INTERNATIONAL MONETARY FUND

DOMINICA

Debt Sustainability Analysis

Prepared by the Staff of the International Monetary Fund

In consultation with World Bank Staff

July 11, 2008

The analysis shows that despite the adverse impact of Hurricane Dean in August 2007, Dominica has steadily improved its debt sustainability outlook due to the authorities' firm commitment to sound fiscal policies. Nevertheless, the outlook still presents large risks related to a possible further weakening of global economic outlook, the dependence on aid flows to finance capital expenditure, and vulnerability to natural disasters.

I. Underlying DSA Assumptions

1. Staff has prepared a baseline scenario whose main parameters are consistent with the authorities' updated Growth and Social Protection Strategy (GSPS). The main assumptions for the baseline scenario are outlined in Box 1.

2. Dominica has a CPIA rating of 3.85 in 2007 and is, therefore, classified as a strong performer. The corresponding indicative policy thresholds for Dominica are shown below.

Debt Burden Thresholds for Dominica (Applying to external public debt)					
	NPV of debt in percent of			Debt Service in percent of	
	Exports	GDP	Revenue	Exports	Revenue
Strong Policy	200	50	300	25	35

Box 1. Baseline Macroeconomic Assumptions (2008–2028)

- Real growth is projected at 3 percent of GDP over the projection period after a two-year period of slightly lower growth related to the current global slowdown.[1] Growth would be supported by continuing policy reform to reduce the cost of doing business and strong FDI flows to expand capacity in the tourism sector. Inflation is projected to remain low (1.5 percent per year) after the international food and fuel price shocks are assimilated.

- Primary balance of the central government remains at 3 percent of GDP from 2009 in line with the GSPS and previous DSA. Public enterprises run an overall deficit of 0.5 percent of GDP, following the average observed during the 1999–2006 period.

- External grants decline to 7 percent of GDP after the aid surge observed in the last two fiscal years (FY 2006/07–07/08). Projected aid is larger than the historical level but still consistent with the authorities' initiatives to improve aid management and recent economic cooperation agreements. To assess the impact of uncertain grants, we undertake a stress test below.

- Annual disbursements of external concessional debt are assumed to be 1.5 percent of GDP through 2013 in line with previous DSAs, and decline afterwards to 0.5 percent of GDP as financing needs diminish[2]. The financing terms are similar to those of existing external debt. New domestic debt is projected to be available at an interest rate of 7 percent (as in previous DSA).
- PetroCaribe financing is excluded from the DSA because no information is yet available to asses the scope of this initiative in Dominica. However, the omission of PetroCaribe operations will not significantly distort the debt outlook given the authorities' commitment to save the bulk of the concessional financing for fuel consumption.

- The current account deficit is assumed to remain high during 2008–13, then gradually fall to a level almost fully financed by aid flows and FDI. While exports of goods are projected to grow in line with GDP, tourism receipts are projected to grow vigorously as the transition from bananas to tourism progresses given that Dominica's tourism is still at its early development stage and it plans to attract more high-end stay-over tourists.

- FDI is assumed to remain at its 2006–07 level of 8 percent of GDP.

[1] A revision in the national accounts statistics for the 2000–2006 period led to a higher nominal GDP by about 3 percent compared with nominal GDP estimates reported in the 2007 Article IV consultation.

[2] Previous DSA assumed annual disbursements of external concessional debt to be 1.5 percent of GDP over the whole projection period. Due to Dominica's improved debt sustainability over the past two years, such an assumption is no longer valid because it over-addresses Dominica's long-term financing needs.

II. Evaluation of Public Sector Debt Sustainability

Dominica's public debt at end-2007

3. As of end-2007, Dominica's public sector debt stood at 94 percent of GDP, of which 65 percent represented external debt and the remaining 35 percent was domestic debt. Regarding the external debt, the largest share is owed to multilateral creditors (about 70 percent of GDP, with the Caribbean Development Bank holding more than half of that), followed by the debt with bilateral and commercial creditors (about 14½ and 12 percent of GDP, respectively). Regarding the domestic debt, the largest creditor is Dominica's own Social Security System (about 11½ percent of GDP). In NPV terms, public sector debt stood at around 88.5 percent of GDP, due to the concessionality of most of the external debt (whose NPV was around 64 percent of GDP).[3]

The baseline scenario

4. Under the baseline scenario (Table 1a), the indicators show progressive improvement in terms of debt sustainability. However, the debt service to revenue (and grant) ratio increases in 2008 and 2009 and remains high until 2015, which calls for maintaining fiscal discipline in order to avoid liquidity constraints. Under this scenario, Dominica would reach a public debt to GDP ratio of 60 percent —the ECCB benchmark—by 2014.

Alternative scenarios and stress tests

Changes in growth and primary balance

5. The key drivers of Dominica's debt path are economic growth and the primary surplus target. Both are subject to large exogenous shocks, such as volatility of grants (see below) and foreign growth, in particular U.S. growth. Staff estimate that the elasticity of growth in Dominica to economic cycles in the U.S. is slightly greater than one.

6. The sensitivity analysis highlights two important features (Table 1b). First, the public debt starts rising again if Dominica's primary balance and economic growth return to their

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[3] The figures could change somewhat depending on the final agreement with hold-out creditors (since different options have different hair-cuts). These final agreements, however, should not have a material impact on the debt sustainability paths given that all the options available for restructuring have the same NPV. The simulations in this appendix assume that hold-out creditors take the intermediate bond, which carries a hair-cut of 20 percent. The discount rate for the NPV calculations is 5 percent.

average of the last ten years (a primary balance of 0.4 percent and annual growth of 1 percent), as pointed in scenario A1. Second, the public debt stays on a declining path if Dominica can maintain the fiscal effort projected for 2008 (a primary balance of 2.4 percent, slightly below target of 3 percent of GDP), as pointed in scenario A2.

7. The alternative scenario A3 shows the role of sustained growth. If growth declines to 2.3 percent per year, debt initially declines but later reverts to an increasing path. This is because fiscal expenditure is the driver of the debt trajectory. As output growth slows, primary expenditure is projected to rise relative to the baseline scenario while tax revenues are assumed to remain roughly constant, leading to a deterioration of the primary balance. Figure 2 illustrates the role of economic growth and the primary balance in the debt path. As shown in the second panel, the debt-to-GDP ratio declines even with slower economic growth if supported by a steady fiscal policy committed to the 3 percent primary surplus target.

Decline in aid flows

8. External grants to the central government reached an average 8.1 percent of GDP during the past three fiscal years, about 4 percentage points higher than the average received during the 1990s. Figure 2 (lower panel) shows the implications of a 3 percent of GDP reduction in aid flows from 2009. The exercise examines two alternative scenarios: (i) the partial adjustment scenario, which assumes that government cuts public investment spending by 1½ percent of GDP in response to the declining aid flows and finances the rest of the aid decline with larger borrowing (the resulted increase in borrowing is assumed to raise domestic interest rates by one percentage point). As a consequence, primary surplus declines to 1½ percent of GDP per year. (ii) The no adjustment scenario assumes no cut in public investment. The aid decline is financed entirely via higher borrowing, which increases domestic interest rates by two percentage points. In both scenarios, the new borrowing is assumed to be funded in the domestic market.

9. As the figure illustrates, in the no adjustment scenario where the aid decline is addressed solely by larger borrowing, public debt quickly starts rising again due to the compounded effects of increasing debt and higher refinancing interest rates. The debt ratio stabilizes at around 60 percent in the partial adjustment scenario.

Other shocks

10. Other shocks include possible natural disasters, shocks to interest rates, and the balance sheet effects of further depreciation of the U.S. dollar against other major international currencies.

- **Another hurricane** of similar magnitude as Hurricane Dean. The sensitivity exercise (not shown) indicated that after an initial increase, the debt ratio returns to a downward trajectory after growth is restored and reconstruction projects are completed[4].

- **Interest rate** shocks have little impact on Dominica's public debt because most of its debt, including domestic debt, is contracted at fixed interest rates.

- **A further depreciation of the U.S. dollar against other major currencies** would have a modest balance sheet effect given Dominica's debt currency composition. About 69 percent of the external debt is denominated in U.S. dollars, 21 percent in SDRs (where the weight of the U.S. dollar is about 44 percent), and 3.2 percent is denominated in Euro.

III. Evaluation of External Debt Sustainability

11. The majority of Dominica's external debt is owed by the public sector, as most private sector borrowing takes place with domestic commercial banks. Therefore, the external DSA shares similar properties as the public sector DSA.

12. Since the debt restructuring, external debt continues to decline in the baseline scenario (Table 1c). Similar to the public sector DSA, the indicators of debt sustainability that do not decline continuously are those related to the share of external debt service as a percent of exports and public sector revenues. Both indicators increase until 2009, reflecting the initial consequence of the debt restructuring, before they start to decline. In addition, the adverse impact of Hurricane Dean on exports and the closure of a large foreign manufacturing toothpaste factory in late 2007 also help explain the temporary hike in the debt service as a share of exports. The large residuals observed over the medium term result from the fact that there is no independent estimate of private sector debt, and is excluded from the analysis.

13. Sensitivity tests (Table 1d) show an improved picture of Dominica's external debt sustainability. If key variables stay at their historical averages[5], external debt would remain on a declining path as higher grants and FDI would result in less external debt. Higher interest rates (Scenario A2) have little impact on the external debt paths as in the baseline scenario Dominica faces low financing needs (see previous section).

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[4] Dominica participates in the Caribbean Catastrophe Risk Insurance Facility (CCRIF), a regional insurance pool organized by the World Bank.

[5] The average is calculated based on past 10 years record (1998–2007).

IV. CONCLUSIONS

14. Continuing the process of debt restructuring, Dominica has improved its debt sustainability on the basis of economic growth and the steadfast implementation of the strong fiscal policy outlined in the GSPS. Fiscal policy remained strong following Hurricane Dean as stated in the authorities' request for emergency assistance from the Fund. Public debt projections show a declining trend similar to that reported in previous DSAs. However, the current projection will achieve the ECCB target of 60 percent for the debt-to-GDP ratio in 2014, two years earlier than projected in the 2007 Article IV consultation DSA. In addition, Dominica managed to reduce debt-related vulnerabilities by joining the Caribbean Catastrophe Risk Insurance Facility and introducing a pension reform.

15. Important debt-related vulnerabilities still remain despite the significant progress achieved: (i) public debt is still high at 94 percent of GDP; (ii) there is a bunching of payments in 2008–11,[6] (iii) new grant flows are uncertain and volatile; and (iv) Dominica is exposed to external shocks and weather-related vulnerabilities.

16. The updated GSPS rightly maintains the primary surplus target of 3 percent of GDP to achieve a more comfortable debt ratio and thus create room to deal with natural disasters and eventually adopt some countercyclical policies.

[6] Debt with Government of Bahamas (US$4 million) and with Government of Trinidad and Tobago (US$10 million) are scheduled to be repaid in 2008 but are highly likely to be rolled over into 2009 in line with past practice.

Table 1a.Dominica: Public Sector Debt Sustainability Framework, Baseline Scenario, 2005–28

(In percent of GDP, unless otherwise indicated)

	Actual					Projections									
	2005	2006	2007	Historical Average 1/	Standard Deviation 1/	2008	2009	2010	2011	2012	2013	Average 2008–13	2018	2028	Average 2014–28
Public sector debt 2/	**103.6**	**102.0**	**94.3**			**86.3**	**81.2**	**77.2**	**73.3**	**69.4**	**65.6**		**48.1**	**18.3**	
Of which: Foreign-currency denominated 3/4/	71.1	70.0	65.0			59.3	55.3	52.0	48.2	44.8	42.0		26.8	10.0	
Change in public sector debt	-6.9	-1.6	-7.7			-8.1	-5.1	-4.0	-4.0	-3.9	-3.8		-3.3	-2.8	
Identified debt-creating flows 5/	...	-7.6	-6.6			-7.7	-5.1	-4.0	-4.0	-3.9	-3.8		-3.3	-2.8	
Primary deficit	-4.2	-6.9	-5.0	-0.4	5.5	-2.7	-3.2	-3.2	-3.2	-3.1	-3.1	-3.1	-3.0	-3.1	-3.1
Revenue and grants	46.9	48.6	49.7			48.0	46.5	45.8	45.2	45.0	45.0		45.0	45.0	
Of which: Grants	6.5	7.4	8.6			8.9	8.4	7.9	7.3	7.1	7.1		7.1	7.1	
Primary (noninterest) expenditure	42.7	41.7	44.7			45.3	43.3	42.6	42.0	41.8	41.9		41.9	41.9	
Automatic debt dynamics	-2.0	-1.4	-1.6			-5.0	-1.8	-0.8	-0.8	-0.8	-0.7		-0.3	0.3	
Contribution from interest rate/growth differential	-4.1	-3.1	-1.5			-2.4	-1.2	-1.0	-1.1	-1.0	-0.9		-0.5	0.2	
Of which: Contribution from average real interest rate	-0.6	0.8	0.0			0.0	1.1	1.4	1.2	1.1	1.1		1.0	0.8	
Of which: Contribution from real GDP growth	-3.6	-4.0	-1.5			-2.4	-2.4	-2.4	-2.2	-2.1	-2.0		-1.5	-0.6	
Contribution from real exchange rate depreciation	2.1	1.7	-0.1			-2.6	-0.6	0.2	0.3	0.2	0.2		...	...	
Other identified debt-creating flows	...	0.7	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-1.9	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	
Debt relief (HIPC and other) 6/	-0.5	0.7	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	...	6.0	-1.1			-0.4	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
NPV of public sector debt	**101.3**	**95.9**	**88.6**			**79.9**	**73.6**	**69.3**	**65.5**	**61.8**	**58.2**		**43.4**	**17.2**	
Of which: Foreign-currency denominated	68.8	63.9	59.2			52.9	47.7	44.0	40.5	37.3	34.6		22.2	8.9	
Of which: External	68.8	63.9	59.2			52.9	47.7	44.0	40.5	37.3	34.6		22.2	8.9	
Gross financing need 6/	0.5	-0.8	1.3			4.6	4.9	3.9	3.7	3.5	2.9		0.6	-0.6	
NPV of public sector debt-to-revenue and grants ratio (in percent)	216.1	197.2	178.3			166.5	158.2	151.3	145.1	137.5	129.4		96.4	38.3	
NPV of public sector debt-to-revenue ratio (in percent)	250.7	232.7	215.4			204.4	193.2	182.9	173.0	163.3	153.6		114.5	45.5	
Of which: External 7/	170.3	155.1	144.0			135.3	125.3	116.3	107.0	98.5	91.3		58.5	23.6	
Debt service-to-revenue and grants ratio (in percent) 8/	10.1	12.6	12.6			15.1	17.5	15.5	15.3	14.8	13.3		8.1	5.5	
Debt service-to-revenue ratio (in percent) 8/ 9/	11.7	14.9	15.2			18.5	21.3	18.8	18.2	17.5	15.8		9.7	6.5	
Primary deficit that stabilizes the debt-to-GDP ratio	2.7	-5.3	2.7			5.4	1.8	0.8	0.8	0.8	0.7		0.3	-0.3	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.3	4.0	1.5	1.0	3.2	2.6	2.8	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0
Average nominal interest rate on forex debt (in percent)	2.0	2.4	2.2	3.5	1.2	2.6	2.8	2.7	2.6	2.5	2.4	2.6	2.5	5.5	3.4
Average real interest rate on domestic currency debt (in percent)	3.5	4.4	1.2	4.8	2.9	-1.3	2.1	3.8	3.7	3.7	3.9	2.6	4.2	4.7	4.4
Real exchange rate depreciation (in percent, + indicates depreciation)	2.9	2.5	-0.2	0.7	1.5	-4.1	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	1.5	0.6	2.9	1.6	1.0	6.3	2.8	1.5	1.5	1.5	1.5	2.5	1.5	1.5	1.5
Growth of real primary spending (deflated by GDP deflator, in percent)	4.3	3.0	10.3	4.0	11.8	3.3	-1.8	1.3	1.6	2.6	3.1	1.7	3.0	3.0	3.0
Grant element of new external borrowing (in percent)	...	...	17.9			17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	...

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

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

2/ Nonfinancial Public Sector (includes debt with Dominica's Social Security System). Projections are net of accumulation of assets.

3/ Refers to external debt. Assumes that nonpartcipating creditors receive the intermediate bond. Excludes external interest arrears. Arrears with participating creditors have been settled as part of the debt restructuring. Arrears with nonparticipating creditors are either in dispute or expected to be settled when an agreement is reached. Undisputed interest arrears are approximately 0.4 percent of GDP

4/ For 2005, it includes the reallocation of part of an external bond (around 4 percent of GDP) from external to domestic

5/ Fiscal year aggregates are averaged to estimate calendar year figures.

6/ In 2004/05, it is assumed that all nonparticipating creditors received the intermediate bond, which carries a face value reduction of 20 percent.

7/ 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.

8/ Revenues including grants.

Table 1b. Dominica: Sensitivity Analysis for Key Indicators of Public Debt 2008–28

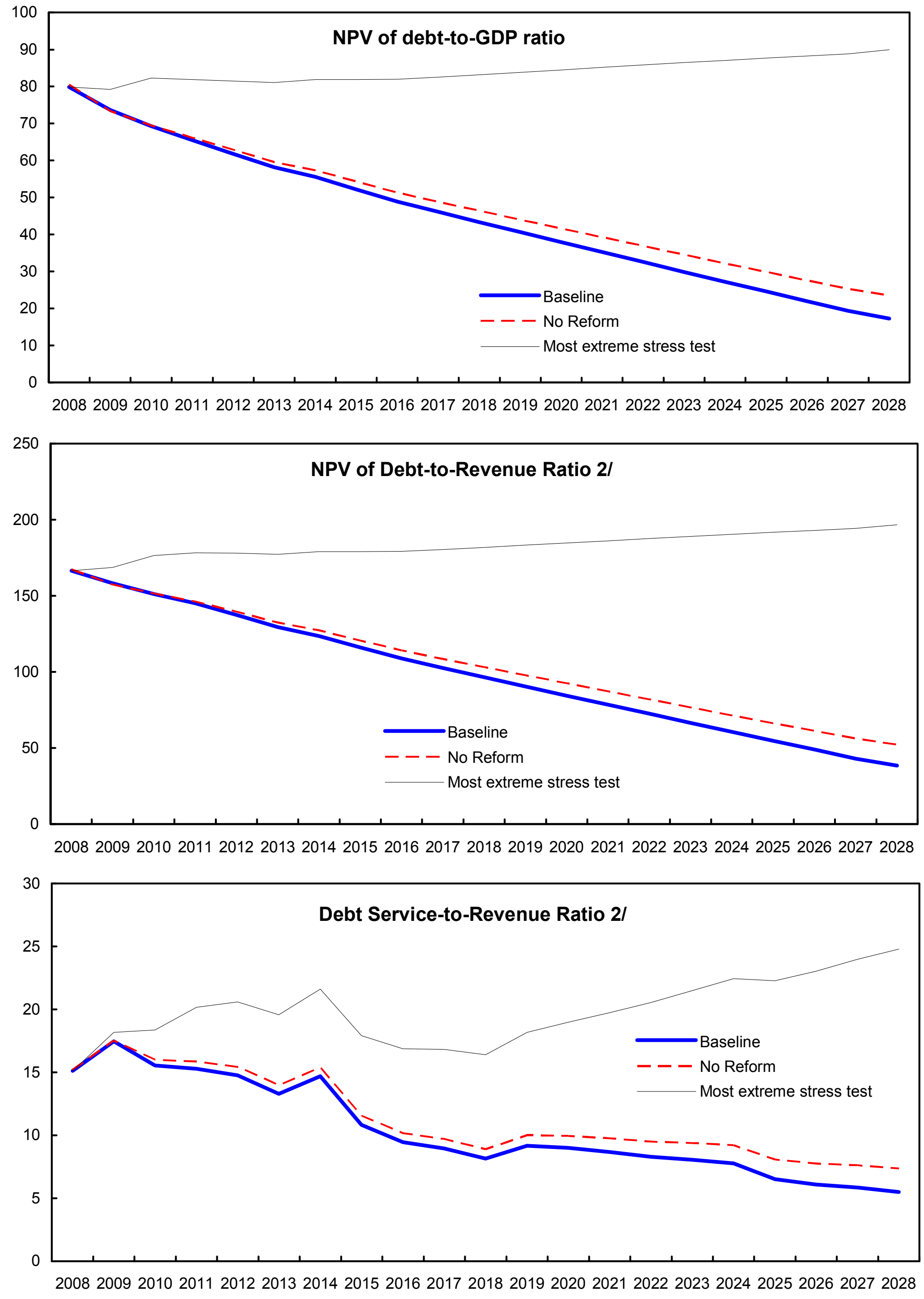
	Projections							
	2008	2009	2010	2011	2012	2012	2018	2028
NPV of Debt-to-GDP Ratio								
Baseline	80	74	69	66	62	58	43	17
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	80	77	77	77	77	77	83	98
A2. Primary balance is unchanged from 2008	80	73	69	66	63	60	46	23
A3. Permanently lower GDP growth 1/	80	75	72	69	67	65	63	80
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009–10	80	79	82	82	81	81	83	90
B2. Primary balance is at historical average minus one standard deviations in 2009–10	80	81	85	81	77	74	61	36
B3. Combination of B1–B2 using one half standard deviation shocks	80	82	85	81	77	73	57	28
B4. One-time 30 percent real depreciation in 2009	80	96	91	87	83	80	65	38
B5. 10 percent of GDP increase in other debt-creating flows in 2009	80	83	78	75	71	67	53	26
NPV of Debt-to-Revenue Ratio 2/								
Baseline	167	158	151	145	137	129	96	38
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	167	165	166	168	169	169	177	203
A2. Primary balance is unchanged from 2008	167	157	152	146	140	132	103	52
A3. Permanently lower GDP growth 1/	167	160	156	153	148	144	138	173
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009–10	167	169	177	178	178	177	182	197
B2. Primary balance is at historical average minus one standard deviations in 2009–10	167	175	185	179	172	165	134	79
B3. Combination of B1–B2 using one half standard deviation shocks	167	174	183	177	169	160	125	61
B4. One-time 30 percent real depreciation in 2009	167	206	199	193	185	177	144	85
B5. 10 percent of GDP increase in other debt-creating flows in 2009	167	178	171	165	157	149	117	58
Debt Service-to-Revenue Ratio 2/								
Baseline	15	17	16	15	15	13	8	5
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	15	18	18	19	19	19	16	26
A2. Primary balance is unchanged from 2008	15	18	16	16	15	14	9	7
A3. Permanently lower GDP growth 1/	15	18	16	16	16	15	13	21
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009–10	15	18	18	20	21	20	16	25
B2. Primary balance is at historical average minus one standard deviations in 2009–10	15	18	22	24	19	16	11	12
B3. Combination of B1–B2 using one half standard deviation shocks	15	18	21	22	19	16	10	9
B4. One-time 30 percent real depreciation in 2009	15	18	18	17	17	15	10	9
B5. 10 percent of GDP increase in other debt-creating flows in 2009	15	18	23	18	17	15	9	9

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

1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of 20 (i.e., the length of the projection period).

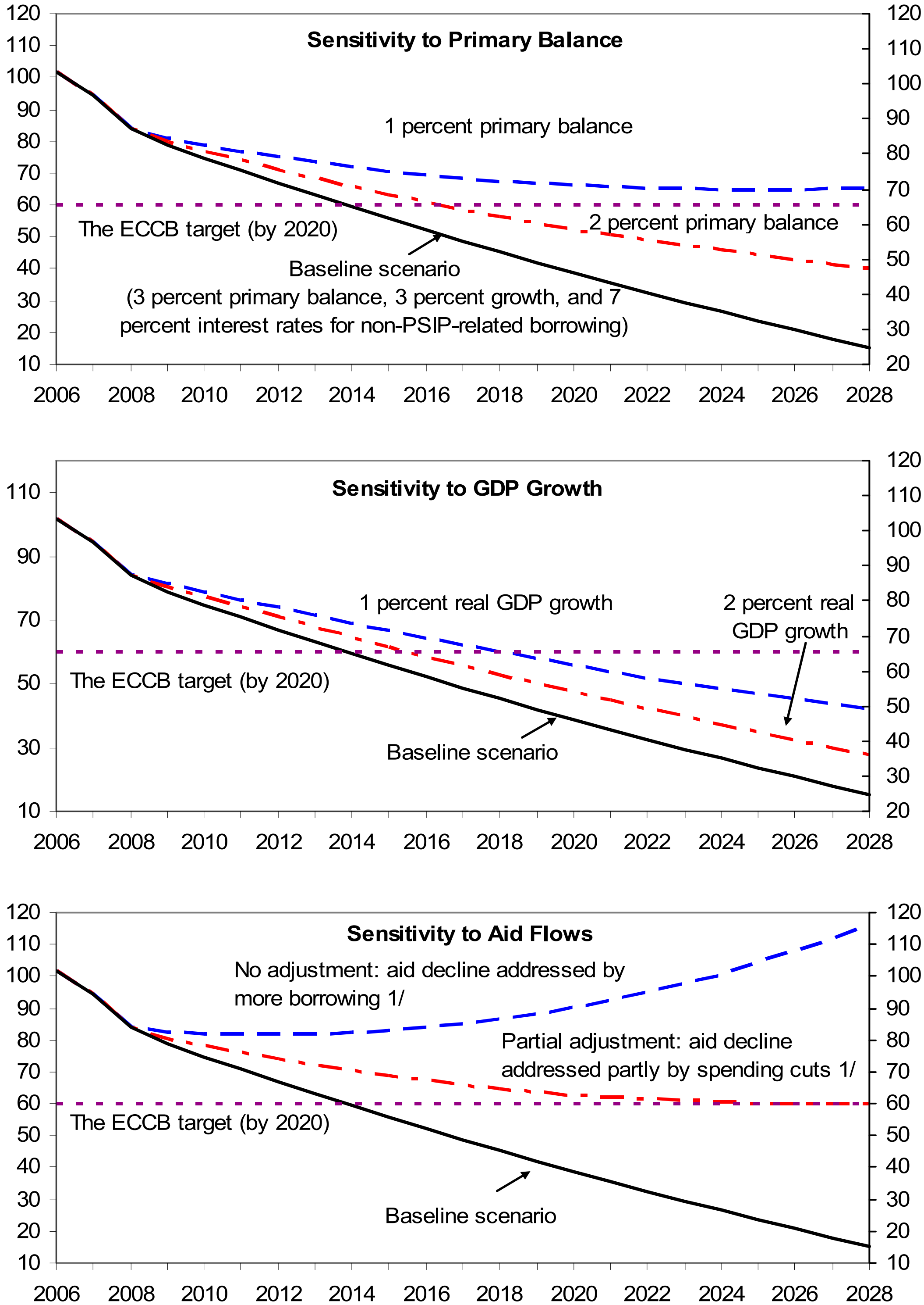
2/ Revenues are defined inclusive of grants.

Figure 1. Dominica: Indicators of Public Debt Under Alternative Scenarios, 2008-28



Source: Staff projections and simulations.
1/ Most extreme stress test is test that yields highest ratio in 2018.
2/ Revenue including grants.

Figure 2. Dominica: Debt Sustainability Analysis
(In percent of GDP)



Source: Fund staff calculations based on data from Dominica authorities.
1/ Assumes that grants decline to the pre-crisis historical average in 2010.

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

	Actual			Historical	Standard	Projections									
												2007-12			2013-28
	2005	2006	2007	Average 1/	Deviation 1/	2008	2009	2010	2011	2012	2013	Average	2018	2028	Average
External debt (nominal) 2/	**71.1**	**70.0**	**65.0**			**59.3**	**55.3**	**52.0**	**48.2**	**44.8**	**42.0**		**26.8**	**10.0**	
Of which : Public and publicly guaranteed (PPG)	71.1	70.0	65.0			59.3	55.3	52.0	48.2	44.8	42.0		26.8	10.0	
Change in external debt	-5.7	-1.1	-5.0			-5.7	-3.9	-3.4	-3.8	-3.4	-2.9		-2.4	-0.9	
Identified net debt-creating flows	12.4	-6.7	-1.1			10.4	8.1	6.2	5.3	4.0	2.6		2.1	0.1	
Noninterest current account deficit	**26.5**	**16.2**	**22.2**	**16.1**	**5.4**	**26.9**	**23.9**	**22.2**	**20.7**	**19.2**	**17.8**		**17.2**	**14.8**	16.5
Deficit in balance of goods and services	23.9	18.5	25.0			29.9	27.0	25.3	23.8	22.4	21.0		18.9	14.5	
Exports	42.3	44.3	41.9			39.4	40.6	40.9	41.3	41.6	42.0		44.0	48.3	
Imports	66.2	62.8	66.9			69.3	67.6	66.2	65.1	64.0	63.0		62.9	62.8	
Net current transfers (negative = inflow)	-7.2	-7.3	-7.8	-6.5	0.9	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0		-6.4	-4.1	-5.7
Of which : Official	-0.6	-0.3	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other current account flows (negative = net inflow)	9.9	5.0	5.0			4.9	4.9	4.9	4.9	4.8	4.8		4.7	4.5	
Net FDI plus capital grants (negative = inflow)	**-12.0**	**-20.5**	**-20.8**	**-12.8**	**4.7**	**-16.5**	**-15.7**	**-15.8**	**-15.2**	**-15.0**	**-15.0**		**-15.0**	**-15.0**	-15.0
Endogenous debt dynamics 3/	**-2.1**	**-2.4**	**-2.4**			**0.0**	**0.0**	**-0.2**	**-0.2**	**-0.2**	**-0.2**		**-0.1**	**0.3**	
Contribution from nominal interest rate	1.5	1.6	1.4			1.5	1.6	1.4	1.3	1.2	1.0		0.7	0.6	
Contribution from real GDP growth	-2.4	-2.7	-1.0			-1.6	-1.6	-1.6	-1.5	-1.4	-1.3		-0.8	-0.3	
Contribution from price and exchange rate changes	-1.2	-1.4	-2.9			…	…	…	…	…	…		…	…	
Residual (3-4) 4/ 5/	**-18.1**	**5.7**	**-3.9**			**-16.1**	**-12.0**	**-9.6**	**-9.0**	**-7.4**	**-5.4**		**-4.5**	**-1.0**	
o/w exceptional financing	-4.1	0.6	0.6			-0.3	-0.6	0.9	0.7	0.5	0.3		0.3	0.0	
NPV of external debt 6/	...	...	64.0			57.5	52.5	48.6	44.5	40.7	37.6		24.1	8.9	
In percent of exports	...	...	152.8			146.0	129.3	118.8	107.9	97.7	89.5		54.9	18.4	
NPV of PPG external debt	**...**	**...**	**64.0**			**57.5**	**52.5**	**48.6**	**44.5**	**40.7**	**37.6**		**24.1**	**8.9**	
In percent of exports	**...**	**...**	**152.8**			**146.0**	**129.3**	**118.8**	**107.9**	**97.7**	**89.5**		**54.9**	**18.4**	
In percent of government revenues	**...**	**...**	**155.7**			**147.0**	**137.8**	**128.4**	**117.5**	**107.4**	**99.2**		**63.8**	**23.5**	
Debt service-to-exports ratio (in percent)	**12.6**	**9.6**	**11.6**			**14.6**	**14.7**	**12.5**	**11.9**	**10.9**	**9.6**		**5.4**	**3.2**	
PPG debt service-to-exports ratio (in percent)	**12.6**	**9.6**	**11.6**			**14.6**	**14.7**	**12.5**	**11.9**	**10.9**	**9.6**		**5.4**	**3.2**	
PPG debt service-to-revenue ratio (in percent)	**13.2**	**10.3**	**11.9**			**14.7**	**15.7**	**13.5**	**12.9**	**12.0**	**10.6**		**6.2**	**4.1**	
Total gross financing need (millions of U.S. dollars)	59.5	-0.1	20.8			58.7	54.3	46.2	43.6	38.6	31.3		26.2	12.2	
Noninterest current account deficit that stabilizes debt ratio	32.2	17.3	27.2			32.6	27.8	25.6	24.4	22.6	20.7		19.6	15.8	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.3	4.0	1.5	1.0	3.2	2.6	2.8	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0
GDP deflator in U.S. dollar terms (change in percent)	1.5	1.9	4.3	2.4	1.6	5.6	2.8	1.5	1.5	1.5	1.5	2.4	1.5	1.5	1.5
Effective interest rate (percent) 7/	2.0	2.4	2.2	3.5	1.2	2.6	2.8	2.7	2.6	2.5	2.4	2.6	2.5	5.5	3.4
Growth of exports of goods and services (U.S. dollar terms, in percent)	-2.0	10.9	0.2	0.6	8.7	1.8	9.1	5.3	5.4	5.4	5.4	5.4	5.5	5.5	5.5
Growth of imports of goods and services (U.S. dollar terms, in percent)	13.7	0.6	12.8	3.1	7.9	12.3	3.1	2.5	2.7	2.8	2.8	4.4	4.5	4.5	4.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Aid flows (in millions of U.S. dollars) 8/	63.4	108.4	117.8			87.9	86.6	85.6	83.2	85.2	90.1		114.2	179.8	
Of which : Grants	17.8	39.7	43.1			30.8	29.8	31.5	30.3	30.8	32.2		40.7	63.5	
Of which : Concessional loans	3.1	3.2	3.4			3.6	3.8	4.0	4.2	4.4	4.6		5.7	8.9	
Grant-equivalent financing (in percent of GDP) 9/	...	...	...			8.7	8.0	8.1	7.5	7.3	7.3		7.2	7.2	7.2
Grant-equivalent financing (in percent of external financing) 9/	...	...	...			87.6	87.3	87.3	86.4	86.0	86.0		94.8	94.8	94.2
Memorandum items:															
Nominal GDP (millions of U.S. dollars)	299.3	317.2	335.7			363.9	384.8	402.2	420.5	439.6	459.5		573.6	893.7	
(NPVt-NPVt-1)/GDPt-1 (in percent)						-1.7	-2.0	-1.7	-2.1	-2.0	-1.4	-1.8	-0.9	-0.4	-1.0

Source: Staff simulations.

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

2/ Only includes public sector external debt.

3/ 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.

4/ 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.

5/ In 2005, it includes the reallocation of part of an external bond (around 4 percent of GDP) from external to domestic. It also includes a negative FDI flow reflecting extraordinary dividends paid by a foreign company (5 percent og GDP), which were made out of an account in a foreign bank.

6/ Assumes that NPV of private sector debt is equivalent to its face value.

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

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

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

Table 1d. Dominica: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2008–28
(In percent)

	Projections							
	2008	2009	2010	2011	2012	2013	**2018**	2028
NPV of debt-to-GDP ratio								
Baseline	57	52	49	44	41	38	**24**	9
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009–28 1/	57	49	42	36	31	28	**15**	18
A2. New public sector loans on less favorable terms in 2009–28 2/	57	53	49	46	42	39	**27**	13
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	57	55	54	49	45	42	**27**	10
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	57	58	63	59	55	52	**38**	17
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009–10	57	54	50	46	42	39	**25**	9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009–10 4/	57	61	65	61	57	54	**40**	18
B5. Combination of B1–B4 using one-half standard deviation shocks	57	61	68	64	59	56	**41**	18
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	57	74	69	63	57	53	**34**	13
NPV of debt-to-exports ratio								
Baseline	146	129	119	108	98	90	**55**	18
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009–28 1/	146	121	103	87	75	66	**34**	36
A2. New public sector loans on less favorable terms in 2009–28 2/	146	130	120	110	101	94	**61**	27
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	146	129	119	108	98	90	**55**	18
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	146	169	209	193	179	167	**117**	48
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009–10	146	129	119	108	98	90	**55**	18
B4. Net nondebt creating flows at historical average minus one standard deviation in 2009–10 4/	146	150	159	148	137	129	**91**	38
B5. Combination of B1–B4 using one-half standard deviation shocks	146	163	191	176	163	153	**107**	43
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	146	129	119	108	98	90	**55**	18
Debt service-to-exports ratio								
Baseline	15	15	12	12	11	10	**5**	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2009–28 1/	15	14	13	13	12	10	**5**	3
A2. New public sector loans on less favorable terms in 2009–28 2/	15	14	13	13	13	11	**6**	3
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009–10	15	14	13	13	13	11	**6**	3
B2. Export value growth at historical average minus one standard deviation in 2009–10 3/	15	17	18	20	19	16	**10**	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009–10	15	14	13	13	13	11	**6**	3
B4. Net nondebt creating flows at historical average minus one standard deviation in 2009–10 4/	15	14	14	15	14	12	**8**	5
B5. Combination of B1–B4 using one-half standard deviation shocks	15	16	17	18	17	15	**9**	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	15	14	13	13	13	11	**6**	3

Source: Staff projections and simulations.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), noninterest current account in percent of GDP, and nondebt creating flows.

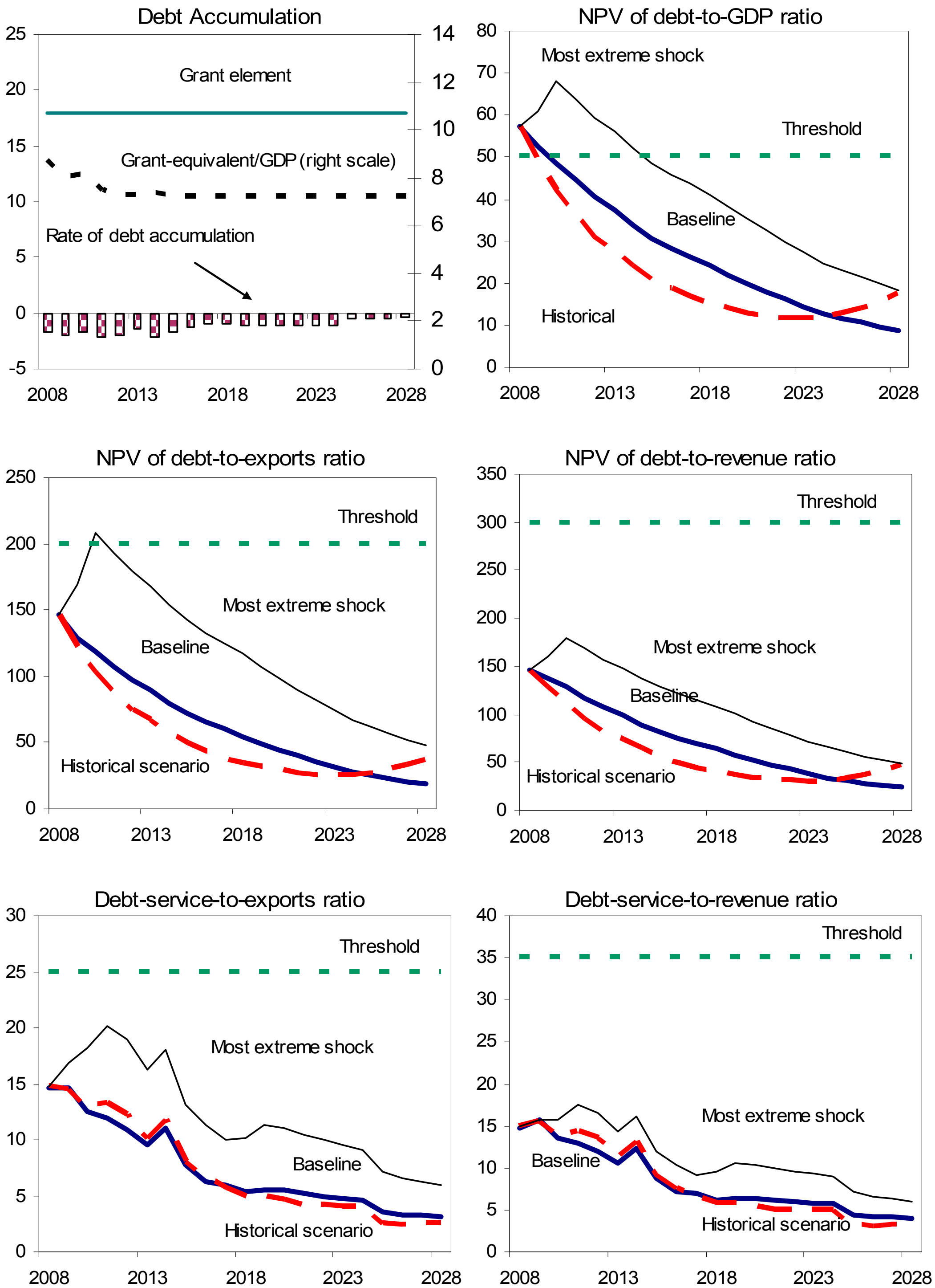
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in the baseline.

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 (implcitly 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.

Figure 3. Dominica: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2008-28



Source: Staff projections and simulations.