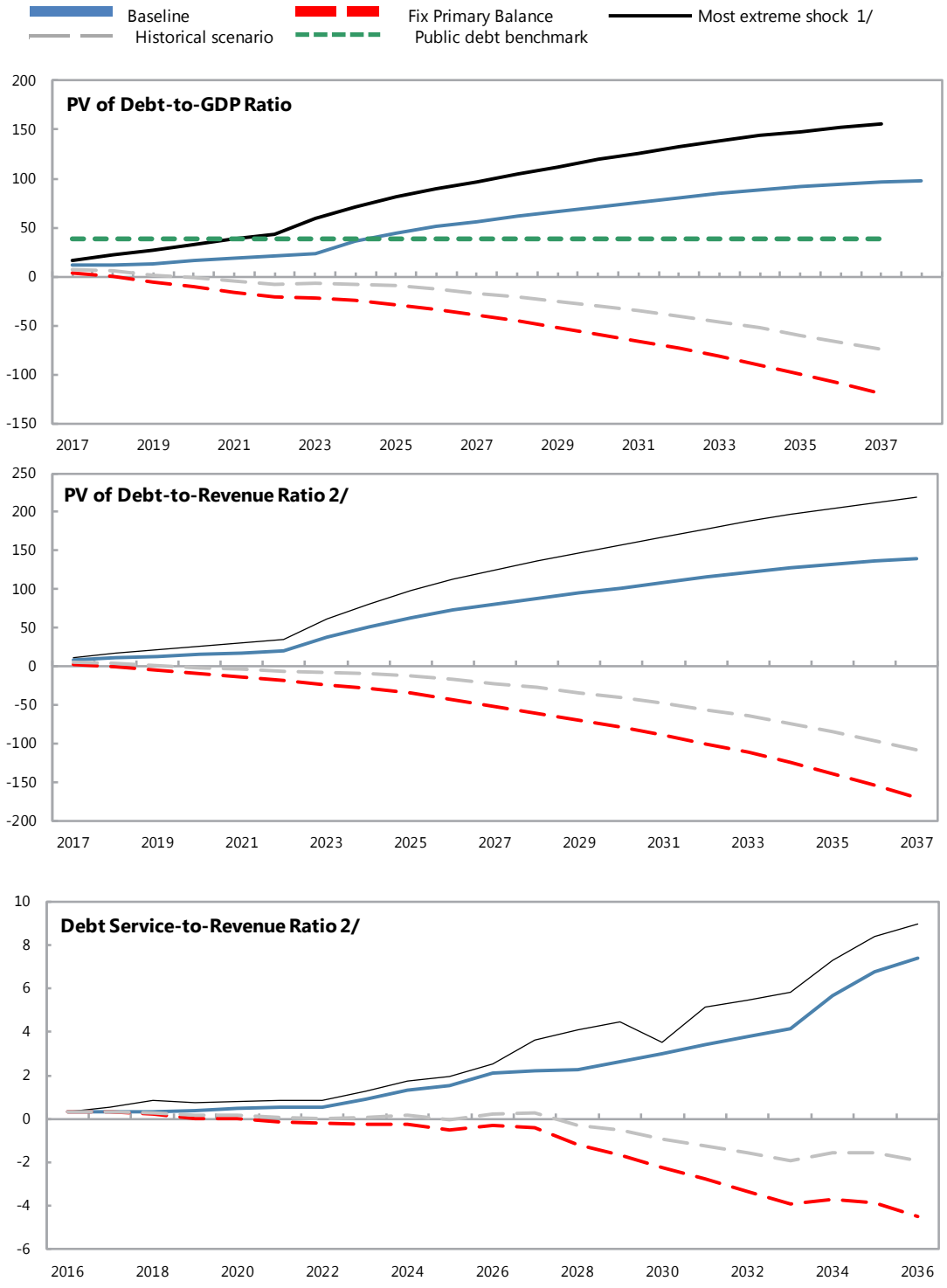
5. The risk of debt distress remains high. The DSA results suggest that Kiribati continues to face limited scope for external borrowing. Sound fiscal buffers, a refined RERF withdrawal mechanism to fund expenditure shortfalls, and continuing with economic/structural reforms can aid with fiscal consolidation and further lowering the debt distress rating. 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 in project proposals and management. Continued support from development partners to finance development spending is essential to address the country's large infrastructure gap while safeguarding long run debt sustainability.

Figure 1. Kiribati: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2017–2037 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 2027. 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 Terms shock and in figure f. to a Terms shock.

Figure 2. Kiribati: Indicators of Public Debt under Alternative Scenarios, 2017–2037 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 2027.

2/ Revenues are defined inclusive of grants.

Table 1. Kiribati: Public Sector Debt Sustainability Framework, Baseline Scenario, 2014–2037

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate			Projections						
	2014	2015	2016	Average 5/	Standard Deviation 5/	2017	2018	2019	2020	2021	2022	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	17.9	23.8	25.0			23.0	27.1	32.0	36.9	41.7	46.2		116.4	170.6	
of which: foreign-currency denominated	13.4	21.4	25.0			23.0	27.1	32.0	36.9	41.7	46.2		116.4	170.6	
Change in public sector debt	3.7	5.9	1.2			-2.0	4.1	4.9	4.9	4.7	4.5		8.1	2.9	
Identified debt-creating flows	-23.6	-43.1	-6.2			7.1	6.4	9.8	9.0	8.7	8.5		12.5	16.7	
Primary deficit	-25.0	-43.2	-4.5	-1.0	20.2	8.8	6.9	10.4	9.5	9.4	9.3	9.0	15.8	21.8	18.3
Revenue and grants	142.7	155.8	116.4			136.0	126.1	122.2	121.3	120.9	120.5		76.6	70.3	
of which: grants	53.3	45.4	32.7			56.9	56.9	53.9	53.9	53.9	53.9		14.0	14.0	
Primary (noninterest) expenditure	117.7	112.6	111.9			144.7	133.0	132.6	130.8	130.2	129.8		92.5	92.1	
Automatic debt dynamics	1.4	0.2	-1.7			-1.6	-0.5	-0.6	-0.5	-0.6	-0.8		-3.3	-5.1	
Contribution from interest rate/growth differential	0.5	-1.4	-0.4			-0.8	-0.5	-0.7	-0.7	-0.7	-0.9		-2.7	-4.1	
of which: contribution from average real interest rate	0.6	0.3	-0.1			0.0	0.0	-0.1	0.0	0.0	-0.1		-0.8	-1.5	
of which: contribution from real GDP growth	-0.1	-1.7	-0.3			-0.8	-0.5	-0.6	-0.7	-0.7	-0.8		-1.9	-2.6	
Contribution from real exchange rate depreciation	0.9	1.5	-1.3			-0.8	0.1	0.0	0.2	0.1	0.1		...	...	
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 (RERF)	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	27.3	49.0	7.4			-9.2	-2.3	-4.9	-4.1	-4.0	-4.0		-4.3	-13.8	
Other Sustainability Indicators															
PV of public sector debt	9.7	12.2	12.2			11.4	13.5	16.1	18.6	21.1	23.6		61.4	98.1	
of which: foreign-currency denominated	5.2	9.8	12.2			11.4	13.5	16.1	18.6	21.1	23.6		61.4	98.1	
of which: external	5.2	9.8	12.2			11.4	13.5	16.1	18.6	21.1	23.6		61.4	98.1	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	-24.5	-42.6	-4.1			9.2	7.3	10.9	10.1	10.0	10.0		17.5	27.4	
PV of public sector debt-to-revenue and grants ratio (in percent)	6.8	7.8	10.5			8.4	10.7	13.1	15.3	17.5	19.6		80.0	139.6	
PV of public sector debt-to-revenue ratio (in percent)	10.8	11.0	14.6			14.4	19.5	23.5	27.5	31.5	35.4		97.9	174.4	
of which: external 3/	5.8	8.9	14.6			14.4	19.5	23.5	27.5	31.5	35.4		97.9	174.4	
Debt service-to-revenue and grants ratio (in percent) 4/	0.3	0.4	0.4			0.3	0.3	0.4	0.5	0.5	0.6		2.2	8.0	
Debt service-to-revenue ratio (in percent) 4/	0.6	0.6	0.5			0.5	0.6	0.7	0.9	1.0	1.0		2.7	10.0	
Primary deficit that stabilizes the debt-to-GDP ratio	-28.7	-49.2	-5.7			10.8	2.7	5.5	4.6	4.6	4.8		7.7	18.9	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	0.9	10.3	1.1	2.3	3.8	3.1	2.3	2.4	2.3	1.9	1.9	2.3	1.8	1.6	1.7
Average nominal interest rate on forex debt (in percent)	0.0	2.7	2.1	1.2	0.7	1.8	1.9	1.7	1.9	1.8	1.6	1.8	1.1	1.0	1.1
Average real interest rate on domestic debt (in percent)	9.5	4.9	...	7.4	4.1	...	...	...	...	...	...	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	9.2	12.5	-6.3	0.3	15.0	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.5	2.9	7.3	3.2	2.9	1.6	1.5	1.8	1.8	1.6	1.7	1.7	2.5	2.5	2.5
Growth of real primary spending (deflated by GDP deflator, in percent)	39.2	5.5	0.6	6.3	13.2	33.3	-6.0	2.1	1.0	1.4	1.6	5.6	1.7	1.5	-0.5
Grant element of new external borrowing (in percent)	...	41.9	41.2	...	...	-7.2	51.6	51.6	51.7	51.7	51.6	41.8	51.6	49.6	...

Sources: Country authorities; and staff estimates and projections.

1/ Gross debt of general government

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 2. Kiribati: Sensitivity Analysis for Key Indicators of Public Debt, 2017–2037

	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	11	13	16	19	21	24	61	98
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	8	5	2	-1	-5	-8	-17	-75
A2. Primary balance is unchanged from 2017	4	0	-6	-11	-16	-21	-40	-120
A3. Permanently lower GDP growth 1/	13	16	20	24	29	34	92	191
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	17	22	27	33	38	44	97	156
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	30	32	34	37	39	42	79	99
B3. Combination of B1-B2 using one half standard deviation shocks	19	23	26	30	34	38	83	129
B4. One-time 30 percent real depreciation in 2018	14	15	17	18	20	21	45	73
B5. 10 percent of GDP increase in other debt-creating flows in 2018	17	19	21	24	26	29	66	90
PV of Debt-to-Revenue Ratio 2/								
Baseline	8	11	13	15	17	20	80	140
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	6	4	2	-1	-4	-7	-22	-108
A2. Primary balance is unchanged from 2017	3	0	-5	-9	-13	-18	-52	-170
A3. Permanently lower GDP growth 1/	9	12	16	20	23	27	117	261
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	12	17	22	26	31	35	125	218
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	22	25	28	30	33	35	103	141
B3. Combination of B1-B2 using one half standard deviation shocks	14	18	21	25	28	31	107	182
B4. One-time 30 percent real depreciation in 2018	11	12	14	15	16	18	59	104
B5. 10 percent of GDP increase in other debt-creating flows in 2018	12	15	17	20	22	24	87	127
Debt Service-to-Revenue Ratio 2/								
Baseline	0	0	0	1	1	1	2	8
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	0	0	0	0	0	0	0	-2
A2. Primary balance is unchanged from 2017	0	0	0	0	0	0	0	-5
A3. Permanently lower GDP growth 1/	0	0	0	1	1	1	3	13
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	0	0	1	1	1	1	3	12
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	1	1	1	1	1	1	4	10
B3. Combination of B1-B2 using one half standard deviation shocks	0	1	1	1	1	1	3	10
B4. One-time 30 percent real depreciation in 2018	0	0	1	1	1	1	3	12
B5. 10 percent of GDP increase in other debt-creating flows in 2018	0	0	0	1	1	1	3	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.

Table 3. Kiribati: External Debt Framework, Baseline Scenario, 2014–2037

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average [6/]	Standard Deviation [6/]	Projections									
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2017-2022 Average	2027	2037	2027-2037 Average
External debt (nominal) 1/	**13.4**	**21.4**	**25.0**			**23.0**	**27.1**	**32.0**	**36.9**	**41.7**	**46.2**		**116.4**	**170.6**	
of which: public and publicly guaranteed (PPG)	13.4	21.4	25.0			23.0	27.1	32.0	36.9	41.7	46.2		116.4	170.6	
Change in external debt	3.8	8.1	3.5			-2.0	4.1	4.9	4.9	4.7	4.5		8.1	2.9	
Identified net debt-creating flows	-52.6	-47.6	-18.6			-13.7	-3.9	-1.9	-1.8	-0.5	0.0		-25.4	-18.1	
Non-interest current account deficit	**-53.7**	**-47.0**	**-19.8**	**-8.4**	**24.3**	**-14.5**	**-4.8**	**-2.8**	**-2.8**	**-1.6**	**-1.3**		**-25.9**	**-18.1**	-21.2
Deficit in balance of goods and services	20.0	5.8	25.9			29.2	39.1	40.1	41.1	42.3	43.4		0.5	6.9	
Exports	85.4	97.6	69.8			66.2	57.0	56.3	55.6	55.3	54.8		52.9	46.6	
Imports	105.4	103.4	95.6			95.4	96.0	96.4	96.7	97.5	98.2		53.5	53.5	
Net current transfers (negative = inflow)	-54.2	-32.9	-25.5	-25.4	11.1	-22.5	-22.3	-21.0	-20.8	-20.6	-20.4		-7.2	-7.2	-7.8
of which: official	-48.4	-30.7	-22.8			-20.1	-20.1	-19.0	-19.0	-19.0	-19.0		-4.9	-4.9	
Other current account flows (negative = net inflow)	-19.4	-19.9	-20.2			-21.2	-21.6	-21.9	-23.1	-23.3	-24.2		-19.2	-17.8	
Net FDI (negative = inflow)	**0.6**	**0.5**	**1.1**	**0.1**	**2.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.3**		**1.2**	**1.0**	1.1
Endogenous debt dynamics 2/	**0.5**	**-1.1**	**0.2**			**-0.3**	**-0.1**	**-0.2**	**-0.1**	**0.0**	**-0.1**		**-0.7**	**-1.0**	
Contribution from nominal interest rate	0.0	0.4	0.4			0.4	0.4	0.4	0.6	0.6	0.7		1.2	1.6	
Contribution from real GDP growth	-0.1	-1.5	-0.2			-0.7	-0.5	-0.6	-0.7	-0.7	-0.8		-1.9	-2.5	
Contribution from price and exchange rate changes	0.6	...	...			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**56.3**	**55.7**	**22.1**			**11.7**	**8.0**	**6.8**	**6.7**	**5.3**	**4.6**		**33.5**	**21.0**	
of which: exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	5.2	9.8	12.2			11.4	13.5	16.1	18.6	21.1	23.6		61.4	98.1	
In percent of exports	6.1	10.1	17.5			17.2	23.7	28.5	33.4	38.2	43.0		115.9	210.8	
PV of PPG external debt	**5.2**	**9.8**	**12.2**			**11.4**	**13.5**	**16.1**	**18.6**	**21.1**	**23.6**		**61.4**	**98.1**	
In percent of exports	**6.1**	**10.1**	**17.5**			**17.2**	**23.7**	**28.5**	**33.4**	**38.2**	**43.0**		**115.9**	**210.8**	
In percent of government revenues	**5.8**	**8.9**	**14.6**			**14.4**	**19.5**	**23.5**	**27.5**	**31.5**	**35.4**		**97.9**	**174.4**	
Debt service-to-exports ratio (in percent)	**0.0**	**0.4**	**0.6**			**0.6**	**0.7**	**0.8**	**1.1**	**1.2**	**1.2**		**3.2**	**12.1**	
PPG debt service-to-exports ratio (in percent)	**0.0**	**0.4**	**0.6**			**0.6**	**0.7**	**0.8**	**1.1**	**1.2**	**1.2**		**3.2**	**12.1**	
PPG debt service-to-revenue ratio (in percent)	**0.0**	**0.3**	**0.5**			**0.5**	**0.6**	**0.7**	**0.9**	**1.0**	**1.0**		**2.7**	**10.0**	
Total gross financing need (Millions of U.S. dollars)	-95.0	-78.3	-33.4			-25.3	-6.8	-2.8	-2.4	0.3	1.7		-66.8	-50.2	
Non-interest current account deficit that stabilizes debt ratio	-57.4	-55.1	-23.4			-12.5	-9.0	-7.7	-7.7	-6.3	-5.8		-34.0	-21.0	

Table 3. Kiribati: External Debt Framework, Baseline Scenario, 2014–2037 (concluded)

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average [6/]	Standard Deviation [6/]	Projections									
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2017-2022 Average		2037	2027-2037 Average
Key macroeconomic assumptions															
Real GDP growth (in percent)	0.9	10.3	1.1	2.3	3.8	3.1	2.3	2.4	2.3	1.9	1.9	2.3	1.8	1.6	1.7
GDP deflator in US dollar terms (change in percent)	-5.4	-14.2	6.0	3.6	11.5	3.7	1.9	2.1	1.4	1.3	1.7	2.0	2.5	2.5	2.5
Effective interest rate (percent) 5/	0.0	2.7	2.1	1.2	0.7	1.8	1.9	1.7	1.9	1.8	1.6	1.8	1.1	1.0	1.1
Growth of exports of G&S (US dollar terms, in percent)	41.3	8.2	-23.4	17.1	20.6	1.5	-10.3	3.2	2.6	2.5	2.9	0.4	2.9	2.9	3.1
Growth of imports of G&S (US dollar terms, in percent)	8.1	-7.2	-0.9	6.3	10.6	6.7	4.8	4.9	4.1	4.0	4.4	4.8	4.3	4.1	0.4
Grant element of new public sector borrowing (in percent)	...	41.9	41.2	...	...	-7.2	51.6	51.6	51.7	51.7	51.6	41.8	51.6	49.6	51.4
Government revenues (excluding grants, in percent of GDP)	89.4	110.4	83.7			79.1	69.2	68.3	67.4	67.0	66.6		62.6	56.3	60.7
Aid flows (in Millions of US dollars) 7/	95.5	90.0	69.3			110.5	125.2	126.7	131.4	135.6	140.5		79.0	118.9	
of which: Grants	95.5	76.9	59.4			110.5	115.1	114.0	118.3	122.0	126.5		40.7	61.3	
of which: Concessional loans	0.0	13.1	9.8			0.0	10.1	12.7	13.1	13.6	14.1		38.3	57.7	
Grant-equivalent financing (in percent of GDP) 8/	...	48.6	34.9			56.9	59.4	57.0	57.0	57.0	57.0		20.8	20.8	23.2
Grant-equivalent financing (in percent of external financing) 8/	...	91.5	91.6			100.0	96.1	95.2	95.2	95.2	95.2		76.5	75.1	76.4
Memorandum items:															
Nominal GDP (Millions of US dollars)	179.1	169.4	181.7			194.3	202.5	211.6	219.5	226.5	234.8		290.5	437.7	
Nominal dollar GDP growth	-4.6	-5.4	7.2			6.9	4.2	4.5	3.7	3.2	3.7	5.0	4.3	4.1	4.2
PV of PPG external debt (in Millions of US dollars)	8.5	16.0	21.9			22.2	27.4	33.9	40.6	47.8	55.4		178.3	429.5	
(PVt-PVt-1)/GDPt-1 (in percent)		4.2	3.5			0.2	2.7	3.2	3.2	3.3	3.4	2.7	7.7	5.9	8.0
Gross workers' remittances (Millions of US dollars)	12.0	11.7	11.8			12.4	13.2	14.1	14.9	15.7	16.2		20.5	30.9	
PV of PPG external debt (in percent of GDP + remittances)	4.9	9.2	11.5			10.7	12.7	15.1	17.4	19.7	22.1		57.3	91.7	
PV of PPG external debt (in percent of exports + remittances)	5.7	9.4	16.0			15.7	21.3	25.5	29.8	33.9	38.2		102.3	183.0	
Debt service of PPG external debt (in percent of exports + remittances)	0.0	0.3	0.5			0.6	0.7	0.7	1.0	1.0	1.1		2.8	10.5	

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 4. Kiribati: Sensitivity Analysis for Key Indicators of Public Debt, 2017–2037

(In percent)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
PV of debt-to GDP ratio								
Baseline	11	13	16	19	21	24	**61**	98
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	20	19	18	16	14	12	**76**	164
A2. New public sector loans on less favorable terms in 2017-2037 2/	13	16	20	24	29	33	**94**	163
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	12	15	17	20	23	25	**66**	105
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	-2	0	2	5	7	10	**49**	93
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	15	18	21	24	27	31	**80**	127
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	24	26	28	31	33	36	**72**	103
B5. Combination of B1-B4 using one-half standard deviation shocks	-14	-11	-8	-5	-2	0	**48**	106
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	16	19	22	26	29	33	**86**	137
PV of debt-to-exports ratio								
Baseline	17	24	29	33	38	43	**116**	211
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	30	34	32	30	26	21	**144**	353
A2. New public sector loans on less favorable terms in 2017-2037 2/	19	28	36	44	52	60	**177**	349
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	17	24	28	33	38	43	**116**	211
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	-3	0	4	8	11	15	**81**	175
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	17	24	28	33	38	43	**116**	211
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	36	45	50	55	60	66	**137**	221
B5. Combination of B1-B4 using one-half standard deviation shocks	-12	-12	-8	-6	-3	0	**53**	134
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	17	24	28	33	38	43	**116**	211
PV of debt-to-revenue ratio								
Baseline	14	19	24	28	31	35	**98**	174
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	25	28	26	24	21	18	**122**	292
A2. New public sector loans on less favorable terms in 2017-2037 2/	16	23	30	36	43	49	**150**	289
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	16	21	25	29	34	38	**105**	187
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	-3	0	3	7	11	14	**78**	165
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	19	25	30	36	41	46	**127**	226
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	30	37	41	46	50	54	**116**	183
B5. Combination of B1-B4 using one-half standard deviation shocks	-17	-16	-12	-8	-4	1	**77**	189
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	20	27	33	38	44	49	**137**	243

Table 4. Kiribati: Sensitivity Analysis for Key Indicators of Public Debt, 2017–2037 (concluded)

(In percent)

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
Debt service-to-exports ratio								
Baseline	1	1	1	1	1	1	**3**	12
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	1	1	1	1	1	1	**4**	15
A2. New public sector loans on less favorable terms in 2017-2037 2/	1	1	1	1	2	2	**6**	18
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	1	1	1	1	1	1	**3**	12
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	0	0	0	1	1	1	**1**	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	1	1	1	1	1	1	**3**	12
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	1	1	1	2	2	2	**5**	14
B5. Combination of B1-B4 using one-half standard deviation shocks	0	0	0	0	0	0	**0**	7
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	1	1	1	1	1	1	**3**	12
Debt service-to-revenue ratio								
Baseline	1	1	1	1	1	1	**3**	10
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	1	1	1	1	1	1	**4**	12
A2. New public sector loans on less favorable terms in 2017-2037 2/	1	1	1	1	1	2	**5**	14
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	1	1	1	1	1	1	**3**	11
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	0	0	0	0	1	1	**1**	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	1	1	1	1	1	1	**4**	13
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	1	1	1	1	1	1	**4**	11
B5. Combination of B1-B4 using one-half standard deviation shocks	0	0	0	0	0	0	**0**	9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	1	1	1	1	1	1	**4**	14
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	41	39	38	36	34	32	**24**	12

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.