KIRIBATI

STAFF REPORT FOR THE 2015 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS[1]

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Approved By	Prepared by the Staff of the International Monetary Fund and the World Bank
Hoe Ee Khor and Peter Allum (IMF) and Satu Kahkonen and Mark Thomas, (IDA)	

The Debt Sustainability Analysis (DSA) indicates that Kiribati remains at high risk of debt distress. Despite the improvement in the fiscal position in recent years from the high fishing license fees, containing the risk of debt distress requires continuation of grants to support the country's large development needs, and implementation of fiscal and further structural reforms to promote fiscal sustainability and growth.

BACKGROUND

Kiribati is one of the most remote and geographically dispersed small states in the world. It is comprised of 33 islands spread over 3.5 million square kilometers of ocean, with a population of about 100,000. Kiribati has a limited export base and is largely dependent on fishing license fees and donor support. The export and production bases are narrow and limited to fishing, copra, and tourism. The revenue base is driven by volatile fishing license fees. Kiribati's sovereign wealth fund, the Revenue Equalization Reserve Fund (RERF), is a stabilization and saving fund that was established in 1956 from phosphate mining proceeds before phosphate deposits were exhausted in 1979. The RERF has been used to ensure intergenerational equity and smooth expenditures from the highly volatile non-tax revenues.

Climate change raises additional significant challenges. The costs of mitigating the effects of climate change, including drought, loss of potable ground water, and rising sea levels, while

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[1] The DSA has been produced in consultation with the Asian Development Bank (AsDB).

uncertain, are estimated to be equivalent to around 3½ percent of GDP per year (see Box 2 in 2015 Article IV consultation staff report). Some of these costs will be covered in the recurrent budget from Kiribati's own resources (without the need for additional borrowing). But capital projects for climate-change adaptation would require additional support from donors. Given these constraints, the country would continue to rely heavily on external support.

THE BASELINE SCENARIO

The baseline scenario assumes continued implementation of government reform plans and projections for fishing license fees based on historical averages. The government has made welcome progress in debt management, with adoption of a formal approval process for government's external borrowing and issuance of loan guarantees, the clearance of costly overdraft debt and the elimination of non-concessional borrowing.

The following are the key macroeconomic assumptions under the baseline scenario:

- **GDP growth and inflation are in line with historical averages.** The economy is expected to grow at about 3.1 percent in 2015 and moderate to an average of 1.8 percent a year in the medium term through 2020, reflecting declining donor-financing as infrastructure projects are completed. In the longer term, growth is assumed to average 1.7 percent, with per capita GDP growth higher than the historical average, but still very low reflecting current impediments to growth and the potential impact of climate change. Inflation is projected to return to an average of about 2 percent per year in the longer term after a spell of lower increases driven by food price and exchange rate dynamics.

- **Fishing license fees decline slightly in the long run**. In the past three years, record fishing license fees have boosted government revenues and the current account balance, peaking at 68 percent of GDP in 2014. Fishing license fees are projected to decline from their peak to the level consistent with the average fish price and catch volumes, but still higher that the historical average, reflecting a stricter implementation of the regional fishing agreement ('Nauru agreement'). They are expected to remain at this level in real terms.

- **Fiscal balance**. The overall fiscal balance improved in recent years, moving to a surplus in 2013–14, reflecting higher fishing license fees. The balance is projected to return to a small deficit of about one percent in 2015, and widen in the medium and longer term:

- **Recurrent deficit: financed by sustainable drawdowns from the RERF.** Recurrent expenditure growth is assumed at 1½ percent per year until 2020, increasing to an average growth of around 3½ percent per year in the long-term. Thus, they initially fall as a percent of GDP before stabilizing in the long-term. The initial fall allows for an accumulation of RERF balances, which later translates to higher returns and drawdowns, while maintaining the real per capita value of the fund. The drawdowns allows for stabilizing the level of recurrent expenditures (as a share of GDP) despite a gradual fall in the revenue share (fishing license fees remain constant in real terms, but decline as percent of GDP; tax revenues are projected to initially increase on the back of gains from the tax reform, but then stabilize as a share of GDP; budget support grants are expected to stop in 2017). Climate-change-related recurrent spending and new infrastructure

maintenance costs—together equivalent to around 4 percent of GDP—are included in the expenditure envelope.

- **Development expenditures: financed partly by loans.** High development expenditures, estimated at about 47 percent of GDP in 2015, are expected to decline to around 23 percent of GDP in 2020 in line with donors' commitments, reflecting a completion of infrastructure projects currently underway. They are projected to return to a historical average of about 30 percent of GDP in the long-term, reflecting the cost of climate-change adaptation projects. Development expenditures are assumed to be financed by a combination of loans and grants, with an increasing share of loans after 2020 compared to the medium term.

- **Current account**. After surpluses in 2013-14 driven by record fishing license fees, the current account is expected to return to a deficit in 2015 as fishing license fees moderate. In the medium and longer term the current account deficit is expected to widen, reflecting imports related to capital projects and financed by capital grants and loans as discussed above.

RESULTS

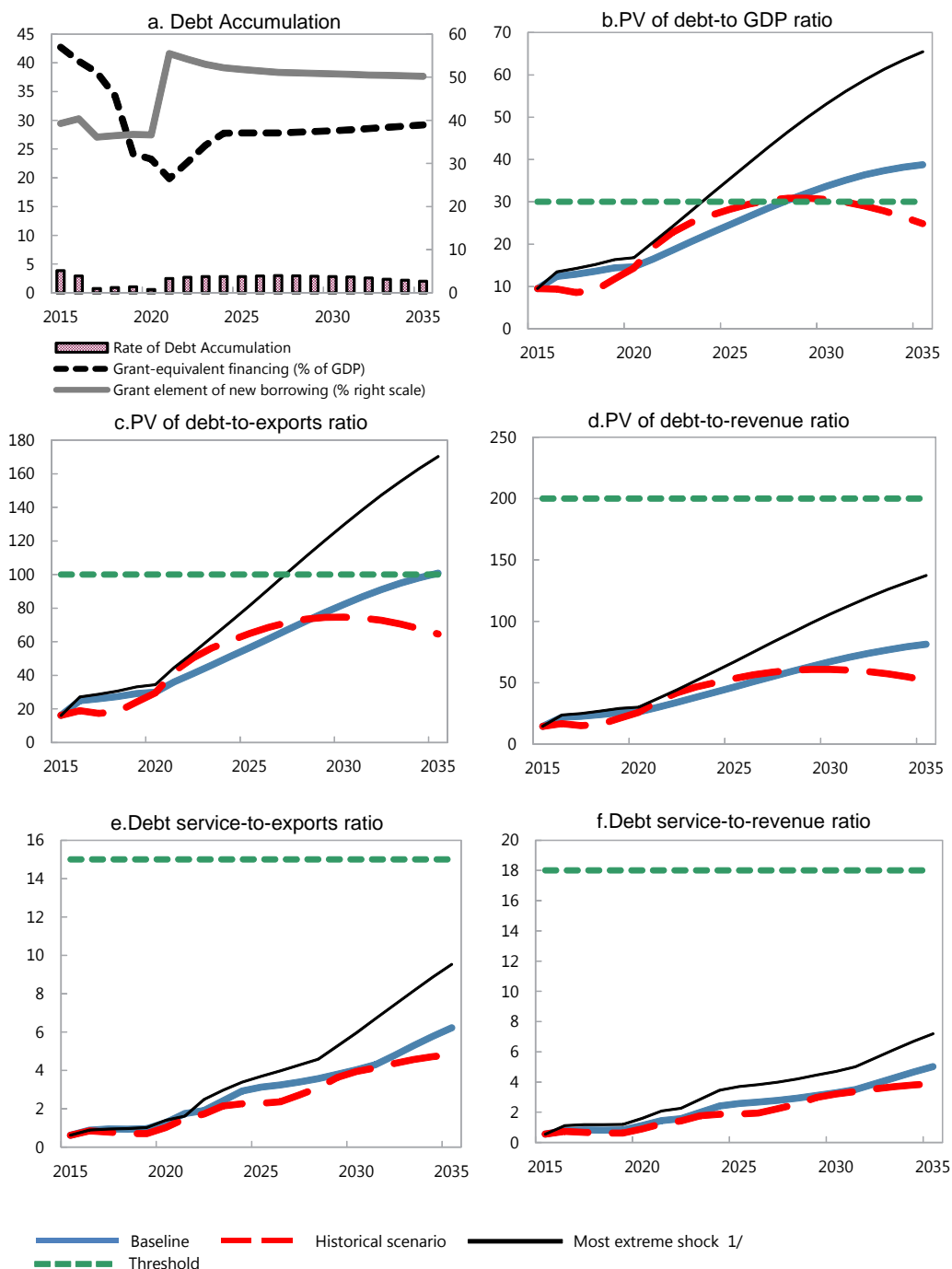**The results indicate that Kiribati is at high risk of debt distress.**

- **The risk is the most evident for the sustainability of external debt.** The present value (PV) of external debt increases significantly due to loan disbursements. The PV of the debt-to-GDP ratio threshold (30 percent) is projected to increase from about 10 percent of GDP in 2015 and breach the threshold around 2028 for the remaining of the projection period. The long run increase in the external nominal debt is largely driven by continued high imports as a percent of GDP, which reflect the large dependence on imports—including imports needed to mitigate climate-change-related risks—as well as a low growth potential due to Kiribati's physical constraints and remoteness. In the baseline scenario, the PV of the debt-to-exports ratio also breaches the threshold around 2035.

- **Stress tests indicate that the external debt path is vulnerable to shocks to financing terms and to exports.** The PV of debt-to-export ratio and the PV of debt-to-GDP ratio thresholds are breached under the extreme stress test scenario.

- **Public debt is also close to breach indicative risk thresholds**. Under the baseline scenario, the PV of total public debt is projected to increase from about 14 percent of GDP in 2015 and breaches the threshold by 2032, driven mainly by external borrowings. Large residuals for 2013-14 reflect the increase in assets related to high surpluses from windfall fishing revenues (cash and the purchase of land in Fiji).

- **Public debt sustainability is vulnerable to shocks.** Under the most extreme stress test scenario the PV of debt-to-GDP breaches the threshold by 2022 and exceeds 65 percent by 2033. The scenario where the primary balance is fixed at the 2015 level is not representative, as the positive fiscal balances in 2014–15 were mainly driven by record fishing license fees. The baseline projects an overall fiscal deficit from 2016 to 2035.

CONCLUSION

The debt sustainability analysis indicates that Kiribati's scope for external borrowing, even on concessional terms, remains limited. The risk of high debt distress remains despite the availability of RERF resources, which should be treated like an endowment fund to ensure sustainable financing for recurrent expenditures in light of limited growth prospects (and also provide a cushion in case of lower revenues from fishing license fees or higher climate-change-related costs). To limit the risk of debt distress, the authorities should save the record recent windfalls from fishing license fees, maintain conservative fiscal stance, and further implement structural reforms to make SOEs more competitive and limit the cost of SOE subsidies. Development expenditures need to be financed largely from external grants, and even concessional loan financing should be limited. Baseline projections in the staff report assume that these principles are followed and the development budget largely relies on grants, with the exception of already committed loans.

The authorities broadly agree with this assessment. They expressed their commitment to continue avoiding non-concessional external borrowing, pursuing the SOE reform agenda and following a prudent fiscal path.

Figure 1. Kiribati: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2015–35 1/

a. Debt Accumulation

- Rate of Debt Accumulation
- - - Grant-equivalent financing (% of GDP)
- Grant element of new borrowing (% right scale)

b.PV of debt-to GDP ratio

c.PV of debt-to-exports ratio

d.PV of debt-to-revenue ratio

e.Debt service-to-exports ratio

f.Debt service-to-revenue ratio

Baseline — — Historical scenario —— Most extreme shock 1/
- - - Threshold

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 2025. 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 One-time depreciation shock

Figure 2. Kiribati: Indicators of Public Debt Under Alternative Scenarios, 2015–35 1/
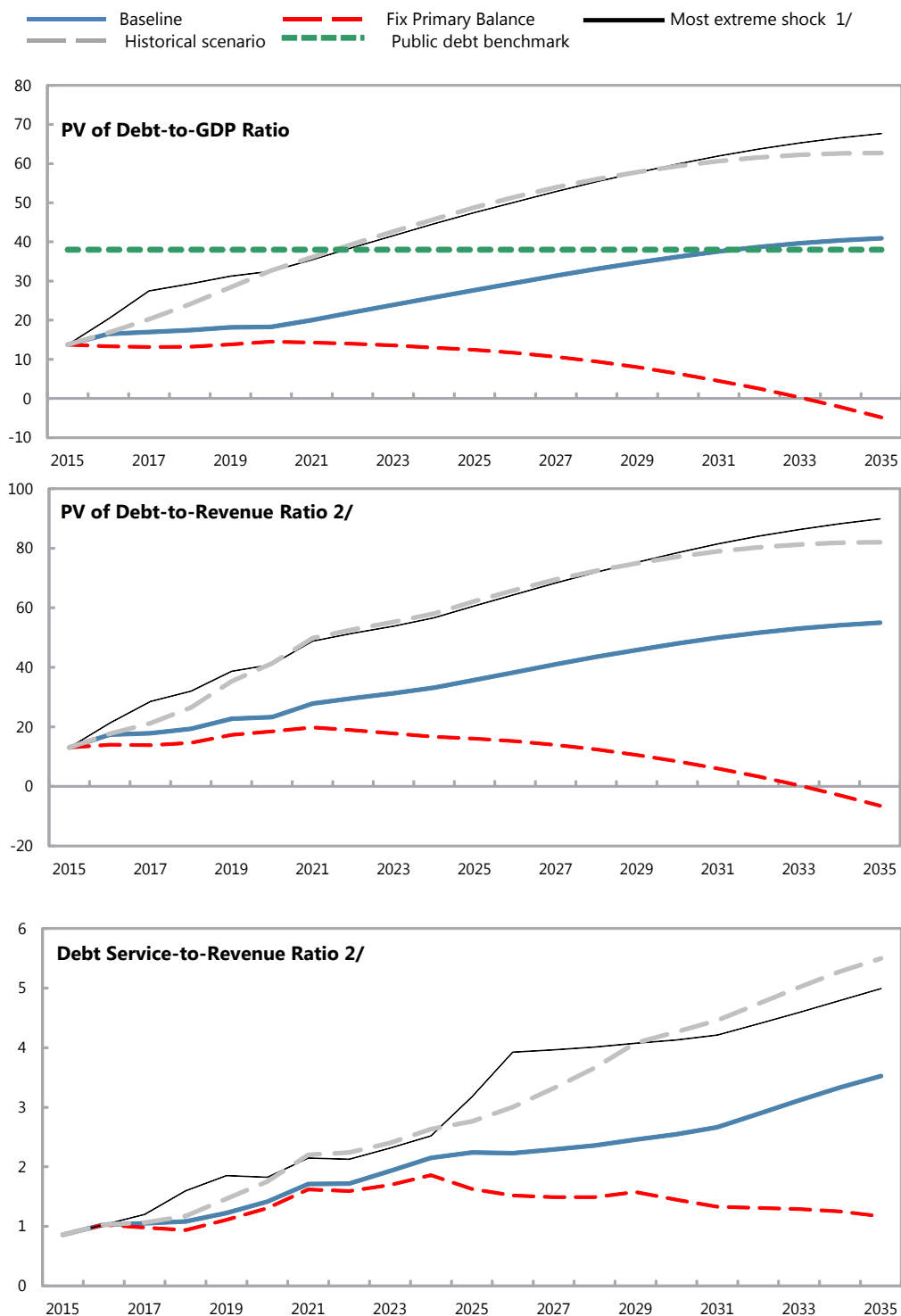
Legend:
- Baseline
- Fix Primary Balance
- Most extreme shock 1/
- Historical scenario
- Public debt benchmark

PV of Debt-to-GDP Ratio

PV of Debt-to-Revenue Ratio 2/

Debt Service-to-Revenue Ratio 2/

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 2025.
2/ Revenues are defined inclusive of grants.

KIRIBATI

Table 1. Kiribati: Public Sector Debt Sustainability Framework, Baseline Scenario, 2012–35
(In percent of GDP, unless otherwise indicated)

	Actual			Average 5/	Standard Deviation 5/	Estimate	Projections					2015-20 Average			2021-35 Average
	2012	2013	2014			2015	2016	2017	2018	2019	2020		2025	2035	
Public sector debt 1/	10.9	13.3	13.1			19.9	24.3	24.6	25.0	25.7	25.6		46.9	70.7	
of which: foreign-currency denominated	7.5	8.5	8.7			15.7	20.2	20.6	21.1	21.9	22.0		43.9	68.6	
Change in public sector debt	-17.1	2.3	-0.2			6.8	4.4	0.3	0.4	0.6	-0.1		4.0	0.9	
Identified debt-creating flows	-3.9	-28.7	-7.7			10.3	6.7	0.3	0.4	0.4	-0.3		3.9	0.8	
Primary deficit	8.0	-10.1	-21.7	7.0	12.9	0.5	6.6	1.5	1.1	0.5	-0.7	1.6	5.2	7.0	5.9
Revenue and grants	84.2	94.4	128.7			105.4	94.9	95.0	90.3	79.9	78.6		77.4	74.3	
of which: grants	33.9	28.8	43.8			39.9	38.3	38.0	33.8	23.7	22.9		24.5	26.7	
Primary (noninterest) expenditure	92.2	84.3	107.0			105.9	101.5	96.5	91.5	80.4	77.8		82.6	81.4	
Automatic debt dynamics	-1.0	1.4	0.4			0.5	0.5	0.3	0.2	0.2	0.2		-0.6	-1.6	
Contribution from interest rate/growth differential	-0.8	0.2	-0.2			0.1	0.1	-0.1	-0.2	-0.1	0.0		-0.6	-1.5	
of which: contribution from average real interest rate	0.1	0.4	0.3			0.5	0.4	0.4	0.3	0.3	0.4		0.1	-0.4	
of which: contribution from real GDP growth	-0.9	-0.3	-0.5			-0.4	-0.4	-0.5	-0.5	-0.4	-0.4		-0.7	-1.2	
Contribution from real exchange rate depreciation	-0.2	1.3	0.6			0.5	0.5	0.4	0.4	0.3	0.2		...	...	
Other identified debt-creating flows	-10.9	-20.1	13.5			9.3	-0.4	-1.5	-1.0	-0.3	0.2		-0.6	-4.6	
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)	-10.9	-20.1	13.5			9.3	-0.4	-1.5	-1.0	-0.3	0.2		-0.6	-4.6	
Residual, including asset changes	-13.3	31.0	7.6			-3.5	-2.3	0.0	0.0	0.3	0.2		0.0	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	9.6			13.8	16.5	17.0	17.5	18.2	18.3		27.7	40.9	
of which: foreign-currency denominated	...	...	5.2			9.5	12.4	12.9	13.6	14.4	14.6		24.6	38.8	
of which: external	...	...	5.2			9.5	12.4	12.9	13.6	14.4	14.6		24.6	38.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	8.8	-9.1	-20.9			1.4	7.6	2.5	2.1	1.5	0.4		6.9	9.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	7.5			13.0	17.4	17.9	19.3	22.7	23.2		35.7	55.0	
PV of public sector debt-to-revenue ratio (in percent)	...	...	11.3			21.0	29.2	29.7	30.9	32.3	32.8		52.3	85.7	
of which: external 3/	...	...	6.1			14.5	21.9	22.7	24.0	25.6	26.3		46.5	81.3	
Debt service-to-revenue and grants ratio (in percent) 4/	0.9	1.0	0.6			0.9	1.0	1.1	1.1	1.2	1.4		2.2	3.5	
Debt service-to-revenue ratio (in percent) 4/	1.6	1.5	0.9			1.4	1.7	1.7	1.7	1.7	2.0		3.3	5.5	
Primary deficit that stabilizes the debt-to-GDP ratio	25.1	-12.4	-21.5			-6.4	2.2	1.2	0.7	-0.2	-0.7		1.2	6.2	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.4	2.4	3.7	1.3	2.3	3.1	1.8	2.1	2.1	1.4	1.5	2.0	1.7	1.7	1.7
Average nominal interest rate on forex debt (in percent)	1.0	0.9	1.0	0.9	0.3	1.6	1.4	1.2	1.2	1.2	1.9	1.4	1.4	1.0	1.3
Average real interest rate on domestic debt (in percent)	0.8	14.0	7.7	7.5	4.3	11.2	12.5	12.2	11.8	11.5	11.1	11.7	10.0	8.7	9.1
Real exchange rate depreciation (in percent, + indicates depreciation)	-2.8	17.4	7.5	-0.1	13.6	5.7	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	0.9	0.7	3.1	2.4	2.7	1.4	0.3	0.8	1.2	1.7	2.1	1.2	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	19.4	-6.4	31.7	4.4	11.6	2.0	-2.4	-2.9	-3.2	-10.9	-1.7	-3.2	1.2	1.6	2.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	39.3	40.3	36.1	36.5	36.7	36.6	37.6	51.8	50.2	...

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.

INTERNATIONAL MONETARY FUND   **7**

Table 2. Kiribati: Sensitivity Analysis for Key Indicators of Public Debt, 2015–35

	2015	2016	2017	2018	2019	2020	2025	2035
				Projections				
PV of Debt-to-GDP Ratio								
Baseline	14	17	17	17	18	18	28	41
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	14	17	20	24	28	33	49	63
A2. Primary balance is unchanged from 2015	14	13	13	13	14	14	12	-5
A3. Permanently lower GDP growth 1/	14	17	18	19	20	21	37	74
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	14	18	21	23	26	27	46	74
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	14	23	34	35	36	36	45	55
B3. Combination of B1-B2 using one half standard deviation shocks	14	20	28	29	31	33	48	68
B4. One-time 30 percent real depreciation in 2016	14	20	20	21	22	22	25	32
B5. 10 percent of GDP increase in other debt-creating flows in 2016	14	22	23	24	25	25	34	56
PV of Debt-to-Revenue Ratio 2/								
Baseline	13	17	18	19	23	23	36	55
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	13	18	21	26	35	41	62	82
A2. Primary balance is unchanged from 2015	13	14	14	15	17	18	16	-7
A3. Permanently lower GDP growth 1/	13	18	18	21	25	26	47	96
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	13	19	21	25	31	34	58	97
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	13	25	36	38	44	46	59	74
B3. Combination of B1-B2 using one half standard deviation shocks	13	21	29	32	39	41	61	90
B4. One-time 30 percent real depreciation in 2016	13	21	21	23	27	28	32	43
B5. 10 percent of GDP increase in other debt-creating flows in 2016	13	23	24	27	31	32	44	75
Debt Service-to-Revenue Ratio 2/								
Baseline	1	1	1	1	1	1	2	4
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	1	1	1	1	1	2	3	5
A2. Primary balance is unchanged from 2015	1	1	1	1	1	1	2	1
A3. Permanently lower GDP growth 1/	1	1	1	1	1	1	3	5
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	1	1	1	1	1	2	3	6
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	1	1	1	2	2	2	3	5
B3. Combination of B1-B2 using one half standard deviation shocks	1	1	1	1	2	2	3	5
B4. One-time 30 percent real depreciation in 2016	1	1	1	1	1	2	3	5
B5. 10 percent of GDP increase in other debt-creating flows in 2016	1	1	1	1	1	1	3	3

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, 2012–35
(In percent of GDP, unless otherwise indicated)

	Actual			Historical [6/] Average	Standard [6/] Deviation	Projections						2015-2020 Average	2025	2035	2021-2035 Average
	2012	2013	2014			2015	2016	2017	2018	2019	2020				
External debt (nominal) 1/	**7.5**	**8.5**	**8.7**			**15.7**	**20.2**	**20.6**	**21.1**	**21.9**	**22.0**		**43.9**	**68.6**	
of which: public and publicly guaranteed (PPG)	7.5	8.5	8.7			15.7	20.2	20.6	21.1	21.9	22.0		43.9	68.6	
Change in external debt	-0.6	1.0	0.2			7.0	4.5	0.4	0.5	0.8	0.0		4.1	0.9	
Identified net debt-creating flows	3.8	-11.9	-14.5			3.3	8.8	5.7	3.6	-0.3	-0.7		4.6	6.5	
Non-interest current account deficit	**1.4**	**-14.3**	**-16.9**	**3.1**	**12.5**	**4.9**	**10.2**	**7.1**	**4.9**	**0.8**	**0.2**		**6.1**	**9.3**	**6.5**
Deficit in balance of goods and services	49.7	29.9	14.8			34.6	41.2	37.7	34.5	28.2	26.8		40.1	45.3	
Exports	44.3	59.3	79.9			58.7	49.5	49.6	49.5	49.3	48.7		43.6	38.4	
Imports	94.1	89.2	94.6			93.4	90.7	87.3	84.1	77.5	75.5		83.7	83.7	
Net current transfers (negative = inflow)	-27.5	-25.4	-17.7	-24.2	3.3	-14.2	-14.8	-14.3	-13.3	-11.1	-10.1		-17.1	-18.4	-16.9
of which: official	-23.9	-20.3	-13.2			-10.3	-11.4	-11.4	-10.9	-9.0	-8.5		-15.2	-16.6	
Other current account flows (negative = net inflow)	-20.8	-18.9	-14.0			-15.5	-16.2	-16.3	-16.3	-16.3	-16.5		-17.0	-17.5	
Net FDI (negative = inflow)	**2.7**	**2.0**	**2.3**	**1.2**	**2.3**	**-1.5**	**-1.4**	**-1.3**	**-1.2**	**-1.1**	**-1.0**		**-1.3**	**-2.4**	**-1.6**
Endogenous debt dynamics 2/	**-0.3**	**0.4**	**0.1**			**-0.2**	**-0.1**	**-0.2**	**-0.2**	**0.0**	**0.1**		**-0.1**	**-0.4**	
Contribution from nominal interest rate	0.1	0.1	0.1			0.1	0.2	0.2	0.2	0.3	0.4		0.5	0.7	
Contribution from real GDP growth	-0.3	-0.2	-0.3			-0.3	-0.3	-0.4	-0.4	-0.3	-0.3		-0.7	-1.1	
Contribution from price and exchange rate changes	-0.1	0.5	0.3			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**-4.4**	**12.9**	**14.7**			**3.7**	**-4.3**	**-5.3**	**-3.0**	**1.1**	**0.8**		**-0.6**	**-5.6**	
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			9.5	12.4	12.9	13.6	14.4	14.6		24.6	38.8	
In percent of exports	...	...	6.5			16.2	25.0	26.0	27.4	29.2	30.0		56.5	100.9	
PV of PPG external debt	**...**	**...**	**5.2**			**9.5**	**12.4**	**12.9**	**13.6**	**14.4**	**14.6**		**24.6**	**38.8**	
In percent of exports	**...**	**...**	**6.5**			**16.2**	**25.0**	**26.0**	**27.4**	**29.2**	**30.0**		**56.5**	**100.9**	
In percent of government revenues	**...**	**...**	**6.1**			**14.5**	**21.9**	**22.7**	**24.0**	**25.6**	**26.3**		**46.5**	**81.3**	
Debt service-to-exports ratio (in percent)	1.0	0.8	0.4			0.6	0.9	1.0	0.9	1.0	1.3		3.1	6.2	
PPG debt service-to-exports ratio (in percent)	**1.0**	**0.8**	**0.4**			**0.6**	**0.9**	**1.0**	**0.9**	**1.0**	**1.3**		**3.1**	**6.2**	
PPG debt service-to-revenue ratio (in percent)	**0.9**	**0.7**	**0.3**			**0.6**	**0.8**	**0.8**	**0.8**	**0.8**	**1.1**		**2.6**	**5.0**	
Total gross financing need (Millions of U.S. dollars)	8.6	-21.4	-25.9			6.3	15.4	10.7	7.3	0.3	-0.3		13.1	29.1	
Non-interest current account deficit that stabilizes debt ratio	2.0	-15.3	-17.1			-2.1	5.7	6.7	4.4	0.0	0.1		2.0	8.4	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.4	2.4	3.7	1.3	2.3	3.1	1.8	2.1	2.1	1.4	1.5	2.0	1.7	1.7	1.7
GDP deflator in US dollar terms (change in percent)	1.2	-5.9	-3.9	4.9	9.9	-11.8	-0.8	-0.3	0.1	0.3	1.2	-1.9	2.0	2.0	2.0
Effective interest rate (percent) 5/	1.0	0.9	1.0	0.9	0.3	1.6	1.4	1.2	1.2	1.2	1.9	1.4	1.4	1.0	1.3
Growth of exports of G&S (US dollar terms, in percent)	47.9	28.8	34.4	17.0	20.0	-33.1	-14.9	2.0	2.1	1.1	1.4	-6.9	2.5	2.4	2.1
Growth of imports of G&S (US dollar terms, in percent)	12.8	-8.6	5.8	7.6	17.0	-10.3	-1.9	-2.0	-1.6	-6.3	0.0	-3.7	3.7	3.7	4.4
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	39.3	40.3	36.1	36.5	36.7	36.6	37.6	51.8	50.2	51.6
Government revenues (excluding grants, in percent of GDP)	50.3	65.6	84.9			65.5	56.6	57.0	56.5	56.2	55.6		52.9	47.7	51.3
Aid flows (in Millions of US dollars) 7/	63.7	52.2	79.2			77.3	71.5	65.7	60.4	43.9	42.8		66.4	98.6	
of which: Grants	63.7	52.2	79.2			65.6	63.6	64.1	58.4	41.5	41.3		52.8	82.9	
of which: Concessional loans	0.0	0.0	0.0			11.7	8.0	1.6	2.0	2.4	1.5		13.6	15.7	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			42.7	40.3	38.3	34.3	24.2	23.2		27.8	29.2	27.2
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			90.8	93.3	98.4	97.9	96.5	97.8		90.1	92.0	90.5
Memorandum items:															
Nominal GDP (Millions of US dollars)	187.9	181.1	180.6			164.2	165.9	168.7	172.5	175.5	180.1		215.5	310.9	
Nominal dollar GDP growth	4.7	-3.6	-0.3			-9.1	1.0	1.7	2.2	1.7	2.7	0.0	3.7	3.7	3.7
PV of PPG external debt (in Millions of US dollars)			8.5			15.6	20.4	21.7	23.3	25.1	26.2		53.1	120.6	
(PVt-PVt-1)/GDPt-1 (in percent)						3.9	2.9	0.8	0.9	1.1	0.6	1.7	2.9	2.1	2.7
Gross workers' remittances (Millions of US dollars)	11.9	12.1	11.8			11.1	11.6	11.8	12.0	12.2	12.6		15.4	22.2	
PV of PPG external debt (in percent of GDP + remittances)	...	...	4.9			8.9	11.6	12.1	12.7	13.4	13.7		23.0	36.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	6.0			14.5	21.9	22.8	24.0	25.6	26.3		48.5	85.1	
Debt service of PPG external debt (in percent of exports + remittance	...	...	0.3			0.6	0.8	0.8	0.8	0.8	1.1		2.7	5.2	

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 and Publicly Guaranteed External Debt, 2015–35
(In percent)

					Projections			
	2015	2016	2017	2018	2019	2020	**2025**	2035
PV of debt-to GDP ratio								
Baseline	10	12	13	14	14	15	**25**	39
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	10	9	9	9	12	14	**28**	25
A2. New public sector loans on less favorable terms in 2015-2035 2	10	13	14	15	16	17	**36**	65
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	10	13	14	14	15	15	**26**	41
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	10	9	7	7	8	8	**19**	36
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	10	13	14	15	16	16	**27**	43
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	10	12	11	12	12	13	**23**	38
B5. Combination of B1-B4 using one-half standard deviation shocks	10	3	-7	-7	-7	-7	**5**	30
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	10	18	18	19	21	21	**35**	56
PV of debt-to-exports ratio								
Baseline	16	25	26	27	29	30	**56**	101
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	16	19	17	18	24	30	**65**	65
A2. New public sector loans on less favorable terms in 2015-2035 2	16	27	29	31	33	34	**81**	170
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	16	25	26	27	29	30	**56**	101
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	16	15	13	14	15	15	**40**	86
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	16	25	26	27	29	30	**56**	101
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	16	23	22	23	25	26	**52**	99
B5. Combination of B1-B4 using one-half standard deviation shocks	16	5	-11	-10	-10	-10	**8**	57
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	16	25	26	27	29	30	**56**	101
PV of debt-to-revenue ratio								
Baseline	15	22	23	24	26	26	**47**	81
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	15	17	15	16	21	26	**53**	52
A2. New public sector loans on less favorable terms in 2015-2035 2	15	24	25	27	29	30	**67**	137
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	15	22	24	25	27	28	**49**	86
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	15	15	12	13	14	15	**35**	75
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	15	23	25	26	28	29	**51**	89
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	15	20	19	21	22	23	**43**	79
B5. Combination of B1-B4 using one-half standard deviation shocks	15	6	-13	-12	-12	-12	**9**	62
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	15	31	32	34	37	38	**67**	117

Table 4. Kiribati: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2014–34 (concluded)
(In percent)

				Projections				
	2015	2016	2017	2018	2019	2020	**2025**	2035
Debt service-to-exports ratio								
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	1	1	1	1	1	1	**2**	5
A2. New public sector loans on less favorable terms in 2015-2035 2	1	1	1	1	1	1	**4**	10
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	1	1	1	1	1	1	**3**	6
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	1	1	1	1	1	1	**2**	5
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	1	1	1	1	1	1	**3**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	1	1	1	1	1	1	**3**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	0	0	0	0	**0**	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 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 2015-2035 1/	1	1	1	1	1	1	**2**	4
A2. New public sector loans on less favorable terms in 2015-2035 2	1	1	1	1	1	1	**3**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	1	1	1	1	1	1	**3**	5
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	1	1	1	1	1	1	**2**	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	1	1	1	1	1	1	**3**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	1	1	1	1	1	1	**2**	5
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	1	0	0	0	**0**	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	1	1	1	1	1	2	**4**	7
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	46	46	46	46	46	46	**46**	46

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.