FOR AGENDA

SM/11/69
Supplement 2

April 11, 2011

To: Members of the Executive Board

From: The Secretary

Subject: **Vanuatu—Staff Report for the 2011 Article IV Consultation— Debt Sustainability Analysis**

The attached debt sustainability analysis for Vanuatu, prepared jointly by the staffs of the Fund and the World Bank, is being issued as a supplement to the staff report for the 2011 Article IV consultation with Vanuatu (SM/11/69, 4/11/11), which is tentatively scheduled for discussion on **Friday, April 22, 2011**. At the time of circulation of this paper to the Board, the authorities of Vanuatu have indicated that they need more time to consider whether they will consent to the Fund's publication of this paper. Publication will only proceed upon the receipt by the Fund of the member's explicit consent. Any requests for modifications for publication are expected to be received two days before the Board concludes its consideration.

Questions may be referred to Mr. Feyzioglu, OMD (ext. 37273) and Ms. Lin, APD (ext. 37177).

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the WTO Secretariat on Tuesday, April 19, 2011; and to the Asian Development Bank and the European Commission, following its consideration by the Executive Board.

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

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VANUATU

STAFF REPORT FOR THE 2011 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS[1]

April 8, 2011

Approved By
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Prepared by the staffs of the International Monetary Fund and the International Development Association

Vanuatu remains at a low risk of debt distress based on the Low-Income Country Debt Sustainability Assessment (LIC DSA). Vanuatu's overall public debt level is low and should remain manageable, provided the fiscal deficit is reduced substantially as planned from the 2010 level. The level of public debt distress may rise if potential GDP growth slows or large contingent liabilities materialize.

[1] This DSA was prepared jointly with the World Bank, in accordance with the Debt Sustainability Framework for low-income countries approved by the Executive Boards of the IMF and IDA. The debt data underlying this exercise were provided by the Vanuatu authorities.

A. Background

1. **In 2010, despite a sharp increase in the fiscal deficit, Vanuatu's public debt remained at a comfortable level of 20 percent of GDP.** The deficit was domestically financed. Vanuatu's total external debt increased to 34 percent of GDP, reflecting higher external liabilities of local banks. Public and publicly guaranteed (PPG) external debt remained at around 15 percent of GDP.[1]

2. **The debt sustainability analysis is based on the standard LIC DSA framework,[2] and the baseline is built on the assumptions presented in Box 1.** The key assumptions are that the near-term GDP growth will recover to 4 percent, the current account deficit will remain below 6 percent of GDP, the primary deficit will decline to close to zero over the long term, and grants will remain stable in the medium term and gradually decline as a share of GDP in the longer term.

3. **These assumptions are somewhat different from the last DSA,** because of the larger-than-expected increase in the fiscal deficit and a slowdown in output growth. In particular, this year the DSA assumes a balanced primary deficit over the long run, compared to a surplus of ½ percent of GDP assumed in the last DSA, and long-term growth potential is assumed to be ½ percentage point slower, closer to the historical average. The current DSA also assumes that the current account deficit will remain around the current level with the export base widening and investment in tourism-related infrastructure helping boost tourism gradually over the long term.

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[1] Due to data limitation, external liabilities of local banks are used as a proxy for total private external debt.

[2] See "Debt Sustainability in Low-Income Countries: Proposal for an Operational Framework and Policy Implications" (http://www.imf.org/external/np/pdr/sustain/2004/020304.pdf and IDA/SECM2004/0035, 2/3/04), "Debt Sustainability in Low-Income Countries: Further Considerations on an Operational Framework and Policy Implications" (http://www.imf.org/external/np/pdr/sustain/2004/091004.pdf and IDA/SECM2004/0629, 9/10/04), and reference to "Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries" (http://www.imf.org/external/np/pp/eng/2010/012210.pdf).

Box 1 Key Assumptions

Key Macroeconomic Assumptions

	Baseline		Historical	2009 DSA Baseline	
	2010-2015	2016-2030	Average	2008-2013	2014-2028
Real GDP growth (percent)	3.7	4.0	3.5	4.4	4.5
Growth of exports of goods and services (U.S. dollar terms)	7.3	7.3	8.7	5.8	7.5
Non-interest current account balance (in percent of GDP)	-5.4	-4.7	-4.9	-5.7	-7.2
GDP deflator growth (U.S. dollar terms)	5.7	3.0	4.8	2.6	3.0
Primary deficit (in percent of GDP)	0.4	0.0	0.5	-1.1	-0.4

- **Real GDP growth** is projected to average around 4 percent in the long term, significantly below the levels observed before the crisis, but somewhat higher than the longer-term historical average, assuming that infrastructure projects will elevate the long-term growth potential of Vanuatu.

- **GDP deflator** (in U.S. dollar terms) is projected to be around 5¾ percent over the period 2010–15 and 3 percent over the long term, which is below the upper limit of the Reserve Bank of Vanuatu's policy target band.

- **Primary deficit** is projected to decline to ¼ percent of GDP by 2012 and close to zero over the long term. This is because Vanuatu's fiscal responsibility law requires the government to maintain its debt at prudent levels and the 2011 budget already envisages a small primary deficit.

- The present of value of **contingent liabilities** is assumed to be 10 percent of GDP for the whole projection period, broadly in line with levels observed in the region.

- **Foreign aid** is projected to remain stable in Australian dollars over 2011–16 and gradually drop to below 1 percent of GDP over the long term as Vanuatu's per capita income level rises significantly.

- The **current account deficit** is expected to remain below 6 percent of GDP over the medium term, reflecting the relatively undiversified export base. Tourism remains the main source of foreign exchange earnings. Over the long term, as Vanuatu's economy matures the current account deficit is projected to decline to below 5 percent of GDP. The deficit is projected to be financed mostly by net FDI, and new external borrowings are assumed to grow gradually in the long run (around half a billion vatu during 2012–16 and double during 2017–30).

B. External Debt Sustainability

4. **Under the baseline scenario, Vanuatu's external debt remains at a sustainable level.** Total and PPG external debt are projected to decline to 30 percent and 11 percent of GDP, respectively, in the medium term and further to 25 percent and 6 percent of GDP, respectively, over the long term. Other key indicators of sustainability—the present value of PPG external debt, the ratio of PPG debt service to exports, and the ratio of PPG debt service to revenue—all remain well below the indicative thresholds. The main reasons are (i) the fiscal deficit is expected to shrink; and (ii) the large trade deficit is expected to continue to be financed by foreign aid and FDI rather than debt-creating flows.

Vanuatu: PPG External Debt Indicators			
	Indicative Thresholds 1/	2009	2010
NPV of PPG external debt			
In percent of GDP	40	14	13
In percent of exports	150	28	26
In percent of revenue	250	72	69
Debt service			
In percent of exports	20	2	1
In percent of revenue	30	4	4

1/ Represents LIC DSA indicative thresholds for Vanuatu that is classified as a medium performer under the World Bank's Country Policy Institutional Assessment.

5. **Stress tests show that Vanuatu's external debt position is vulnerable to a slowdown in exports, although external sustainability is not threatened.** A reduction in exports (of goods and services) value by 4½ percent consecutively during 2011–12, caused by, say, a larger-than-expected impact of the floods in Australia, would raise the present value of PPG external debt to 61 percent of exports by next year, but the ratio would decline to around 20 percent over the long term.

6. **On the other hand, the alternative scenario that is based on historical averages provides a more sanguine picture than the baseline**. This is mainly because the trade deficit was smaller as a percent of GDP over the past decade. Therefore, if the current account deficit reverts back to historical levels, PPG external debt could shrink more quickly.

C. Public Debt Sustainability

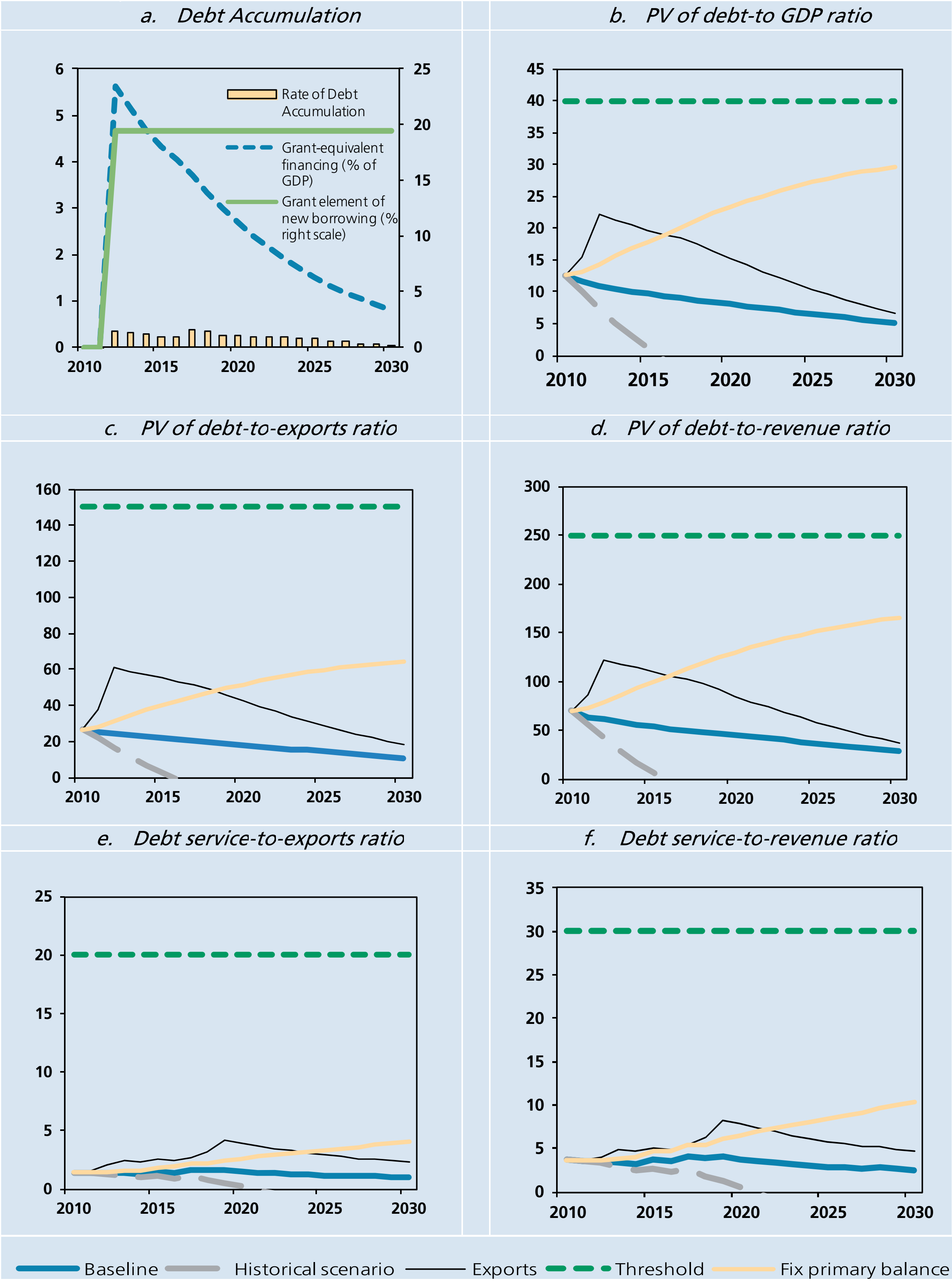
7. **The public sector DSA reinforces the conclusions of the external DSA.** Under the baseline scenario, public sector debt is projected to remain below 20 percent of GDP and decline steadily over the medium and long term. All other indicators point in the same direction. However, if the primary deficit is kept at the 2010 level of 2¼ percent of GDP, then public debt and all related indicators would increase drastically. The present value of debt-to-GDP ratio would reach around 30 percent in 2010 and continue to increase throughout the projection period.

8. **Stress tests indicate that vulnerabilities remain in contingent liabilities or a growth shock.** The government may find itself in a position to take over the liabilities of a state-owned enterprise (SOE) or recapitalize a bank. There is no sufficient information to estimate such contingent liabilities with precision; therefore, a stress test is conducted with a 10-percent of GDP increase in other debt-creating flows, which is broadly in line with experiences in the region. The results suggest that the debt levels increase significantly and return to current levels only in the long run. If, on the other hand, GDP growth slows down permanently (by about 1 percentage point), the debt-to-GDP ratio rises steadily albeit at a quite slow pace.

D. Staff Assessment

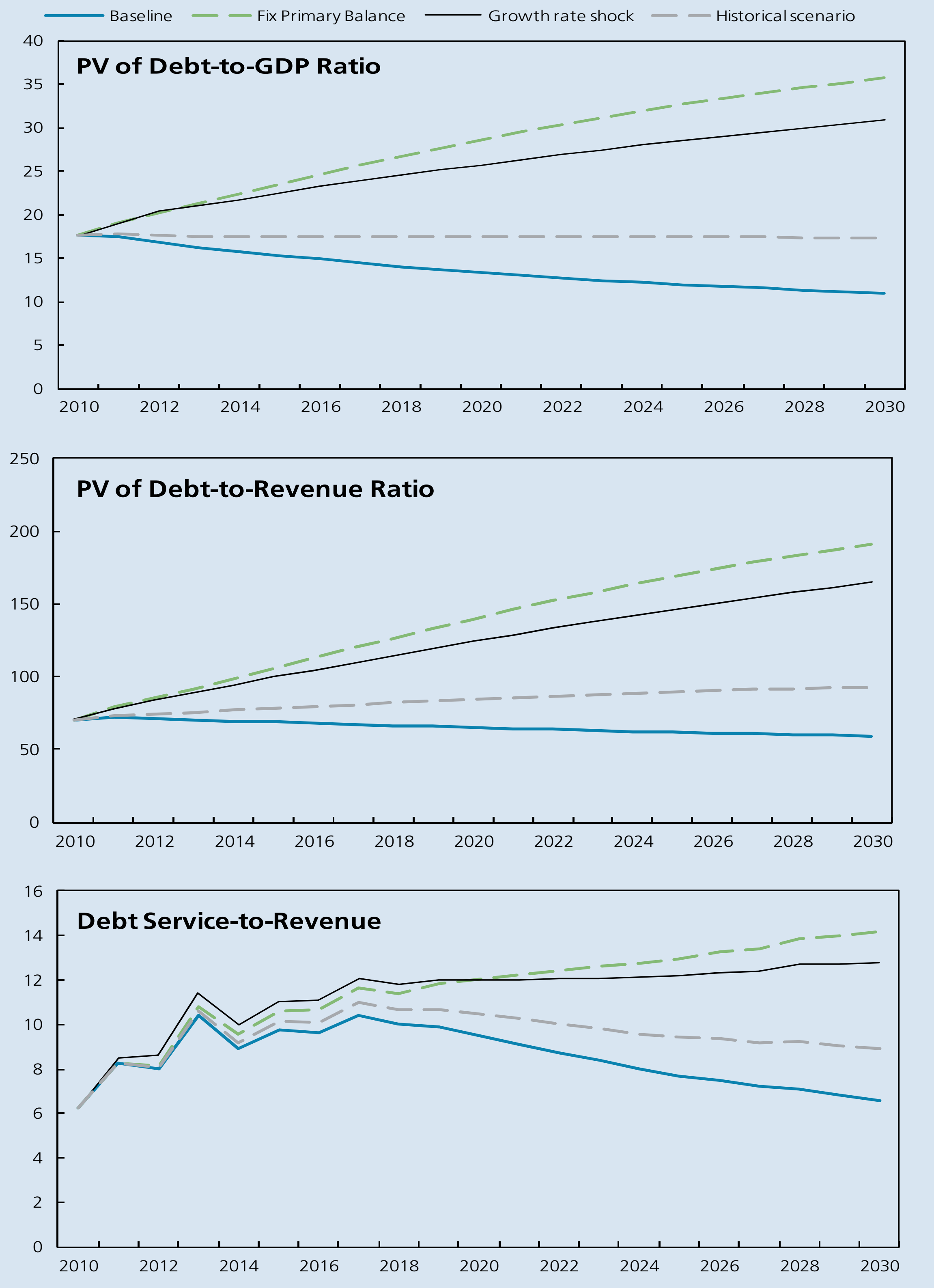
9. **Vanuatu is at a low risk of debt distress, but medium-term vulnerabilities remain.** External and public debt levels are low. To maintain fiscal and external debt levels at manageable levels, current plans to strengthen revenue and reduce wage bill need to be implemented. Also, the government needs to remain vigilant against contingent liabilities building up in the SOEs and the banking system, and ensure Vanuatu's growth potential remains strong.

Figure 1 Vanuatu: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2010–30



Sources: Vanuatu authorities; and IMF staff estimates and projections.

Figure 2 Vanuatu: Indicators of Public Debt Under Alternative Scenarios, 2010–30 1/



Sources: Vanuatu authorities; and IMF staff estimates and projections.

1/ The growth rate shock is when real GDP growth is the historical average minus one standard deviation in 2011-12.

2/ Revenues are defined inclusive of grants.

Table 1 External Debt Sustainability Framework, Baseline Scenario, 2007–30 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 8/	Standard Deviation 8/	Projections									
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-2015 Average	2020	2030	2016-2030 Average
External debt (nominal) 1/	**29.1**	**29.7**	**32.1**			**34.1**	**32.5**	**31.8**	**31.1**	**30.5**	**29.9**		**28.2**	**24.9**	
Of which public and publicly guaranteed (PPG)	13.5	16.8	17.3			15.2	13.6	12.9	12.2	11.6	11.0		9.2	6.0	
Of which foreign liabilities of commercial banks	15.5	12.9	14.8			18.9	18.9	18.9	18.9	18.9	18.9		18.9	18.9	
Change in external debt	-6.9	0.7	2.3			2.1	-1.6	-0.8	-0.7	-0.6	-0.6		-0.3	-0.3	
Identified net debt-creating flows	-9.7	0.7	3.2			-0.3	-0.9	-0.8	-0.7	-0.7	-0.7		-0.9	-1.2	
Non-interest current account deficit	**6.7**	**10.7**	**7.8**	**4.9**	**4.2**	**5.4**	**5.3**	**5.4**	**5.4**	**5.4**	**5.5**		**4.9**	**4.0**	4.7
Deficit in balance of goods and services	6.2	17.1	9.3			6.4	6.4	6.6	6.5	6.4	6.3		5.8	4.8	
Exports	44.3	46.3	50.7			47.7	46.0	45.6	45.3	45.1	44.8		45.0	46.0	
Imports	50.5	63.4	60.0			54.1	52.4	52.2	51.8	51.5	51.1		50.8	50.8	
Net current transfers (negative = inflow)	-4.1	-6.0	-4.2	-4.6	1.6	-3.4	-3.4	-3.1	-2.9	-2.6	-2.3		-1.7	-0.8	-1.4
Of which official	-4.1	-5.7	-3.7			-3.2	-3.1	-2.9	-2.7	-2.5	-2.3		0.0	0.0	
Other current account flows (negative = net inflow)	4.6	-0.4	2.8			2.4	2.3	2.0	1.8	1.7	1.5		0.8	0.0	
Net FDI (negative = inflow)	**-10.6**	**-7.2**	**-5.2**	**-7.3**	**3.7**	**-5.6**	**-5.5**	**-5.5**	**-5.5**	**-5.5**	**-5.6**		**-5.4**	**-5.0**	-5.3
Endogenous debt dynamics 2/	**-5.8**	**-2.8**	**0.5**			**-0.2**	**-0.8**	**-0.7**	**-0.7**	**-0.6**	**-0.5**		**-0.4**	**-0.2**	
Contribution from nominal interest rate	0.3	0.4	0.4			0.5	0.4	0.5	0.5	0.6	0.6		0.7	0.7	
Contribution from real GDP growth	-1.9	-1.6	-1.0			-0.6	-1.2	-1.3	-1.2	-1.2	-1.1		-1.1	-0.9	
Contribution from price and exchange rate changes	-4.2	-1.6	1.2			…	…	…	…	…	…		…	…	
Residual 3/	**2.8**	**0.0**	**-0.9**			**2.4**	**-0.7**	**0.0**	**0.0**	**0.1**	**0.1**		**0.5**	**0.9**	
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	…	…	28.8			31.5	30.4	29.9	29.4	29.0	28.5		26.9	23.9	
In percent of exports	…	…	56.8			66.0	66.0	65.5	65.0	64.3	63.6		59.8	51.9	
PV of PPG external debt	**…**	**…**	**14.1**			**12.6**	**11.5**	**11.0**	**10.5**	**10.1**	**9.6**		**8.0**	**5.0**	
In percent of exports	**…**	**…**	**27.7**			**26.4**	**25.0**	**24.1**	**23.2**	**22.4**	**21.5**		**17.8**	**10.8**	
In percent of government revenues	**…**	**…**	**72.1**			**69.4**	**63.4**	**60.5**	**58.0**	**55.9**	**53.7**		**44.7**	**27.8**	
Debt service-to-exports ratio (in percent) 4/	**2.5**	**2.4**	**2.7**			**3.1**	**3.3**	**3.4**	**3.4**	**3.4**	**4.1**		**4.6**	**4.1**	
PPG debt service-to-exports ratio (in percent)	**1.2**	**1.3**	**1.5**			**1.4**	**1.4**	**1.4**	**1.3**	**1.3**	**1.5**		**1.5**	**1.0**	
PPG debt service-to-revenue ratio (in percent)	**2.5**	**2.8**	**3.9**			**3.7**	**3.5**	**3.5**	**3.3**	**3.2**	**3.7**		**3.8**	**2.5**	
Total gross financing need (Billions of U.S. dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Non-interest current account deficit that stabilizes debt ratio	13.6	10.0	5.5			3.4	6.9	6.2	6.1	6.0	6.0		5.3	4.3	
Key macroeconomic assumptions															
Real GDP growth (in percent)	6.5	6.2	3.5	3.5	4.1	2.2	3.8	4.2	4.0	4.0	4.0	3.7	4.0	4.0	4.0
GDP deflator in U.S. dollar terms (change in percent)	13.2	5.9	-3.8	4.8	6.9	14.9	6.6	3.5	3.2	3.0	3.0	5.7	3.0	3.0	3.0
Effective interest rate (percent) 5/	1.1	1.4	1.3	1.2	0.2	1.7	1.3	1.7	1.8	2.0	2.1	1.7	2.6	3.1	2.7
Growth of exports of G&S (U.S. dollar terms, in percent)	19.8	17.4	9.1	8.7	13.2	10.3	6.8	6.8	6.6	6.6	6.5	7.3	7.3	7.3	7.3
Growth of imports of G&S (U.S. dollar terms, in percent)	18.0	41.1	-5.8	9.7	16.7	5.7	7.3	7.3	6.6	6.4	6.4	6.6	7.1	7.1	7.1
Grant element of new public sector borrowing (in percent)	…	…	…	…	…	…	…	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
Government revenues (excluding grants, in percent of GDP)	20.4	21.1	19.5			18.1	18.1	18.1	18.1	18.0	17.9		17.9	17.9	17.9
Aid flows (in Billions of U.S. dollars) 6/	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Of which Grants	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Of which Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 7/	…	…	…			…	…	5.6	5.1	4.7	4.3		2.7	0.8	2.1
Grant-equivalent financing (in percent of external financing) 7/	…	…	…			…	…	91.5	91.4	91.2	89.5		81.7	72.2	79.4
Memorandum items:															
Nominal GDP (billions of U.S. dollars)	0.5	0.6	0.6			0.7	0.8	0.8	0.9	1.0	1.0		1.4	2.9	
Nominal dollar GDP growth	20.6	12.4	-0.5			17.4	10.7	7.9	7.3	7.1	7.1	9.6	7.1	7.1	7.1
PV of PPG external debt (in billions of U.S. dollars)			0.1			0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	
(PVt-PVt-1)/GDPt-1 (in percent)						-0.2	-0.2	0.3	0.3	0.3	0.2	0.1	0.3	0.0	0.2
Gross workers' remittances (billions of U.S. 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)	…	…	14.1			12.6	11.5	11.0	10.5	10.1	9.6		8.0	5.0	
PV of PPG external debt (in percent of exports + remittances)	…	…	27.7			26.4	25.0	24.1	23.2	22.4	21.5		17.8	10.8	
Debt service of PPG external debt (in percent of exports + remittances)	…	…	1.5			1.4	1.4	1.4	1.3	1.3	1.5		1.5	1.0	

Sources: Vanuatu authorities; and IMF staff estimates and projections.

1/ Includes central government external debt and foreign liabilities of commercial banks.

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.

4/ Debt service includes PPG debt service and that related to foreign liabilities of commercial banks assuming that the latter would follow the same amortization schedule as PPG debt.

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

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

7/ 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).

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

Table 2 Vanuatu: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010–30

(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
PV of debt-to GDP ratio								
Baseline	13	11	11	11	10	10	**8**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	13	10	7	5	3	1	…	…
A2. New public sector loans on less favorable terms in 2010-2030 2/	13	11	11	11	10	10	**9**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	13	12	12	12	11	11	**9**	5
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	13	15	22	21	21	20	**15**	7
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-2012	13	13	13	12	12	11	**9**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	13	13	14	14	13	13	**10**	5
B5. Combination of B1-B4 using one-half standard deviation shocks	13	14	18	18	17	16	**13**	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	13	16	15	15	14	13	**11**	7
PV of debt-to-exports ratio								
Baseline	26	25	24	23	22	21	**18**	11
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	26	22	16	12	7	2	…	…
A2. New public sector loans on less favorable terms in 2010-2030 2/	26	25	24	24	23	23	**20**	15
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	26	25	24	23	22	21	**18**	11
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	26	38	61	59	57	55	**42**	18
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-2012	26	25	24	23	22	21	**18**	11
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	26	29	31	30	29	28	**22**	12
B5. Combination of B1-B4 using one-half standard deviation shocks	26	30	39	38	36	35	**28**	14
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	26	25	24	23	22	21	**18**	11
PV of debt-to-revenue ratio								
Baseline	69	63	61	58	56	54	**45**	28
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	69	55	41	29	17	6	…	…
A2. New public sector loans on less favorable terms in 2010-2030 2/	69	63	61	59	58	56	**51**	38
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	69	66	66	64	61	59	**49**	30
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	69	85	122	118	114	110	**85**	37
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-2012	69	69	70	67	64	62	**51**	32
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	69	73	78	75	73	70	**56**	30
B5. Combination of B1-B4 using one-half standard deviation shocks	69	79	101	97	94	90	**72**	36
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	69	88	84	81	78	75	**62**	39

Table 2 Vanuatu: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010–30 (continued)

(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
Debt service-to-exports ratio								
Baseline	1	1	1	1	1	1	**2**	1
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	1	1	1	1	1	1	**0**	…
A2. New public sector loans on less favorable terms in 2010-2030 2/	1	1	1	1	1	2	**2**	1
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	1	1	1	1	1	1	**2**	1
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	1	2	2	2	2	3	**4**	2
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-2012	1	1	1	1	1	1	**2**	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	1	1	1	1	1	2	**2**	1
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	2	2	2	2	**2**	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	1	1	1	1	1	1	**2**	1
Debt service-to-revenue ratio								
Baseline	4	4	3	3	3	4	**4**	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	4	4	3	3	2	3	**0**	…
A2. New public sector loans on less favorable terms in 2010-2030 2/	4	4	3	3	3	4	**5**	4
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	4	4	4	4	4	4	**4**	3
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	4	4	4	5	5	5	**8**	5
B3. U.S. dollar GDP deflator at historical average minus one standard deviation in 2011-2012	4	4	4	4	4	4	**4**	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	4	4	4	4	4	4	**5**	3
B5. Combination of B1-B4 using one-half standard deviation shocks	4	4	4	5	4	5	**6**	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	4	5	5	5	4	5	**5**	4
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	19	19	19	19	19	19	**19**	19

Sources: Vanuatu authorities; and IMF 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.

Table 3 Vanuatu: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007–30

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2007	2008	2009	Average 5/	Standard Deviation 5/	2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
Public sector debt 1/	19.1	21.1	21.2			20.2	19.7	18.7	17.8	17.2	16.6		14.5	12.0	
Of which foreign-currency denominated	13.5	16.8	17.3			15.2	13.6	12.9	12.2	11.6	11.0		9.2	6.0	
Change in public sector debt	-3.2	2.1	0.1			-1.1	-0.5	-1.0	-0.8	-0.7	-0.5		-0.4	-0.2	
Identified debt-creating flows	-3.5	-0.1	-2.3			0.9	-0.5	-1.0	-0.8	-0.7	-0.5		-0.4	-0.2	
Primary deficit	-0.9	-0.4	0.2	0.5	2.5	2.2	0.3	-0.1	-0.1	-0.1	0.0	0.4	0.0	0.1	0.0
Revenue and grants	22.3	27.7	26.8			25.0	24.2	23.6	23.1	22.6	22.2		20.5	18.7	
Of which: grants	1.8	6.6	7.3			6.8	6.0	5.5	5.0	4.6	4.2		2.5	0.7	
Primary (noninterest) expenditure	21.4	27.3	27.1			27.2	24.5	23.5	23.0	22.6	22.2		20.5	18.8	
Automatic debt dynamics	-2.6	0.2	-2.6			-1.3	-0.8	-0.9	-0.7	-0.6	-0.6		-0.3	-0.3	
Contribution from interest rate/growth differential	-1.4	-1.0	-0.4			-0.2	-0.4	-0.6	-0.5	-0.5	-0.4		-0.2	-0.2	
Of which: contribution from average real interest rate	-0.1	0.1	0.3			0.3	0.3	0.2	0.2	0.2	0.2		0.3	0.2	
Of which: contribution from real GDP growth	-1.4	-1.1	-0.7			-0.5	-0.7	-0.8	-0.7	-0.7	-0.7		-0.6	-0.5	
Contribution from real exchange rate depreciation	-1.2	1.3	-2.2			-1.1	-0.4	-0.3	-0.2	-0.1	-0.1		...	...	
Other identified debt-creating flows	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (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	0.3	2.2	2.5			-2.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	18.0			17.5	17.5	16.8	16.1	15.7	15.3		13.3	11.0	
Of which foreign-currency denominated	...	...	14.1			12.6	11.5	11.0	10.5	10.1	9.6		8.0	5.0	
Of which external	...	...	14.1			12.6	11.5	11.0	10.5	10.1	9.6		8.0	5.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Gross financing need 2/	0.7	2.8	2.4			3.8	2.3	1.8	2.3	2.0	2.2		1.9	1.3	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	67.1			70.3	72.5	70.9	69.7	69.2	68.9		64.9	58.9	
PV of public sector debt-to-revenue ratio (in percent)	...	...	92.3			96.8	96.7	92.5	89.1	86.8	85.1		74.1	61.3	
Of which external 3/	...	...	72.1			69.4	63.4	60.5	58.0	55.9	53.7		44.7	27.8	
Debt service-to-revenue and grants ratio (in percent) 4/	7.0	11.3	8.0			6.3	8.2	8.0	10.4	8.9	9.7		9.5	6.5	
Debt service-to-revenue ratio (in percent) 4/	7.6	14.8	11.0			8.6	11.0	10.4	13.3	11.2	12.0		10.9	6.8	
Primary deficit that stabilizes the debt-to-GDP ratio	2.3	-2.4	0.1			3.3	0.8	0.9	0.7	0.6	0.6		0.3	0.3	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	6.5	6.2	3.5	3.5	4.1	2.2	3.8	4.2	4.0	4.0	4.0	3.7	4.0	4.0	4.0
Average nominal interest rate on forex debt (in percent)	1.1	1.6	1.3	1.2	0.2	1.4	1.2	1.7	1.7	1.9	2.1	1.6	2.6	2.9	2.6
Average real interest rate on domestic debt (in percent)	2.8	2.7	5.9	3.9	1.7	4.9	6.8	2.5	3.3	3.7	3.8	4.2	5.3	3.1	4.4
Real exchange rate depreciation (in percent, + indicates depreciation)	-7.9	10.0	-13.4	-2.6	9.7	-6.6	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	4.8	4.8	1.3	2.7	1.7	2.8	4.0	3.5	3.2	3.0	3.0	3.2	3.0	3.0	3.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.2	0.4	0.0	0.1	0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	...	...	...	...	19.5	19.5	19.5	19.5	19.5	19.5	19.5	...

Sources: Vanuatu authorities; and IMF staff estimates and projections.

1/ Includes central government debt.

2/ Gross financing need is defined as the primary deficit plus debt service.

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 4 Vanuatu: Sensitivity Analysis for Key Indicators of Public Debt 2010–30

(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
PV of Debt-to-GDP Ratio								
Baseline	18	18	17	16	16	15	13	11
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	18	18	18	17	17	17	17	17
A2. Primary balance is unchanged from 2010	18	19	20	21	22	24	29	36
A3. Permanently lower GDP growth 1/	18	18	17	17	17	18	21	36
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	18	19	20	21	22	22	26	31
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	18	20	21	20	20	19	17	13
B3. Combination of B1-B2 using one half standard deviation shocks	18	19	20	20	20	20	21	22
B4. One-time 30 percent real depreciation in 2011	18	23	22	21	20	19	17	13
B5. 10 percent of GDP increase in other debt-creating flows in 2011	18	25	24	23	23	22	19	14
PV of Debt-to-Revenue Ratio 2/								
Baseline	70	73	71	70	69	69	65	59
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	70	73	74	75	77	78	85	92
A2. Primary balance is unchanged from 2010	70	79	85	92	99	106	140	191
A3. Permanently lower GDP growth 1/	70	73	73	74	77	80	102	193
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	70	78	84	89	94	100	124	165
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	70	81	90	88	88	87	81	70
B3. Combination of B1-B2 using one half standard deviation shocks	70	78	85	86	89	92	102	120
B4. One-time 30 percent real depreciation in 2011	70	94	92	90	89	88	81	71
B5. 10 percent of GDP increase in other debt-creating flows in 2011	70	105	103	102	101	100	92	78
Debt Service-to-Revenue Ratio 2/								
Baseline	6	8	8	10	9	10	10	7
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	6	8	8	11	9	10	10	9
A2. Primary balance is unchanged from 2010	6	8	8	11	10	11	12	14
A3. Permanently lower GDP growth 1/	6	8	8	11	9	10	11	13
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	6	9	9	11	10	11	12	13
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	6	8	8	11	9	10	11	8
B3. Combination of B1-B2 using one half standard deviation shocks	6	8	8	11	10	11	11	10
B4. One-time 30 percent real depreciation in 2011	6	9	9	12	10	11	11	8
B5. 10 percent of GDP increase in other debt-creating flows in 2011	6	8	9	12	10	11	12	8

Sources: Vanuatu authorities; and IMF 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.