INTERNATIONAL MONETARY FUND

SOLOMON ISLANDS

Joint IMF/World Bank Debt Sustainability Analysis 2011[1]

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Solomon Islands is at moderate risk of external debt distress according to this World Bank-IMF Low-Income Country (LIC) Debt Sustainability Analysis (DSA). The debt profile is sensitive to shocks to non-debt creating flows, export growth, and financing terms. Containing the risk of debt distress will require continued efforts to rebuild fiscal buffers, establish a multi-year budget framework to provide fiscal discipline, and implement structural reforms that are essential to promote broad-based growth.

I. Background

1. **Solomon Islands is a small commodity exporter heavily reliant on imports, foreign aid and FDI, and vulnerable to external shocks.** The export and production basis are narrow and include mainly logs, more recently gold, and a few agricultural products. As a result, the country is vulnerable to both external demand and commodity price volatility. The country also heavily relies on foreign aid and FDI to finance its structural trade deficit and large development needs.

2. **The economy was hit hard by the global economic crisis, but the 18-month Standby Credit Facility (SCF) Arrangement approved in June 2010 succeeded in stabilizing the economy and catalyzing donor support.** The fiscal position has improved substantially since then as a result of strong economic rebound and improvement in tax compliance and tax arrears collection. The government cash balance increased from almost zero in the first quarter of 2010 to about 2 months of recurrent spending by the second quarter of 2011.

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[1] This DSA was produced in consultation with the Asian Development Bank (AsDB). It is based on the common standard LIC DSA framework. Under the Country Policy and Institutional Assessment (CPIA), Solomon Islands is rated as a weak performer, and the DSA uses the indicative threshold indicators on the external public debt for countries in this category: 30 percent for the present value (PV) of debt-to-GDP ratio; 100 percent for the PV of debt-to-exports ratio; 200 percent for the PV of debt-to-revenue ratio; 15 percent for the debt service-to-exports ratio; and 25 percent for the debt service-to-revenue ratio. The fiscal year of Solomon Islands starts on January 1.

3. **Total public debt has declined from about 60 percent of GDP in 2005 to about 28 percent of GDP as of end-2010 under the framework of the Honiara Club Agreement (HCA).**[2][3] Domestic public debt, including the publicly guaranteed debt of the state-owned enterprises (SOEs) at around 1 percent of GDP, was about one third of total public debt as of end-2010, owed mainly to the banking sector (including the Central Bank of Solomon Islands) and the National Provident Fund. Total external debt has declined from about 50 percent of GDP in 2005 to about 32 percent of GDP as of end-2010, with public and publicly guaranteed (PPG) external debt accounting for about 20 percent of GDP (US$135 million).

4. **Looking forward, the challenge is to diversify the sources of growth away from logging given the projected decline of log production over the medium term.** Nevertheless, the country has a more favorable medium- and long-term outlook than envisaged in the DSA issued in September 2009 (Box 1). This reflects: (i) the success of the SCF that contributed to a healthy fiscal balance and triggered stronger aid inflows from the donor community; (ii) the new debt strategy currently being developed by the authorities in the context of the ongoing review of the HCA which should help regain access to external borrowing to finance much needed infrastructure development; and (iii) the production at the Gold Ridge mine expected to contribute to about 35 percent of export earnings on average in the next decade.

II. External and Public Debt Sustainability Analysis

A. External Debt Sustainability Analysis

5. **The external DSA indicates that Solomon Islands is at moderate risk of debt distress.** Under the baseline scenario (Table 1a), total external debt is projected to decline to around 25 percent in 2011 and further to below 23 percent next year, as foreign aid and FDI are expected to fully finance the trade and services deficit. However, the total external debt is projected to gradually increase starting 2014 reaching around 37 percent of GDP over the longer term. The increase in external debt over the medium term also reflects renewed access to external financing after completion of the review of HCA, compensating for the decline in foreign aid. Similarly, PPG external debt is projected to decline to 15 percent in 2011 and to moderately increase to around 30 percent of GDP over the longer term. Other key indicators of sustainability—the present value of PPG external debt, the ratio of PPG debt service to

[2] At the central government level only.

[3] External borrowing has been restricted since 2005 under the Honiara Club agreement (HCA) which was signed by the government and major creditors. Under this agreement, Solomon Islands cannot borrow from official external lenders until it receives a "green light" rating from the World Bank's International Development Association.

Box 1. Macroeconomic Assumptions under the Baseline Scenario

- **GDP growth and population**. The economy is expected to grow at 9.3 percent in 2011, driven by logging and gold production. In the medium term, growth is projected at 4 percent, as log production declines, consistent with the projection of the Ministry of Finance and Treasury (MOFT). Over the longer term, the growth would decline further to around 3½ percent, reflecting the negative impact of the scheduled closure of the Gold Ridge mine more than offsetting the positive impact of a more diversified export base. Population is projected to grow at around 2½ percent per year.
- **Logging and mining**. After peaking in 2011, log production is expected to decline by 20 percent each year until 2015 and remain stable afterwards. Consistent with the projection of the MOFT, gold production is projected at 55 thousand ounces in 2011, 105 thousand ounces in 2012, and 120 thousand ounces during 2013–19, and to gradually wind down by 2023.
- **Aid flows and FDI**. The amount of aid flows has increased remarkably in recent years, compared to those in the 2009 DSA, reflecting large grant disbursement catalyzed by the SCF-supported program and better recording of grant disbursement since 2009. After peaking in 2010 at 25 percent of GDP, aid flows are expected to remain around 20 percent of GDP over the medium term and decline gradually to their historical average of about 10 percent of GDP by 2031. This assumption reflects the gradual scaling-down of the operation at the Regional Assistance Mission to Solomon Islands (RAMSI). As the Gold Ridge mine is now operational and ready for full-scale production, FDI is projected to decline to 20 percent of GDP in 2011, from 35 percent of GDP in 2010, and further to around 10 percent over the medium term. It would stabilize at around 8 percent over the longer term, slightly lower than its historical average of 9 percent of GDP, reflecting the closure of the Gold Ridge mine more than offsetting the potential investment in new sectors.
- **New loan disbursements** are assumed to average about 2½ percent of GDP over the next 5 years. This amount includes lending on concessional terms from the World Bank and the AsDB, to finance infrastructure and transport projects. Over the longer term, concessional borrowing is projected to average around 3 percent of GDP per year.
- **The primary balance** is expected to average around 1½ percent of GDP over the medium term, driven by strong mining revenue. Over the longer term, however, it is expected to turn into deficit and stabilize at around 1 percent of GDP, because grants and mining revenue are projected to decline while additional external borrowing would partially substitute for previously grant-funded development expenditure. Revenue (exc. grants) is projected to be at around 35 percent of GDP over the medium and long term.
- **The non-interest current account deficit** is projected to be about 11 percent of GDP in 2011, and to worsen to around 15 percent of GDP in the next two years mainly reflecting the decline in log exports more than offsetting the increase in gold exports. It is likely stabilize at about 10 percent of GDP in the medium and long term with the decline in fuel imports—a major input of gold production—together with a more diversified exports base, roughly offsetting the decline in gold exports.

exports and the ratio of PPG debt service to revenue—all remain well below the indicative thresholds (Figure 1). [4]

6. **Sensitivity analysis suggests that the country's debt path is vulnerable to several shocks, in particular, to a shock to the net non-debt creating flows (Table 1b, and Figure 1).** A shock to non-debt creating flows is defined as a lower share of net current transfers and net FDI of GDP in 2012–13 at about one standard deviation less than the historical average.[5] Such a shock would keep the PV of PPG external debt to GDP ratio above the threshold for 19 years before starting to decline to below the threshold in 2031. PV of PPG external debt to exports would also temporarily breach the threshold during the years around the scheduled closure of the Gold Ridge mine. Debt services to revenue/exports ratios would jump around 2022–23 as the grace period of the marginal borrowing is 10 years.

7. **A shock to the nominal export growth and a permanent shock to financing terms would also lead to a breach of thresholds (Table 1b).**[6] Under the shock to the nominal export growth, the PV of PPG external debt to GDP ratio would be above the threshold during 2016–28. A permanent shock to financing terms is defined as a higher interest rate by 2 percentage points during 2011–31 than in the baseline. Such a shock would keep the PV of PPG external debt to GDP ratio above the threshold starting 2023.

B. Public Debt Sustainability Analysis

8. **Public debt analysis paints a similar picture.** In addition to the PPG external debt, public debt includes guaranteed loans for SOEs of about 1 percent of GDP as of end-2010, while it does not include the central government's contingent liabilities of about 1.5 percent of GDP. Under the baseline scenario (Table 2a), the PV of total public debt will further decline to around 15 percent of GDP in the medium term. Over the longer term, it is projected to increase to around 25 percent, driven by external borrowings after the completion of the review of HCA. Public debt sustainability is vulnerable to shocks as well. Under the most extreme stress test scenario—real GDP growth being one standard deviation

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[4] The large residuals in Tables 1a and 2a reflect the assumption that the large mineral revenue in the pipeline will be saved in a special fund to support health, education and infrastructure.

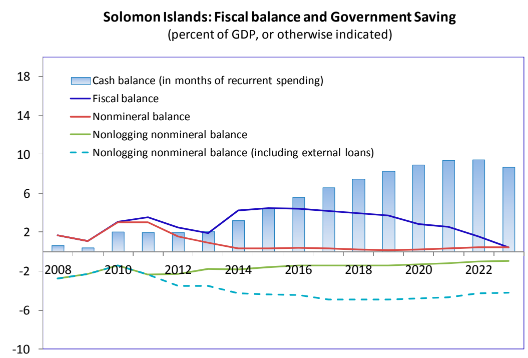
[5] The historical (10-year) averages of foreign aid and FDI are 11.7 and 8.7 percent of GDP, while the standard deviations of these flows are 9.9 and 11.7 percent of GDP. The template does not capture the decline in the imports that the shock may induce.

[6] A shock to nominal export growth is defined as a lower growth rate of export value in US dollar in 2012-2013 at about one standard deviation less than the historical average. The historical (10-year) average and standard deviation of growth of exports is 14.1 percent and 24.2 percent, implying a growth rate of -10 percent in 2012-13 under the stress test. In these two years, current account as a percent of GDP is lower than in the baseline because of lower exports. In 2014-31, current account as a percent of GDP is the same as in the baseline, as imports are adjusted to a permanently lower level.

temporarily lower in the next two years—the PV of debt reaches about 60 percent of GDP by 2021, and more than 90 percent of GDP by 2031 (Table 2b and Figure 2).

C. Fiscal Policy Going Forward: Anchoring The Non-Commodity Balance

9. **Over the medium and long term, it is important to target the non-commodity fiscal balance as opposed to the cash balance.** In the near term, it remains appropriate to target the cash balance as the mining revenue is small. However, over the next decade, mining revenue is about to pick up to an estimated average of around 5 percent of GDP, exposing the cash balance and the overall fiscal balance to the budget to a larger volatility of commodity revenues. Setting a target on the non-commodity balance can insulate the budget from such volatility.



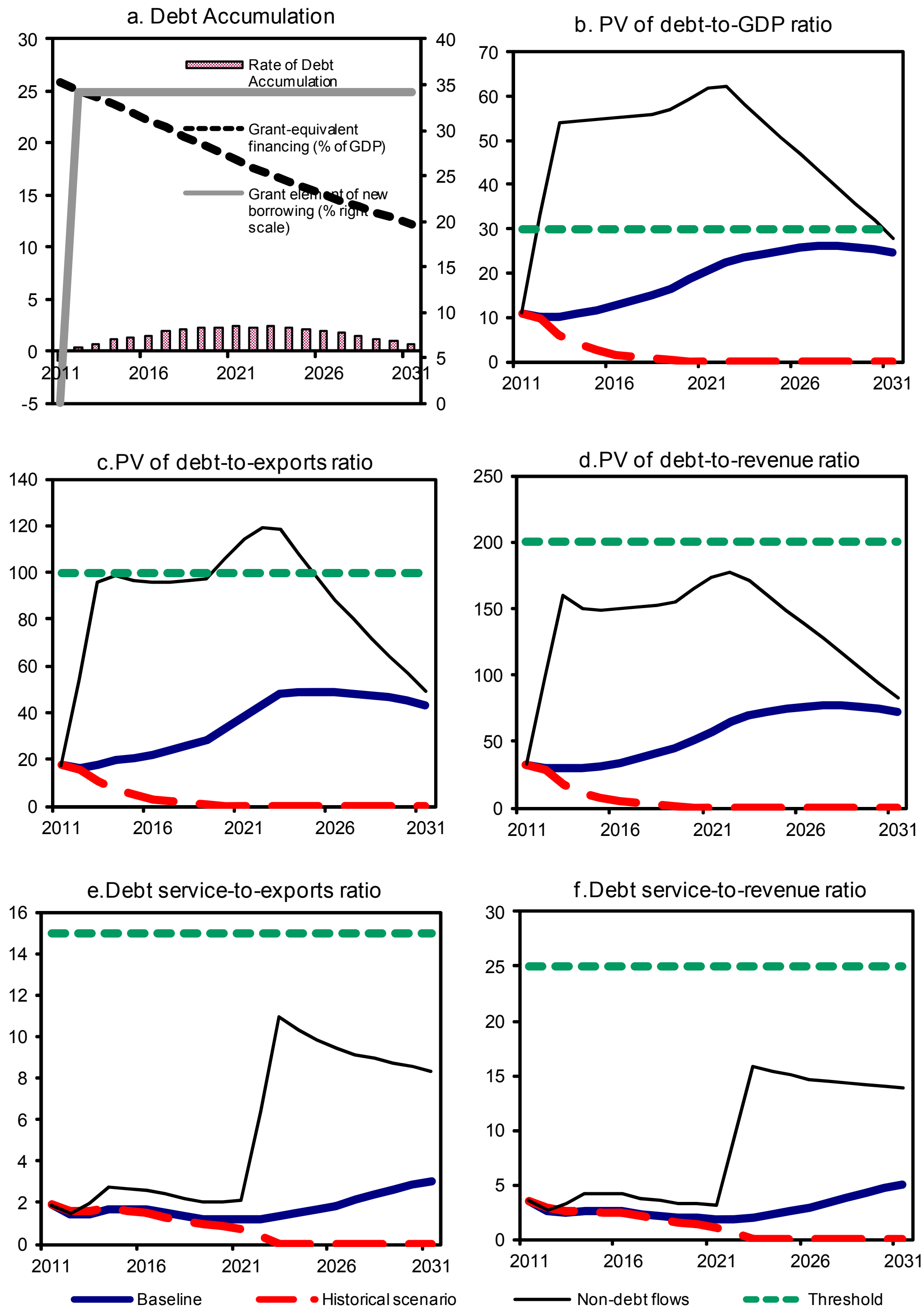
10. **Anchoring a non-commodity balance over the medium term has two advantages over targeting the cash balance.** It would smooth expenditure over the mining cycle, while targeting the overall balance/cash balance could lead to spending levels rising and falling in line with commodity revenue forecasts, regardless of cyclical or efficiency considerations and could spur inflationary pressures. Another advantage is that it may provide room for a fair use of commodity resources across generations.

III. Policy Implications and Conclusions

11. **Solomon Islands is at moderate risk of debt distress.** Maintaining public and external debt at sustainable levels requires actions on multiple fronts. First, continued efforts should be put on rebuilding the fiscal buffers and creating fiscal space, especially in light of the uncertainties surrounding the external environment. Second, the government should step up implementing the structural reforms (such as a new resource tax regime and new mining legislation) that would help maximize the spillovers from the commodity sector to non-commodity sectors, boost investors' confidence and ensure sustainable growth. These reforms would also help strengthen the prospect for exports, reducing the vulnerability to external shocks. Third, establishing a multi-year budget framework would help prioritize the areas that are essential to promote broad-based growth as well as provide fiscal discipline. Finally, structural reforms formulated under the National Development Strategy should be prioritized and implemented as they would help increase potential growth and maintain the debt sustainability over the long term.

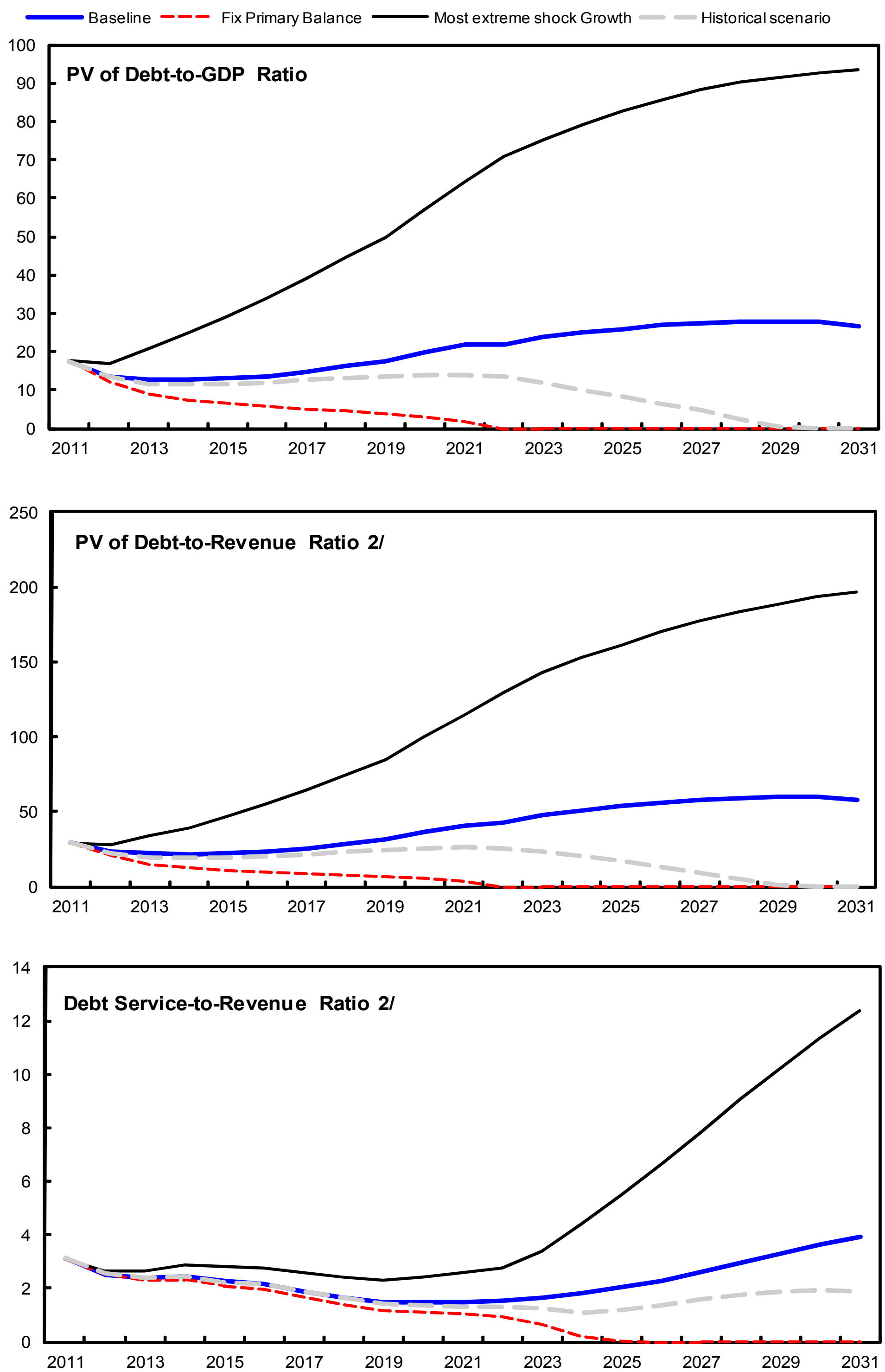
12. **The authorities have broadly agreed with the assessment**. They are fully committed to completing the review of the HCA and formulating a new debt strategy to resume access to external concessional financing. Supported by the precautionary SCF, they will also implement a new resource taxation regime to ensure that the government receives a fair share of mining revenue and they will reform the mining legislation to provide a predictable investment regime to attract foreign investment.

Figure 1. Solomon Islands: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2011-31



Sources: Country authorities; and staff estimates and projections.

Figure 2.Solomon Islands: Indicators of Public Debt Under Alternative Scenarios, 2011-31 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021.
2/ Revenues are defined inclusive of grants.

Table 1a.: External Debt Sustainability Framework, Baseline Scenario, 2008-31 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical [6/] Average	Standard [6/] Deviation	Projections									
	2008	2009	2010			2011	2012	2013	2014	2015	2016	2011-16 Average	2021	2031	2017-31 Average
External debt (nominal) 1/	**32.1**	**32.4**	**32.2**			**24.9**	**22.6**	**22.6**	**23.7**	**24.8**	**26.1**		**36.1**	**37.5**	
o/w public and publicly guaranteed (PPG)	23.8	23.2	19.9			14.7	13.5	13.9	15.1	16.4	17.9		29.0	32.4	
Change in external debt	-8.8	0.3	-0.2			-7.3	-2.4	0.1	1.1	1.1	1.2		2.6	-1.2	
Identified net debt-creating flows	-0.7	2.5	-8.4			-9.3	0.7	5.1	3.1	2.5	2.3		5.0	0.3	
Non-interest current account deficit	**19.3**	**20.7**	**29.6**	**8.3**	**14.0**	**10.9**	**12.1**	**15.0**	**13.0**	**11.7**	**11.1**		**11.1**	**9.3**	11.1
Deficit in balance of goods and services	22.9	18.3	31.8			12.4	8.3	13.3	16.1	16.6	17.2		23.3	23.1	
Exports	44.3	39.3	49.3			62.4	61.0	56.6	55.4	56.7	57.8		54.1	56.8	
Imports	67.2	57.6	81.1			74.8	69.3	69.9	71.5	73.3	75.0		77.4	80.0	
Net current transfers (negative = inflow)	-18.1	-24.4	-25.3	-11.7	9.9	-22.8	-22.1	-21.7	-21.1	-20.4	-19.8		-17.3	-13.6	-16.2
o/w official	-15.1	-20.3	-24.9			-22.5	-21.8	-20.4	-19.6	-18.8	-18.0		-14.7	-9.8	
Other current account flows (negative = net inflow)	14.5	26.8	23.1			21.3	25.9	23.4	17.9	15.5	13.7		5.2	-0.2	
Net FDI (negative = inflow)	**-15.0**	**-19.5**	**-34.9**	**-8.7**	**11.7**	**-18.5**	**-10.7**	**-9.6**	**-9.7**	**-9.0**	**-8.5**		**-6.0**	**-8.1**	-7.6
Endogenous debt dynamics 2/	**-5.1**	**1.3**	**-3.1**			**-1.7**	**-0.7**	**-0.3**	**-0.1**	**-0.2**	**-0.3**		**-0.1**	**-0.9**	
Contribution from nominal interest rate	1.1	0.8	0.7			0.7	0.6	0.6	0.6	0.6	0.6		0.6	0.6	
Contribution from real GDP growth	-2.5	1.5	-2.0			-2.4	-1.3	-0.9	-0.7	-0.8	-0.9		-0.7	-1.5	
Contribution from price and exchange rate changes	-3.7	-1.0	-1.7			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**-8.1**	**-2.2**	**8.1**			**2.0**	**-3.0**	**-5.0**	**-2.0**	**-1.4**	**-1.0**		**-2.4**	**-1.6**	
o/w 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/	…	…	27.1			21.1	19.0	18.9	19.5	20.0	20.7		27.7	29.7	
In percent of exports	…	…	55.0			33.9	31.2	33.3	35.2	35.4	35.8		51.1	52.2	
PV of PPG external debt	**…**	**…**	**14.8**			**10.9**	**9.9**	**10.1**	**10.8**	**11.6**	**12.6**		**20.5**	**24.6**	
In percent of exports	**…**	**…**	**30.1**			**17.5**	**16.3**	**17.9**	**19.5**	**20.5**	**21.7**		**37.9**	**43.3**	
In percent of government revenues	**…**	**…**	**46.0**			**32.5**	**29.4**	**30.0**	**29.7**	**31.6**	**34.0**		**57.4**	**72.5**	
Debt service-to-exports ratio (in percent)	**7.5**	**5.9**	**4.7**			**3.3**	**2.7**	**2.7**	**3.0**	**3.2**	**3.1**		**2.5**	**3.8**	
PPG debt service-to-exports ratio (in percent)	**5.6**	**3.6**	**3.0**			**1.9**	**1.4**	**1.4**	**1.7**	**1.7**	**1.7**		**1.2**	**3.0**	
PPG debt service-to-revenue ratio (in percent)	**8.6**	**4.6**	**4.5**			**3.5**	**2.6**	**2.4**	**2.6**	**2.6**	**2.6**		**1.8**	**5.1**	
Total gross financing need (Billions of U.S. dollars)	0.0	0.0	0.0			0.0	0.0	0.1	0.1	0.1	0.1		0.1	0.1	
Non-interest current account deficit that stabilizes debt ratio	28.1	20.4	29.8			18.2	14.5	14.9	11.8	10.6	9.9		8.5	10.5	
Key macroeconomic assumptions															
Real GDP growth (in percent)	7.1	-4.7	7.0	3.6	6.6	9.3	6.0	4.0	3.4	3.7	4.0	5.1	2.3	4.0	3.6
GDP deflator in US dollar terms (change in percent)	10.0	3.2	5.6	2.6	7.4	13.7	9.9	3.1	0.8	0.8	0.8	4.9	-0.2	2.0	1.4
Effective interest rate (percent) 5/	3.3	2.3	2.3	2.1	0.7	2.9	2.8	2.8	2.7	2.6	2.5	2.7	2.0	1.6	1.9
Growth of exports of G&S (US dollar terms, in percent)	20.6	-12.9	41.8	14.1	24.2	57.4	13.8	-0.4	1.9	6.9	6.9	14.4	-1.6	7.6	5.0
Growth of imports of G&S (US dollar terms, in percent)	14.0	-15.8	59.2	19.6	32.8	14.7	7.9	8.2	6.6	7.1	7.2	8.6	2.8	6.1	5.5
Grant element of new public sector borrowing (in percent)	…	…	…	…	…	0.0	34.2	34.2	34.2	34.2	34.2	28.5	34.2	34.2	34.2
Government revenues (excluding grants, in percent of GDP)	29.0	30.5	32.2			33.6	33.8	33.7	36.4	36.8	36.9		35.8	33.9	34.8
Aid flows (in Billions of US dollars) 7/	0.2	0.3	0.3			0.2	0.2	0.3	0.3	0.3	0.3		0.3	0.3	
o/w Grants	0.1	0.1	0.2			0.2	0.2	0.3	0.3	0.3	0.3		0.3	0.3	
o/w Concessional loans	0.1	0.1	0.1			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	…	…	…			25.9	25.1	24.5	23.8	23.0	22.2		18.4	12.2	16.5
Grant-equivalent financing (in percent of external financing) 8/	…	…	…			100.0	96.9	95.5	93.5	92.7	91.8		88.9	89.2	89.1
Memorandum items:															
Nominal GDP (Billions of US dollars)	0.6	0.6	0.7			0.8	1.0	1.0	1.1	1.1	1.2		1.5	2.5	
Nominal dollar GDP growth	17.9	-1.7	13.0			24.3	16.6	7.3	4.2	4.5	4.8	10.3	2.1	6.1	5.0
PV of PPG external debt (in Billions of US dollars)			0.1			0.1	0.1	0.1	0.1	0.1	0.1		0.3	0.6	
(PVt-PVt-1)/GDPt-1 (in percent)						-0.9	0.4	0.8	1.1	1.3	1.5	0.7	2.4	0.8	1.9
Gross workers' remittances (Billions of US dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of PPG external debt (in percent of GDP + remittances)	…	…	14.8			10.9	9.9	10.1	10.8	11.6	12.6		20.5	24.6	
PV of PPG external debt (in percent of exports + remittances)	…	…	30.1			17.5	16.3	17.9	19.5	20.5	21.7		37.9	43.3	
Debt service of PPG external debt (in percent of exports + remittance	…	…	3.0			1.9	1.4	1.4	1.7	1.7	1.7		1.2	3.0	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

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

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

4/ Assumes that PV of private sector debt is equivalent to its face value.

5/ Current-year interest payments divided by previous period debt stock.

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

7/ Defined as grants, concessional loans, and debt relief.

8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

Table 1b.Solomon Islands: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-31
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
PV of debt-to GDP ratio								
Baseline	11	10	10	11	12	13	**21**	25
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-31 1/	11	10	6	4	3	2	**0**	0
A2. New public sector loans on less favorable terms in 2011-31 2	11	10	10	11	13	14	**26**	35
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-13	11	11	12	12	13	14	**24**	28
B2. Export value growth at historical average minus one standard deviation in 2012-13 3/	11	19	29	30	30	31	**38**	26
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-13	11	11	12	13	14	15	**25**	30
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-13 4/	11	33	54	54	55	55	**62**	28
B5. Combination of B1-B4 using one-half standard deviation shocks	11	36	62	63	64	64	**73**	35
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	11	14	14	15	16	17	**28**	33
PV of debt-to-exports ratio								
Baseline	17	16	18	20	21	22	**38**	43
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-31 1/	17	16	10	7	5	3	**0**	0
A2. New public sector loans on less favorable terms in 2011-31 2	17	16	18	21	23	25	**49**	61
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-13	17	16	18	19	20	21	**37**	43
B2. Export value growth at historical average minus one standard deviation in 2012-13 3/	17	38	72	75	75	75	**99**	64
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-13	17	16	18	19	20	21	**37**	43
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-13 4/	17	54	95	98	97	96	**114**	49
B5. Combination of B1-B4 using one-half standard deviation shocks	17	56	95	98	96	95	**115**	53
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	17	16	18	19	20	21	**37**	43
PV of debt-to-revenue ratio								
Baseline	33	29	30	30	32	34	**57**	72
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-31 1/	33	29	18	11	7	4	**0**	0
A2. New public sector loans on less favorable terms in 2011-31 2	33	29	30	31	35	39	**73**	102
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-13	33	32	35	34	36	39	**66**	83
B2. Export value growth at historical average minus one standard deviation in 2012-13 3/	33	55	87	82	83	84	**107**	76
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-13	33	34	37	37	39	42	**71**	89
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-13 4/	33	97	160	150	149	150	**173**	83
B5. Combination of B1-B4 using one-half standard deviation shocks	33	107	185	173	173	174	**203**	103
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	33	40	41	40	43	46	**78**	98

Table 1b.Solomon Islands: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-31 (continued)
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	**2021**	2031
				Debt service-to-exports ratio				
Baseline	2	1	1	2	2	2	**1**	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-31 1/	2	2	2	2	2	2	**1**	0
A2. New public sector loans on less favorable terms in 2011-31 2/	2	1	1	2	2	2	**2**	5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-13	2	1	1	2	2	2	**1**	3
B2. Export value growth at historical average minus one standard deviation in 2012-13 3/	2	2	2	3	3	3	**2**	7
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-13	2	1	1	2	2	2	**1**	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-13 4/	2	1	2	3	3	3	**2**	8
B5. Combination of B1-B4 using one-half standard deviation shocks	2	2	2	3	3	3	**2**	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	2	1	1	2	2	2	**1**	3
				Debt service-to-revenue ratio				
Baseline	4	3	2	3	3	3	**2**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-31 1/	4	3	3	3	2	2	**1**	0
A2. New public sector loans on less favorable terms in 2011-31 2/	4	3	2	3	3	3	**3**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-13	4	3	3	3	3	3	**2**	6
B2. Export value growth at historical average minus one standard deviation in 2012-13 3/	4	3	3	3	3	3	**2**	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-13	4	3	3	3	3	3	**2**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-13 4/	4	3	3	4	4	4	**3**	14
B5. Combination of B1-B4 using one-half standard deviation shocks	4	3	4	5	5	5	**4**	16
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	4	4	3	4	4	4	**3**	7
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	33	33	33	33	33	33	**33**	33

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 in the baseline.
3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).
4/ Includes official and private transfers and FDI.
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 2a.Solomon Islands: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008-31
(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2008	2009	2010	Average 5/	Standard Deviation 5/	2011	2012	2013	2014	2015	2016	2011-16 Average	2021	2031	2017-31 Average
Public sector debt 1/	35.0	33.2	28.1			21.3	17.1	16.4	16.9	17.8	19.0		30.3	34.3	
o/w foreign-currency denominated	23.8	23.2	19.9			14.7	13.5	13.9	15.1	16.4	17.9		29.0	32.4	
Change in public sector debt	-8.2	-1.8	-5.2			-6.8	-4.2	-0.6	0.5	0.9	1.2		2.7	-1.0	
Identified debt-creating flows	-5.6	-3.3	-10.2			-9.3	-3.8	-1.2	-2.5	-2.5	-2.3		0.4	-0.4	
Primary deficit	-0.8	-2.3	-6.7	-2.2	3.4	-4.0	-1.6	-0.4	-2.0	-2.0	-1.7	-1.9	0.6	1.3	1.2
Revenue and grants	46.5	55.2	63.0			59.5	58.5	57.6	59.4	58.8	58.1		53.1	45.4	
of which: grants	17.5	24.7	30.8			25.9	24.7	23.9	23.0	22.0	21.2		17.3	11.5	
Primary (noninterest) expenditure	45.8	52.9	56.3			55.5	56.9	57.1	57.3	56.9	56.4		53.6	46.7	
Automatic debt dynamics	-4.9	0.0	-3.4			-5.1	-2.2	-0.7	-0.5	-0.5	-0.6		-0.2	-1.7	
Contribution from interest rate/growth differential	-3.6	1.3	-2.5			-2.6	-1.5	-0.7	-0.6	-0.7	-0.7		-0.7	-1.6	
of which: contribution from average real interest rate	-0.8	-0.5	-0.3			-0.3	-0.3	0.0	0.0	-0.1	-0.1		-0.1	-0.2	
of which: contribution from real GDP growth	-2.9	1.7	-2.2			-2.4	-1.2	-0.7	-0.5	-0.6	-0.7		-0.6	-1.4	
Contribution from real exchange rate depreciation	-1.2	-1.3	-1.0			-2.5	-0.7	0.0	0.1	0.1	0.1		...	...	
Other identified debt-creating flows	0.0	-0.9	0.0			-0.2	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	-0.9	0.0			-0.2	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	-2.5	1.5	5.0			2.4	-0.4	0.5	3.0	3.4	3.5		2.4	-0.6	
Other Sustainability Indicators															
PV of public sector debt	...	...	23.0			17.5	13.5	12.7	12.7	13.0	13.6		21.8	26.5	
o/w foreign-currency denominated	...	...	14.8			10.9	9.9	10.1	10.8	11.6	12.6		20.5	24.6	
o/w external	...	...	14.8			10.9	9.9	10.1	10.8	11.6	12.6		20.5	24.6	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	3.3	0.3	-4.1			-1.5	0.4	1.7	0.2	0.0	0.2		1.9	3.4	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	36.4			29.4	23.2	22.0	21.3	22.1	23.5		41.1	58.4	
PV of public sector debt-to-revenue ratio (in percent)	…	…	71.2			52.1	40.1	37.7	34.8	35.4	36.9		60.9	78.1	
o/w external 3/	…	…	46.0			32.5	29.4	30.0	29.7	31.6	34.0		57.4	72.5	
Debt service-to-revenue and grants ratio (in percent) 4/	7.4	3.8	3.3			3.1	2.5	2.4	2.5	2.3	2.2		1.5	3.9	
Debt service-to-revenue ratio (in percent) 4/	11.9	6.9	6.4			5.5	4.4	4.0	4.0	3.6	3.4		2.2	5.3	
Primary deficit that stabilizes the debt-to-GDP ratio	7.4	-0.5	-1.6			2.8	2.6	0.2	-2.5	-2.9	-2.9		-2.2	2.3	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	7.1	-4.7	7.0	3.6	6.6	9.3	6.0	4.0	3.4	3.7	4.0	5.1	2.3	4.0	3.6
Average nominal interest rate on forex debt (in percent)	2.7	1.3	1.2	1.3	0.8	1.6	1.3	1.3	1.2	1.2	1.3	1.3	1.1	1.0	1.1
Average real interest rate on domestic debt (in percent)	-8.1	-4.9	-3.6	-3.6	2.5	-4.6	-4.2	-1.0	0.3	0.4	0.5	-1.4	5.3	-1.3	1.7
Real exchange rate depreciation (in percent, + indicates depreciat	-4.2	-5.2	-4.5	0.1	7.9	-13.5	...	...	...	...	...	…	…	…	…
Inflation rate (GDP deflator, in percent)	11.4	7.3	5.8	7.2	3.7	7.6	7.0	4.6	3.8	3.8	3.8	5.1	2.8	5.1	4.4
Growth of real primary spending (deflated by GDP deflator, in perc	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	0.0	34.2	34.2	34.2	34.2	34.2	28.5	34.2	34.2	...

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.

Table 2b.Solomon Islands: Sensitivity Analysis for Key Indicators of Public Debt 2011-31

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
PV of Debt-to-GDP Ratio								
Baseline	17	14	13	13	13	14	22	26
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	17	13	12	11	12	12	14	0
A2. Primary balance is unchanged from 2011	17	12	9	7	7	6	2	0
A3. Permanently lower GDP growth 1/	17	14	14	15	17	20	45	105
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-13	17	17	21	25	29	34	64	93
B2. Primary balance is at historical average minus one standard deviations in 2012-13	17	15	16	16	16	16	25	28
B3. Combination of B1-B2 using one half standard deviation shocks	17	15	15	17	20	23	43	62
B4. One-time 30 percent real depreciation in 2012	17	18	16	16	16	16	23	29
B5. 10 percent of GDP increase in other debt-creating flows in 2012	17	20	19	19	19	20	28	30
PV of Debt-to-Revenue Ratio 2/								
Baseline	29	23	22	21	22	23	41	58
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	29	23	20	19	20	21	26	0
A2. Primary balance is unchanged from 2011	29	20	15	13	11	10	3	0
A3. Permanently lower GDP growth 1/	29	24	24	25	28	33	81	214
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-13	29	28	34	39	47	55	114	197
B2. Primary balance is at historical average minus one standard deviations in 2012-13	29	26	27	26	27	28	46	62
B3. Combination of B1-B2 using one half standard deviation shocks	29	25	25	28	32	38	78	134
B4. One-time 30 percent real depreciation in 2012	29	30	28	27	27	28	44	64
B5. 10 percent of GDP increase in other debt-creating flows in 2012	29	35	33	32	33	34	53	66
Debt Service-to-Revenue Ratio 2/								
Baseline	3	3	2	2	2	2	2	4
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	3	3	2	2	2	2	1	2
A2. Primary balance is unchanged from 2011	3	3	2	2	2	2	1	0
A3. Permanently lower GDP growth 1/	3	3	2	3	2	2	2	10
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-13	3	3	3	3	3	3	3	12
B2. Primary balance is at historical average minus one standard deviations in 2012-13	3	3	2	3	2	2	2	4
B3. Combination of B1-B2 using one half standard deviation shocks	3	3	3	3	2	2	2	8
B4. One-time 30 percent real depreciation in 2012	3	3	3	3	3	3	2	6
B5. 10 percent of GDP increase in other debt-creating flows in 2012	3	3	3	3	2	2	2	5

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.