INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

SOLOMON ISLANDS

Joint IMF/World Bank Debt Sustainability Analysis 2008

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MEDIUM-TERM BASELINE SCENARIO AND DEBT SUSTAINABILITY ANALYSIS[1]

Solomon Islands' debt declined last year, reflecting arrears payments, debt write-offs, and regular debt servicing. As a result of this improvement in the debt situation, as well as high nominal GDP growth over the past few years, all the debt indicators are projected to fall below their policy-dependent indicative thresholds throughout the medium-term (2008–13) under the baseline scenario.[2] However, historical scenarios and several stress tests still result in a substantial increase in the debt burden and cause several indicators to rise significantly above their thresholds. Moreover, the medium-term outlook hinges critically on the success of developing nonlogging sectors, including gold mining, to offset the projected sharp decline in logging revenues beyond 2009. If gold mining operations do not start in 2010, the balance of payments and foreign reserves would come under severe pressure.[3]Based on these results, the Solomon Islands is classified as in moderate risk of debt distress. However, the vulnerabilities arising from stress tests and the downside risks to the baseline scenario from further delays in starting gold mining operations suggest that the risks to debt sustainability are still significant. Therefore, the country should continue to depend solely on grants until these debt sustainability risks are clearly mitigated.

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[1] Data on state enterprise and provincial government debt are not available. Therefore, the public debt sustainability analysis is limited to central government debt data.

[2] These include the NPV of debt in percent of exports (100 percent), GDP (30 percent), and revenue (200 percent), and the debt service in percent of exports (15 percent) and revenue (25 percent).

[3] The operation of the gold mine, initially scheduled for 2008, has been significantly delayed, due mainly to land ownership issues, as well as problems with securing political risk insurance.

Assumptions for the Medium-Term Baseline Scenario

Real GDP growth is projected to average 3.8 percent over the medium term. Logging activity is expected to decline sharply, but nonlogging sector growth is projected to average about 6 percent as activity in other sectors picks up, including mining, palm oil production, and tourism. Gold mining operations are assumed to start in 2010.

Inflation is projected to average 7.6 percent over the projection period, influenced largely by the recent sharp increase in commodity prices and past expansionary monetary and fiscal policies, but is expected to decline to 5 percent by the end of the projection period as fuel and food prices stabilize.

The fiscal balance is projected to register an average surplus of 1 percent of GDP over the medium term given the limited availability of financing, the government's commitment to no new borrowing,[4] and the need to continue to make regular debt service payments. This requires a sharp reduction in spending relative to present levels.

The current account deficit is expected to decline when gold export receipts materialize in 2010, offsetting the decline in logging receipts, but is expected to widen to about 12 percent at the end of the projection period, due mainly to a substantial pick up in nickel mining related imports financed by FDI inflows.[5] The real effective exchange rate is assumed to be constant.

Aid inflows are expected to drop sharply in 2010, reflecting the current schedule of donor commitments, but FDI from the mining sector (gold and nickel) is expected to increase significantly. Given these developments, reserve cover is projected to fall to about 2½ months of projected imports by 2013, but to increase significantly thereafter, assuming that nickel production starts in 2014.

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[4] Under the baseline scenario, the government is assumed to maintain its policy of no new borrowing. However, starting in 2014, we assume that borrowing to finance development needs will resume, and that the ratio of external debt to GDP will stabilize at its projected end-2013 level.

[5] The Sumitomo Metal Mining Company is expected to invest about US$2 billion in the Solomon Islands, and plans to start the first phase of nickel production in 2014.

Solomon Islands: Selected Economic Indicators, 2007-28.

	2007	2008-2013	2014-2018	2019-2028
	Est.		Proj.	
Real GDP (percent change)	10.3	3.8	6.9	7.3
CPI (period average, in percent)	7.7	7.6	5.0	5.0
Per capita GDP (in US$)	764	1,026	1,363	2,331
Central government operations (percent of GDP)				
Total revenue and grants	69.0	49.7	39.4	36.4
Total expenditure 1/	70.4	49.1	34.8	30.5
Overall balance 2/	-1.5	0.6	4.6	6.0
Balance of payments (US$ millions, unless otherwise indicated)				
Current account	-10.8	-39.5	-51.6	-165.3
(Percent of GDP)	-2.8	-6.7	-6.9	-7.5
Gross official reserves (US$ millions, end of period)	119.8	116.8	904.3	1,208.5
(in months of projected imports of GNFS)	4.1	3.1	15.6	13.3

Sources: Data provided by the authorities; and Fund staff estimates.

The debt situation has improved further. The Honiara Club initiative resulted in a short-term moratorium on principal repayments and the forgiveness of interest payments during the moratorium (0.2 percent of GDP), which expired in 2007. It also allowed for debt forgiveness and arrears settlement (1.8 percent of GDP) from the Export Finance and Insurance Corporation (EFIC) subject to the successful completion of an Australia-led review.[6] This review was completed in April 2007 and the debt has been forgiven. The authorities also settled arrears to foreign creditors amounting to 3.8 percent of GDP, and have been regularly servicing the bulk of their debt obligations. These developments helped bring down total public debt to 52 percent of GDP at end-2007, from 64 percent of GDP in 2006.

Debt Sustainability under the Baseline Scenario

The external debt sustainability analysis still provides mixed results (Table 1).[7] At end-2007, the NPV of external debt to GDP was 38 percent, above its policy-dependent indicative threshold. However, under the DSA baseline, this ratio is expected to fall below its threshold

[6] The Honiara Club is a multilateral forum convened by the government in October 2005 to seek debt relief from its official creditors. Four creditors participated in the Honiara Club, namely, the Export Finance and Insurance Corporation (EFIC), the European Commission, the European Investment Bank, and the International Fund for Agricultural Development.

[7] This analysis assumes that the government remains current on all debt obligations from June 2008, and that all debt in arrears (at end-2007 a total of SI$ 115 million was in arrears, with about SI$24 million each to the EU and EIB, and SI$12 million to OPEC) are treated as current short-term obligations with NPV equal to face value.

by end-2008 given debt developments this year and high nominal GDP growth.[8] All other indicators, including the ratios of the NPV of debt to exports and revenue, and debt service ratios, were below their thresholds, and are expected to decline over time. Compared to the previous joint DSA, debt indicators decline at a faster pace over the medium term due mainly to higher projected GDP growth.[9]

The overall central government debt has declined, but remains relatively high (Table 2). At end-2007, central government domestic debt in nominal terms (including arrears) stood at 14 percent of GDP, well below its 2003 peak of 51 percent. In 2008, it is projected to decline further to 12 percent of GDP, reflecting the continued regular repayment of existing debt. Total central government debt in nominal terms is projected to decline from more than 50 percent of GDP in 2007 to 22 percent of GDP in 2013. Nevertheless, the NPV of public sector debt to revenue, albeit declining, is projected to remain relatively high at an average of more than 70 percent of revenues during the next six years.

Risks to the Debt Dynamics

There are considerable risks based on stress tests and historical scenarios that reflect the country's continued fragile debt position (Tables 3 and 4).

- *External Debt:* If key variables revert to their historical averages, then the NPV of external debt to exports continues to rise, because historical averages for real GDP and export growth are very low,[10] and the 10-year average of nondebt creating flows is significantly below recent levels. Among the various stress tests, bound test 2 (export growth at its historical average minus one standard deviation) results in the most extreme increase in both the NPV of debt to exports and the NPV of debt service to exports due to the high volatility of exports. The most extreme stress test for the NPV of debt to GDP is bound test B5 (temporary reversion to historical averages, of real GDP growth, export growth, the U.S. dollar GDP deflator, and net non-debt creating flows, minus one half a standard deviation).

- *Public Debt:* The ratios of the NPV of public debt to GDP and the NPV of public debt to revenue rise dramatically if GDP growth declines temporarily to its historical

[8] The thresholds (see footnote 2) apply to countries with weak policies and institutions, and are discussed in *Operational Framework for Debt Sustainability Analysis in Low Income Countries—Further Considerations*. Although improving, the Solomon Islands' 3-year average CPIA (2005–2007) of 2.8 remains the lowest among the Pacific Island Countries.

[9] See IMF Country Report No. 07/304.

[10] Real GDP growth was significantly affected by the civil conflict, which resulted in an average growth rate of negative 4 percent over the period 1997–2002.

average (bound test 1). This results in a more than five-fold increase in the current level of the NPV of public debt to revenue.

In addition, other risks related to the country's unstable history could materialize. Given the country's volatile history and its fragile coalition government, political and economic instability could materialize. At present, logging accounts for about 65 percent of export revenues. In 2010, this ratio is expected to drop to about half, and to become negligible by 2013. Under the baseline scenario, gold export receipts are expected to more than offset this decline (accounting initially for about 40 percent of export receipts in 2010). This would prevent reserves from falling below 2½ months of projected imports over the medium term. But, if gold mining operations are delayed further, it is unlikely that export earnings (even assuming other nonlogging sectors pickup) can fill the gap created by declining logging activity. The balance of payments could then come under severe pressure and reserves could fall rapidly, necessitating difficult economic adjustments and risking the country's ability to service its debt obligations.

Caution should be exercised in interpreting these results given uncertainties surrounding key variables. Macroeconomic variables are subject to large measurement errors. Donors' plans are uncertain and contingent liabilities are likely to increase if plans, including through hiring external managers, to improve the management and operational efficiency of financially-strapped SOEs are further delayed.[11]

The authorities should continue efforts to reduce debt and refrain from new borrowing over the medium term. In view of impending fiscal pressures from declining logging revenues and committed aid, and the need to sustain progress towards debt sustainability, the authorities should restore fiscal discipline, settle remaining arrears, and refrain from incurring new loans, at least until debt sustainability is firmly established. Vigorously pursuing planned SOE reforms will also be necessary to minimize future contingent liabilities to the budget.

[11] Reported contingent liabilities of SOEs are SI$75 million, but the government has undertaken an extensive audit program for all SOEs which are expected to further clarify the financial position of this sector.

Table 1. Solomon Islands: External Debt Sustainability Framework, Baseline Scenario, 2005-28 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average	Standard Deviation	Projections									
	2005	2006	2007			2008	2009	2010	2011	2012	2013	2008-2013 Average	2018	2028	2014-2028 Average
External debt (nominal) 1/	57.2	52.8	44.1			36.5	32.3	29.4	26.4	24.1	22.1		22.1	22.1	
o/w public and publicly guaranteed (PPG)	48.6	45.4	37.9			30.3	26.1	23.2	20.2	17.9	15.9		15.9	15.9	
Change in external debt	-11.2	-4.4	-8.7			-7.7	-4.1	-2.9	-3.0	-2.3	-2.0		0.0	0.0	
Identified net debt-creating flows	-3.7	-4.8	-13.3			-3.4	-3.2	-7.1	-2.0	-0.2	-0.2		-21.9	11.8	
Non-interest current account deficit	7.9	5.3	1.9	-0.7	11.6	6.2	8.9	-1.1	2.8	7.9	11.2		2.9	14.1	6.8
Deficit in balance of goods and services	11.7	11.7	13.0			15.2	18.1	-1.3	2.3	8.0	11.3		-2.1	10.0	
Exports	47.4	52.2	62.4			59.5	55.9	72.8	66.4	59.8	56.0		73.9	49.4	
Imports	59.1	64.0	75.4			74.7	73.9	71.5	68.7	67.7	67.3		71.8	59.3	
Net current transfers (negative = inflow)	-1.4	-4.8	-11.3	-3.8	5.7	-9.9	-9.9	-5.7	-5.6	-5.7	-5.5		-2.9	-1.5	-2.5
o/w official	-2.4	-2.2	-11.0			-9.6	-9.6	-5.4	-5.3	-5.4	-5.2		-2.6	-1.2	
Other current account flows (negative = net inflow)	-2.5	-1.6	0.2			0.9	0.8	5.9	6.0	5.6	5.3		7.9	5.6	
Net FDI (negative = inflow)	-6.2	-3.4	-8.7	-0.9	4.4	-7.6	-11.5	-5.7	-4.8	-8.2	-11.3		-24.0	-1.2	-13.1
Endogenous debt dynamics 2/	-5.3	-6.6	-6.5			-2.0	-0.6	-0.2	0.1	0.1	0.0		-0.8	-1.1	
Contribution from nominal interest rate	1.9	0.4	0.8			0.7	0.7	0.8	0.8	0.7	0.7		0.6	0.5	
Contribution from real GDP growth	-3.0	-3.1	-4.7			-2.7	-1.3	-1.0	-0.7	-0.6	-0.7		-1.4	-1.6	
Contribution from price and exchange rate changes	-4.2	-3.9	-2.7			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	-7.5	0.5	4.6			-4.3	-0.9	4.1	-1.0	-2.1	-1.9		21.9	-11.8	
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/	...	...	38.1			27.0	24.2	22.4	20.4	18.9	17.5		15.6	12.0	
In percent of exports	...	...	61.1			45.3	43.4	30.7	30.7	31.6	31.3		21.1	24.3	
PV of PPG external debt	...	...	31.9			20.8	18.0	16.2	14.2	12.7	11.3		9.3	5.8	
In percent of exports	...	...	51.1			34.9	32.3	22.2	21.3	21.2	20.2		12.7	11.7	
In percent of government revenues	...	...	86.7			62.9	55.6	50.6	45.7	41.6	37.3		27.6	17.4	
Debt service-to-exports ratio (in percent)	5.3	2.5	5.2			2.9	4.2	2.9	3.4	3.2	3.3		1.8	1.6	
PPG debt service-to-exports ratio (in percent)	...	1.8	4.8			2.0	3.3	2.1	2.4	2.1	2.1		0.9	0.3	
PPG debt service-to-revenue ratio (in percent)	...	2.9	8.2			3.7	5.7	4.7	5.2	4.2	3.9		1.9	0.4	
Total gross financing need (millions of U.S. dollars)	15.6	13.2	-10.5			3.4	0.7	-24.1	2.9	11.9	13.2		-207.3	391.0	
Non-interest current account deficit that stabilizes debt ratio	19.0	9.6	10.6			13.8	13.0	1.8	5.7	10.2	13.2		2.9	14.1	
Key macroeconomic assumptions															
Real GDP growth (in percent)	5.0	6.1	10.2	1.2	7.7	7.3	4.0	3.4	2.5	2.5	3.2	3.8	6.7	7.8	7.2
GDP deflator in US dollar terms (change in percent)	6.6	7.4	5.4	-0.6	9.4	13.4	5.5	3.6	5.0	4.2	3.1	5.8	2.1	2.3	2.6
Effective interest rate (percent) 5/	3.1	0.7	1.8	2.5	2.0	1.8	2.2	2.6	2.8	2.9	3.0	2.6	2.8	2.4	2.7
Growth of exports of G&S (US dollar terms, in percent)	8.9	25.6	38.8	4.1	28.7	16.3	3.0	39.5	-1.8	-3.9	-0.3	8.8	5.0	6.8	9.4
Growth of imports of G&S (US dollar terms, in percent)	60.6	23.3	37.0	4.2	31.7	20.7	8.6	3.6	3.5	5.2	5.8	7.9	19.4	9.9	9.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	...	...	...	...	...	...	...	40.8	40.8	40.8
Government revenues (excluding grants, in percent of GDP)	29.7	32.3	36.8			33.0	32.4	31.9	31.0	30.4	30.4		33.9	33.2	33.4
Aid flows (in billions of US dollars) 7/	150.0	115.8	139.0			135.7	146.7	77.8	77.8	83.1	81.6		53.5	47.1	
o/w Grants	144.0	108.5	124.9			135.2	146.7	77.8	77.8	83.1	81.6		53.5	47.1	
o/w Concessional loans 8/	6.0	7.3	14.1			0.5	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 9/	...	...	...			28.6	28.3	14.0	13.0	13.0	12.0		5.6	1.9	4.5
Grant-equivalent financing (in percent of external financing) 9/	...	...	...			100.0	100.0	100.0	100.0	100.0	100.0		88.4	83.6	86.2
Memorandum items:															
Nominal GDP (millions of US dollars)	293.2	334.1	388.3			472.8	518.8	555.9	598.3	639.0	679.8		1055.4	2848.4	
Nominal dollar GDP growth	11.9	14.0	16.2			21.8	9.7	7.1	7.6	6.8	6.4	**9.9**	9.0	10.3	10.0
PV of PPG external debt (in millions of US dollars)			123.8			98.1	93.5	89.8	84.8	80.9	76.9		98.7	164.5	
(PVt-PVt-1)/GDPt-1 (in percent)						-6.6	-1.0	-0.7	-0.9	-0.6	-0.6	-1.7	0.5	0.2	0.5

Source: Staff simulations.

1/ Includes both public and private sector external debt. The DSA exercise was conducted jointly with the World Bank.

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

3/ Includes exceptional financing (i.e., debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes. Residuals are large in the latter half of the projection pe

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/ In 2008, refers to disbursements from previous loans. In line with the government's commitment, no new lows have been incurred.

9/ 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 2. Solomon Islands: Public Sector Debt Sustainability Frmework, Baseline Scenario, 2005-28
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate	Projections								
	2005	2006	2007			2008	2009	2010	2011	2012	2013	2008-13 Average	2018	2028	2014-28 Average
Public sector debt 1/	72.6	63.5	52.3			41.9	36.1	31.7	27.5	24.0	21.5		19.0	17.0	
o/w foreign-currency denominated	48.6	45.4	37.9			30.3	26.1	23.2	20.2	17.9	15.9		15.9	15.9	
Change in public sector debt	-14.9	-9.2	-11.2			-10.4	-5.8	-4.4	-4.3	-3.5	-2.5		-0.6	-0.1	
Identified debt-creating flows	-24.9	-11.5	-7.7			-5.9	-5.5	-4.1	-4.0	-3.2	-2.9		-7.4	-7.8	
Primary deficit	-16.4	-2.4	-0.6	-1.4	8.0	2.6	-2.4	-2.1	-2.2	-1.9	-1.9	-1.3	-5.9	-6.2	-5.7
Revenue and grants	66.2	64.7	69.0			61.6	60.7	45.9	44.0	43.4	42.4		38.9	34.9	
of which: grants	36.6	32.5	32.2			28.6	28.3	14.0	13.0	13.0	12.0		5.1	1.7	
Primary (noninterest) expenditure	62.7	62.3	68.4			64.2	58.3	43.8	41.8	41.5	40.4		33.0	28.7	
Automatic debt dynamics	-8.0	-8.6	-6.9			-8.0	-3.1	-1.9	-1.8	-1.3	-1.0		-1.5	-1.6	
Contribution from interest rate/growth differential	-8.8	-9.3	-7.4			-9.0	-5.2	-3.6	-2.9	-2.2	-1.8		-2.2	-2.3	
of which: contribution from average real interest rate	-4.7	-5.1	-1.5			-5.4	-3.6	-2.4	-2.2	-1.5	-1.1		-0.9	-1.0	
of which: contribution from real GDP growth	-4.1	-4.2	-5.9			-3.6	-1.6	-1.2	-0.8	-0.7	-0.7		-1.2	-1.2	
Contribution from real exchange rate depreciation	0.8	0.7	0.5			1.0	2.1	1.7	1.1	0.9	0.8		...	...	
Other identified debt-creating flows	-0.4	-0.4	-0.3			-0.6	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	-0.3	0.0			-0.6	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities 2/	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)	-0.4	-0.1	-0.3			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 3/	10.0	2.3	-3.4			-4.4	-0.3	-0.3	-0.2	-0.3	0.5		6.8	7.7	
Other Sustainability Indicators															
PV of public sector debt	...	...	46.3			32.3	27.9	24.6	21.4	18.7	16.9		12.4	6.8	
o/w foreign-currency denominated	...	...	31.9			21.1	18.4	16.4	14.3	12.8	11.4		9.5	5.8	
o/w external	...	...	31.9			21.1	18.4	16.4	14.3	12.8	11.4		9.5	5.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 4/	…	…	0.5			5.0	5.2	0.8	0.5	0.5	0.4		-4.1	-5.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	…	…	67.1			52.4	46.0	53.6	48.6	43.0	39.9		31.9	19.4	
PV of public sector debt-to-revenue ratio (in percent)	…	…	125.7			97.9	86.1	77.0	68.9	61.4	55.7		36.7	20.3	
o/w external 5/	…	…	86.8			64.0	56.6	51.4	46.2	42.1	37.7		27.9	17.6	
Debt service-to-revenue and grants ratio (in percent) 6/	…	3.2	6.8			3.6	4.5	5.1	5.5	4.9	4.6		2.5	0.4	
Debt service-to-revenue ratio (in percent) 6/	…	2.2	5.6			2.9	3.0	2.7	2.4	2.1	1.8		0.7	0.1	
Primary deficit that stabilizes the debt-to-GDP ratio	-1.6	6.7	10.6			13.0	3.5	2.2	2.0	1.5	0.5		-5.3	-6.1	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	5.0	6.1	10.2	1.2	7.7	7.3	4.0	3.4	2.5	2.5	3.2	3.8	6.7	7.8	7.2
Average nominal interest rate on forex debt (in percent)	0.7	0.2	2.1	0.9	0.7	1.1	1.3	1.3	1.3	1.3	1.3	1.3	0.6	0.1	0.5
Average real interest rate on forex debt (in percent)	-2.8	-4.2	2.3	7.3	11.5	-7.2	0.5	2.3	0.9	1.7	2.9	0.2	1.8	-1.0	0.9
Real exchange rate depreciation (in percent, + indicates depreciation)	2.1	2.7	1.7	22.3	40.1	4.0	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	6.6	7.4	5.4	-0.6	9.4	13.4	5.5	3.6	5.0	4.2	3.1	5.8	2.1	2.3	2.6
Growth of real primary spending (deflated by GDP deflator, in percent)	0.7	0.1	0.2	0.2	0.3	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	…	…	…	…	…	…	…	40.8	40.8	...

Sources: Country authorities; and Fund staff estimates and projections.
1/ The public sector covers only the central government. The DSA exercise was conducted jointly with the World Bank.
2/ Current estimate of recognized contingent liabilities. Remaining contingent liabilities are estimated at 4.3 percent of GDP.
3/ Residuals are large in the latter half of the projection period due mainly to the large and volatile FDI from the nickel mining company.
4/ 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.
5/ Revenues excluding grants.
6/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.
7/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 3. Solomon Islands: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2008-28
(In percent)

	Projections											
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2028
PV of debt-to GDP ratio												
Baseline	21	18	16	14	13	11	11	11	10	10	9	6
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2008-2028 1/	21	20	23	23	21	20	51	80	88	95	111	52
A2. New public sector loans on less favorable terms in 2008-2028 2	21	18	16	14	13	11	12	11	11	11	10	7
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	21	20	20	17	16	14	13	13	12	12	12	7
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	21	28	56	53	51	48	46	44	42	40	38	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	21	21	22	19	17	15	15	14	14	13	13	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	21	36	46	43	40	39	37	35	34	32	30	10
B5. Combination of B1-B4 using one-half standard deviation shocks	21	45	91	86	82	78	75	72	68	65	61	19
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	21	25	23	20	18	16	15	15	14	14	13	8
PV of debt-to-exports ratio												
Baseline	35	32	22	21	21	20	16	16	13	13	13	12
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2008-2028 1/	35	37	32	34	36	36	73	119	111	124	150	105
A2. New public sector loans on less favorable terms in 2008-2028 2	35	32	22	21	21	20	17	17	14	14	14	13
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	35	32	22	21	21	20	16	16	13	13	13	12
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	35	69	195	201	213	218	168	165	133	132	130	64
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	35	32	22	21	21	20	16	16	13	13	13	12
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	35	65	63	64	68	69	53	52	42	42	41	21
B5. Combination of B1-B4 using one-half standard deviation shocks	35	78	160	166	176	181	139	137	110	110	107	50
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	35	32	22	21	21	20	16	16	13	13	13	12
PV of debt-to-revenue ratio												
Baseline	63	56	51	46	42	37	34	32	30	29	28	17
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2008-2028 1/	63	63	73	73	70	66	157	247	266	285	328	156
A2. New public sector loans on less favorable terms in 2008-2028 2	63	56	51	46	42	37	36	35	33	32	30	20
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	63	62	62	56	51	46	42	40	37	36	34	21
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	63	87	177	171	166	159	143	136	127	120	112	37
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	63	65	68	62	56	50	46	44	41	39	37	23
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	63	113	143	138	133	127	114	109	101	96	89	31
B5. Combination of B1-B4 using one-half standard deviation shocks	63	139	284	276	269	259	232	221	205	195	181	58
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	63	78	71	64	58	52	47	45	42	41	39	24
Debt service-to-exports ratio												
Baseline	2	3	2	2	2	2	2	1	1	1	1	0
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2008-2028 1/	2	4	2	3	3	3	3	4	4	5	5	24
A2. New public sector loans on less favorable terms in 2008-2028 2	2	3	2	2	2	2	2	2	1	1	1	1
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	2	3	2	2	2	2	2	1	1	1	1	1
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	2	4	6	10	10	10	8	7	6	5	7	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	2	3	2	2	2	2	2	1	1	1	1	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	2	3	3	4	3	3	3	2	2	2	3	2
B5. Combination of B1-B4 using one-half standard deviation shocks	2	4	5	8	8	8	6	6	4	4	6	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	2	3	2	2	2	2	2	1	1	1	1	1
Debt service-to-revenue ratio												
Baseline	4	6	5	5	4	4	3	3	3	2	2	0
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2008-2028 1/	4	6	6	7	6	6	6	8	10	11	11	35
A2. New public sector loans on less favorable terms in 2008-2028 2	4	6	5	5	4	4	3	3	3	3	3	1
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	4	6	6	6	5	5	4	4	3	3	3	2
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	4	6	6	9	8	7	6	6	5	5	6	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	4	7	6	7	6	5	5	4	4	3	3	2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	4	6	6	8	7	6	6	5	5	4	6	4
B5. Combination of B1-B4 using one-half standard deviation shocks	4	7	9	13	12	11	10	9	8	7	10	7
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	4	8	7	7	6	5	5	4	4	3	3	2
Memorandum item:												
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	0	0	0	0	0	0	0	0	0	0	0	0

Source: Staff projections and simulations.

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. The DSA exercise was conducted jointly with the World Bank.
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.
3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).
4/ Includes official and private transfers and FDI.
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 4.Solomon Islands: Sensitivity Analysis for Key Indicators of Public Debt 2008-2028

	Projections							
	2008	2009	2010	2011	2012	2013	2018	2028
PV of Debt-to-GDP Ratio								
Baseline	32	28	25	21	19	17	12	7
A. Alternative scenarios 1/								
A1. Real GDP growth and primary balance are at historical averages	32	30	28	25	…	…	…	157
A2. Primary balance is unchanged from 2008	32	33	34	35	37	39	64	106
A3. Permanently lower GDP growth 2/	32	29	27	25	25	26	43	110
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	32	35	41	44	47	52	74	104
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	32	36	42	38	35	33	26	15
B3. Combination of B1-B2 using one half standard deviation shocks	32	35	38	39	41	43	49	46
B4. One-time 30 percent real depreciation in 2009	32	37	34	30	27	25	17	7
B5. 10 percent of GDP increase in other debt-creating flows in 2009	32	37	34	31	28	26	20	11
PV of Debt-to-Revenue Ratio 3/								
Baseline	52	46	54	49	43	40	32	19
A. Alternative scenarios 1/								
A1. Real GDP growth and primary balance are at historical averages	52	48	59	…	…	…	…	…
A2. Primary balance is unchanged from 2008	52	53	73	79	83	90	156	281
A3. Permanently lower GDP growth 2/	52	47	58	57	56	60	107	309
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	52	54	84	94	102	114	185	294
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	52	60	90	87	81	79	66	42
B3. Combination of B1-B2 using one half standard deviation shocks	52	56	81	87	91	98	118	123
B4. One-time 30 percent real depreciation in 2009	52	61	73	68	63	60	44	20
B5. 10 percent of GDP increase in other debt-creating flows in 2009	52	62	74	70	64	61	51	32
Debt Service-to-Revenue Ratio 3/								
Baseline	4	5	5	5	5	5	2	0
A. Alternative scenarios 1/								
A1. Real GDP growth and primary balance are at historical averages	4	5	5	…	…	…	…	…
A2. Primary balance is unchanged from 2008	4	4	6	13	13	17	27	49
A3. Permanently lower GDP growth 2/	4	5	5	7	7	8	16	54
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	4	5	6	13	17	20	32	50
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	4	5	7	19	19	14	7	5
B3. Combination of B1-B2 using one half standard deviation shocks	4	5	7	14	14	18	19	19
B4. One-time 30 percent real depreciation in 2009	4	5	7	8	7	7	5	2
B5. 10 percent of GDP increase in other debt-creating flows in 2009	4	5	7	18	7	13	5	3

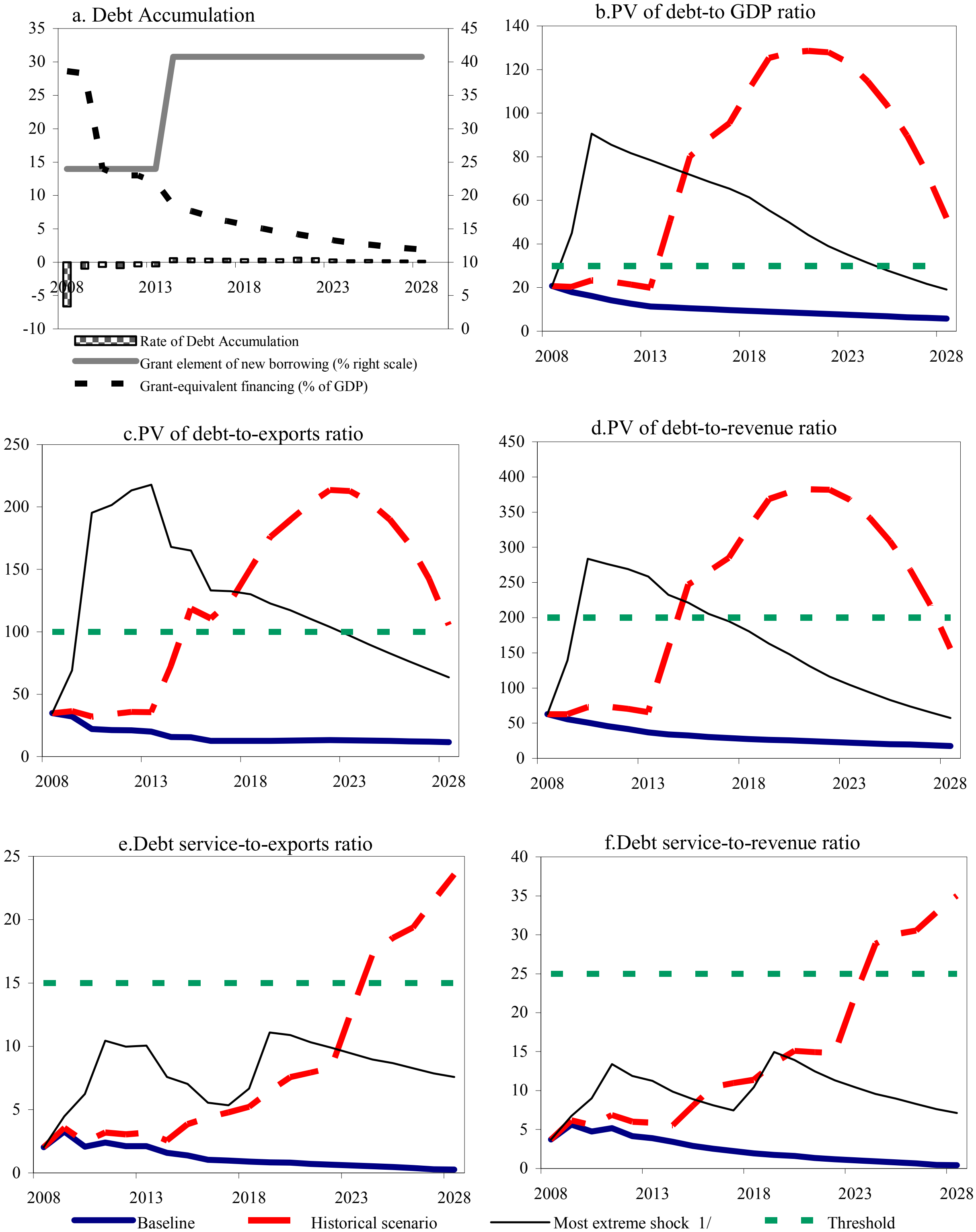
Sources: Country authorities; and Fund staff estimates and projections.

1/ Ratios increase relatively quickly due to the low historical average of real GDP growth stemming from the civil conflict, as well as the assumption of borrowing from 2014 onwards.

2/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the length of the projection period. The DSA exercise was conducted jointly with the World Bank.

3/ Revenues are defined inclusive of grants.

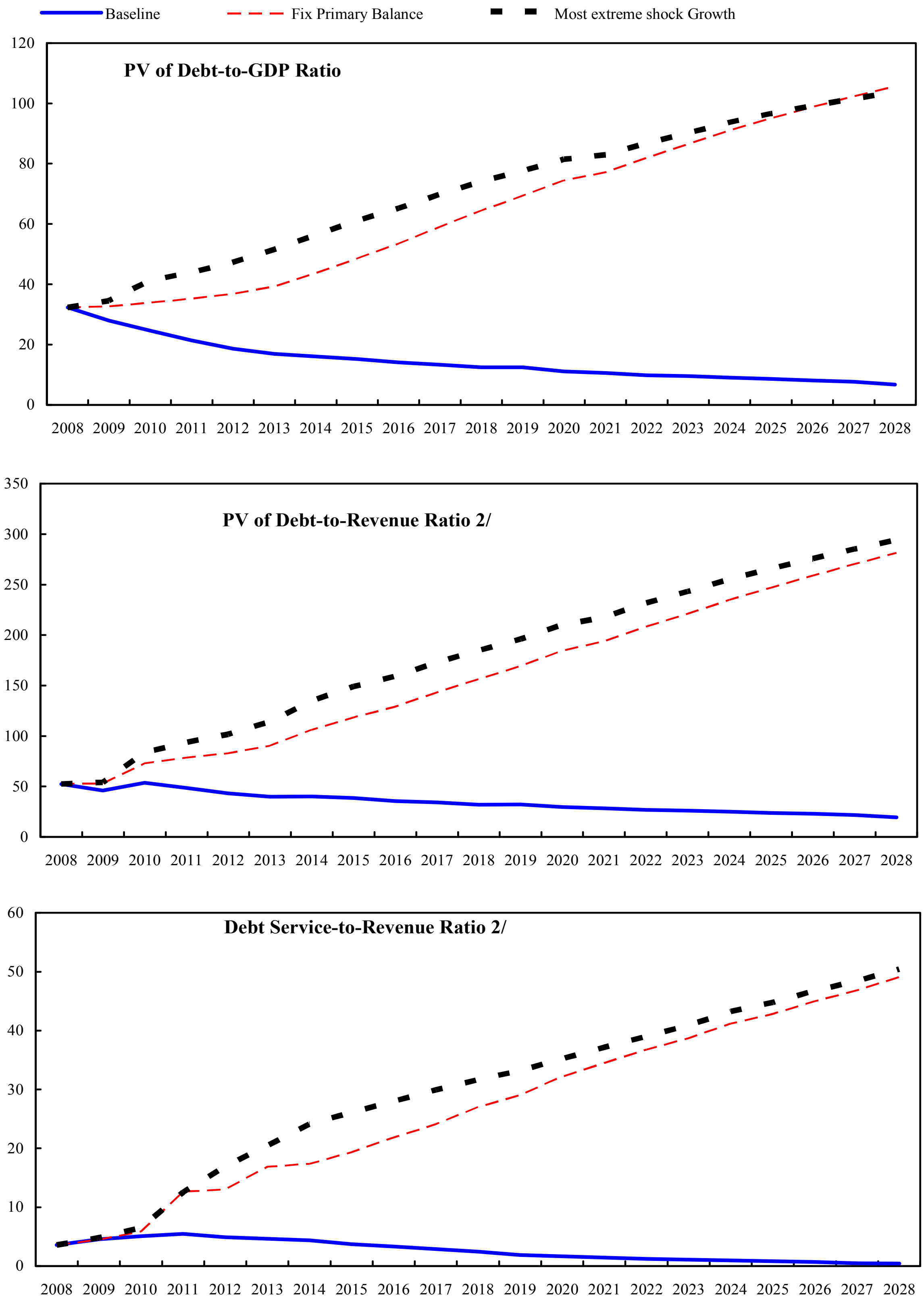
Figure 1. Solomon Islands: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2008-2028 1/



Source: Staff projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2018. In figure b. it corresponds to a Combination shock; in c. to a Exports shock; in d. to a Combination shock; in e. to a Exports shock and in picture f. to a Combination shock

Figure 2. Solomon Islands: Indicators of Public Debt Under Alternative Scenarios, 2008-2028 1/



Sources: Country authorities; and Fund staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2018.

2/ Revenues are defined inclusive of grants.