INTERNATIONAL MONETARY FUND

GRENADA

Debt Sustainability Analysis

Prepared by the Staff of the International Monetary Fund

In Consultation with the World Bank Staff

March 25, 2010

Grenada's economy contracted by an estimated 7.7 percent in 2009 which together with higher debt financing led to an increase of some 20 percentage points in the public debt-to-GDP ratio to 122 percent. This debt sustainability analysis (DSA) confirms the result from previous DSAs that Grenada's risk of debt distress is high[1] *Under the baseline projections Grenada exceeds thresholds for the ratio of the present value (PV) of external debt to GDP and to exports, and the debt service-to-exports ratio. The government is requesting a successor arrangement under the Extended Credit Facility (ECF) with fiscal and debt sustainability being one of its key objectives. Provided that primary surpluses in the range of 2–2½ percent are achieved over the medium-term, Grenada will achieve the ECCU benchmark of reducing the public debt-to-GDP ratio to 60 percent by 2020, four years before the previous DSA. The debt outlook faces significant risks, including a possible large loan from the Export-Import Bank of China to build a luxury hotel and any contingent liabilities from the collapse of the CL Financial Group.*

I. Context

1. **Economic activity contracted significantly in 2009 driven by a decline in tourist arrivals and a collapse in FDI-financed construction.** Real GDP is estimated to have fallen by 7.7 percent in 2009 after 2.2 percent growth in 2008, but a recovery in both the stayover arrivals and FDI-financed construction in Q4 2009 point to a possible bottoming out with real GDP growth projected at 0.8 percent in 2010. The decline in international food and fuel prices relative to 2008 together with weak domestic demand pushed consumer prices down, with the CPI falling by 2.4 percent (y/y) in December 2009.

2. **Grenada obtained substantial debt relief through a commercial debt exchange in November 2005 and under a Paris Club agreement reached in May 2006.**[2] Nevertheless,

---

[1] See IMF Country Report No. 09/200.

[2] Bilateral agreements have been reached with all creditors except the Russian Federation. The authorities obtained an extension of the Paris Club agreement through 2009 in May 2009.

the debt service burden is now increasing reflecting the end of the grace period on restructured debt to domestic commercial banks, and the step up in the interest rate on exchanged debt from 1.0 percent during 2006–08 to 2.5 percent in 2009.

3. **The Debt Management Unit (DMU) in the Ministry of Finance, which was established in 2009, is accelerating its efforts to manage existing debt and better select future liabilities.** In 2010, the DMU will work with the ECCB and other partners to access support through the Debt Management Program (DEMAS) financed by Canada. With the help of technical assistance from the IMF, the DMU will also put in place a debt management strategy with clear debt management objectives, including debt sustainability, risk, and cost and benefit analysis. In addition, the Debt Coordinating Committee within the Ministry of Finance was recently reconstituted and has been charged with the responsibility of cash flow management and planning.

4. **The authorities intend to discuss further debt relief with their bilateral creditors.** The authorities plan to request a stock treatment of their debt from the Paris Club (2.4 percent of total debt) and ask non-Paris Club official bilateral creditors for similar treatment (8.6 percent of total debt). They are continuing to pursue good faith efforts to reach a collaborative agreement with Grenada's external commercial creditors that did not participate in the 2005 debt exchange.[3]

II. Underlying DSA Assumptions

5. **The authorities' program supported by a proposed successor ECF underlies the baseline scenario of the current DSA.** The main assumptions under this scenario are described in the following table and in Box 1.

Grenada: Key Assumptions and Indicators in the DSA, 2009–30

(In percent of GDP, unless otherwise indicated)

	Prelim.	Projections					
	2009	2010	2011	2012	2020	2026	2030
Total revenue and grants 1/	41.5	41.2	41.3	41.7	42.0	39.3	38.9
Primary (noninterest) expenditure 1/	44.3	41.2	39.6	38.8	38.2	37.7	37.6
Primary balance (including grants) 1/	-2.8	0.0	1.7	2.9	3.8	1.6	1.3
Overall balance 1/	-6.6	-2.8	-1.2	-0.3	0.7	-0.7	-0.9
Public debt	122.3	119.1	116.3	111.8	60.1	43.7	38.4
External current account	-25.7	-25.0	-26.0	-26.2	-25.5	-22.1	-19.1
Exports of goods and services	31.1	25.4	25.6	26.3	29.7	30.7	31.2
Real GDP growth (in percent)	-7.7	0.8	2.0	3.0	4.0	4.0	4.0
Inflation rate (average; in percent)	-0.3	3.6	1.9	2.0	2.0	2.0	2.0

Sources: Ministry of Finance of Grenada; and Fund staff estimates and projections.
1/ Public sector.

[3] Participation in the 2005 debt exchange was high at 93 percent for external creditors. Taking into account creditors that came forward subsequent to the 2005 debt exchange, the participation rate is approximately 94 percent.

Box 1. Baseline Macroeconomic Assumptions (2010–30)

• Real **GDP** is projected to increase by 0.8 percent in 2010 after collapsing by 7.7 percent in 2009 due to the global crisis which affected tourism and FDI-financed construction. Real GDP growth is projected to gradually return to its potential of 4 percent by 2014 and remain at that potential thereafter. In the longer run, the projection assumes that the authorities undertake the structural reforms needed to sustain growth.

• Reflecting lower food and fuel prices abroad and a slowdown of domestic demand, the consumer price index fell by 2.4 percent in 2009 (end period), and inflation is projected to return to its long-run trend of 2 percent by 2011 and remain at that level subsequently.

• The **primary balance** (including grants) of the public sector returns to a surplus in 2011from a deficit of 2.8 percent of GDP in 2009. The average primary surplus in 2010–15 is projected to be 2.9 percent while it is projected to be 2.5 percent thereafter. This primary surplus reflects fiscal consolidation through revenue and expenditure measures undertaken by the government and supported by the successor ECF arrangement.

• **Grants** gradually decline from high post-hurricane levels to 1.0 percent of GDP by 2030.

• The projection assumes **concessional financing** under the PetroCaribe initiative during 2010–13, and that the grant element is used to finance programs already in the budget, replacing more expensive forms of financing. As concessional financing tapers off, and with a commercial borrowing rate above the discount rate of 4 percent, the grant element of new borrowing turns negative in later years.

• The **external current account deficit** is estimated to have narrowed by more than 10 percentage points of GDP in 2009, as a sharp reduction in imports more than offset lower tourism receipts. In the medium term the current account deficit is assumed to remain broadly flat at about 25 percent of GDP but would narrow to about 19 percent of GDP by 2030 as tourism receipts grow as a share of GDP.[1] **Exports** of goods and services are assumed to average 28.9 percent of GDP in 2010–15 and are projected to average 32.1 percent for the rest of the period as the economic base gradually diversifies. Most of the financing would be provided by **FDI** inflows, averaging 13 percent of GDP in 2010–15 as the economy gradually recovers from the recession and 15 percent of GDP in the outer years, as well as by income and transfers averaging 2.5 percent of GDP over the medium term but which turn into a small negative ratio for the rest of the projection period.

• The projections for real GDP and export growth are higher than historical averages, which were depressed by recent natural disasters and the impact of the September 11, 2001 attacks. The possibility of further natural disasters represents an important risk to the baseline assumptions.

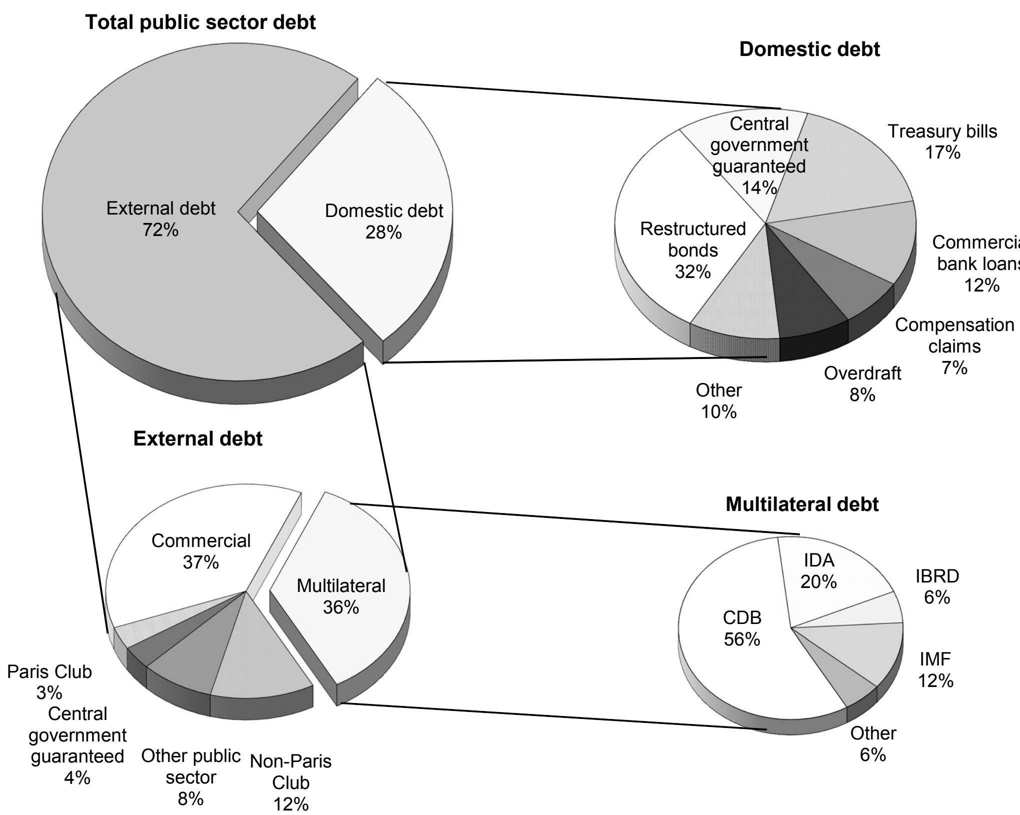
[1] This current account deficit is consistent with estimates of current account norms for ECCU countries (see Emilio Pineda, Paul Cashin, and Yan Sun, *Assessing Exchange Rate Competitiveness in the Eastern Caribbean Currency Union*, WP/09/78).

III. Evaluation of Public Sector Debt Sustainability

Grenada's public debt as of end-2009

6. **The declining trend of the public sector debt was reversed in 2009 as the global crisis hit Grenada.** Public sector debt rose to 122.3 percent of GDP from a ratio of 102.2 percent in 2008 (Tables 1 and A1a). The debt-to-GDP increase was due to a combination of additional domestic and external borrowing by the government to finance an overall deficit of 6.6 percent of GDP and the decline in nominal GDP by 9.4 percent. Over two-thirds of public debt was external, and the majority of the debts were claims by commercial creditors (26.5 percent) and multilateral creditors (25.5 percent) and the rest bilateral creditors. Almost all of public external debt was owed by the central government. The present value of public sector debt in 2009 was 118.6 percent of GDP reflecting the grant element of multilateral and restructured official debt.

Grenada: Public Sector Debt, end-2009
(In percent)



Source: Grenada authorities.

The baseline (program) scenario

7. **Assuming a successful fiscal consolidation and advancement in structural reforms with the support of a successor ECF arrangement, Grenada's debt sustainability outlook is likely to improve significantly.** Despite the rise in the debt-to-GDP ratio in 2009, the government's policy reforms would allow for the debt-to-GDP ratio to be halved by 2020 and to reach the ECCU regional target of 60 percent on schedule. This implies that the 60 percent target will be reached four years earlier than in the previous DSA. The PV of debt falls to 39.2 percent of GDP by 2030 versus 38.4 percent in nominal terms, reflecting new borrowing on nonconcessional terms with an interest rate higher than the discount rate of 4 percent (Table A1a and Figure 1). The PV of public sector debt-to-revenue ratio falls from 285.6 percent in 2009 to 100.7 percent in 2030. [4] The debt service-to-revenue ratio would increase from 14.4 percent in 2009 to 16.4 percent in 2030, with the ratio rising up to 20-21 percent during 2021–25 as restructured debt amortizes.

Alternative scenarios and stress tests

Policy scenarios

8. **Economic underperformance or a lack of fiscal consolidation would drastically set back the goal of debt reduction.** Under a scenario in which real GDP growth and the fiscal balance remain at their historical averages throughout the projection period, the PV of debt-to-GDP ratio would jump to 171.2 percent by 2030 versus 39.2 percent in the baseline. A permanently lower real GDP growth rate which would amount to a potential of 2.7 percent rather than 4 percent in the baseline would have similar implications leading to a rise in the PV of debt-to-GDP ratio to 154.9 percent by 2030, while an unchanged primary balance leads the PV of debt-to-GDP ratio to reach 81.1 percent by 2030.

9. **The authorities are still considering a loan from the Export-Import Bank of China to build a luxury hotel.** The authorities believe that this project could generate significant economic benefits not only in the short run through boosting the construction sector and creating employment but that it could also raise the tourism potential of the country over the medium and long term. The authorities are discussing with additional private investors who may be interested in a joint venture.

10. **The loan from China would need to generate substantial economic growth to be debt neutral.** Although the terms of the possible loan are not clear, we assume for the purposes of analysis that the loan will be disbursed during 2010–12, with two percent interest rate, five years grace, and 20 years maturity. In that case, the debt to-GDP ratio in 2012 once the loan is fully disbursed would be 13 percentage points higher than under the baseline. As a result, achieving the target of reaching a 60 percent debt-to-GDP ratio by

---

[4] These ratios are stated with revenue inclusive of grants, consistent with Table A1a.

2020 without any additional fiscal adjustment would require GDP to grow 2.2 points faster than in the baseline during the years 2013–20.

11. **However, there are substantial risks that the project will not be able to generate such a positive impact.** It is recommended that the government proceed with the project only if it is consistent with debt sustainability. In addition, it would be critical that the government: (i) seek an objective assessment of the economic and financial returns of this project from an internationally reputed third party, (ii) secure concessional financing, and (iii) obtain majority private sector participation to ensure that the prospective benefits would more than offset the associated additional debt servicing burden.

Other scenarios

12. **Another economic contraction in the near future would have major repercussions on the public debt trajectory**. In Bound Test B1, real GDP contracts by 4.7 percent in 2011 and 2012 (a decline that is still lower than the one experienced in 2009), the share of fiscal revenue to GDP follows the same trajectory as in the baseline, while expenditure is held constant in nominal terms. In this scenario, the PV of debt rises sharply to 134.3 percent of GDP in 2012 relative to 109.5 percent in the baseline. By 2030 the PV of debt would be 138.7 percent of GDP rather than 39.2 percent in the baseline. In Bound Test B4, a 30 percent real depreciation in 2011 implies that the PV of debt falls only to 68.9 percent of GDP by 2030. In neither case would the 60 percent of GDP target for nominal debt be achieved in the projection period.

IV. EVALUATION OF EXTERNAL DEBT SUSTAINABILITY

13. **Grenada continues to exceed thresholds for the ratio of the PV of external debt to GDP and to exports of goods and services.**[5] Based on Grenada's 2006–08 average CPIA rating of "medium," the thresholds are 40 percent and 150 percent for the ratios to GDP and exports, respectively, while for 2009, Grenada's ratios were 83.9 percent and 314.4 percent, respectively.[6] Furthermore, the baseline scenario also exceeds the threshold of 20 percent for the ratio of debt service to exports in 2012–2014 and again in 2021–25.

14. **The external debt ratios are expected to decline below their policy dependent thresholds in the medium term as policy reforms are undertaken** (Table A2a). The ratio of the PV of external public debt to GDP would fall below the 40 percent threshold by 2020, while the PV of debt to exports would fall below the 150 percent threshold in 2018 (Figures 2 and 2a). The debt service-to-exports ratio would only slightly cross the 20 percent threshold in 2012–2014 but then it would remain below it for the rest of the decade. The

[5] Goods exports for Grenada are relatively small, reflecting a low base as well as hurricane damage during 2004–05 to the nutmeg industry.

[6] See Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries (Public Information Notice (PIN) No. 05/59 (May 4, 2005)).

threshold is breached again in 2021–25 as restructured debt amortizes and reverts back for the remaining period.[7] Improvements in policies and institutions could also improve Grenada's capacity to carry debt and hence reduce vulnerabilities; in the debt sustainability framework Grenada would face higher thresholds if CPIA ratings were to increase with policy and institutional progress.

15. **A permanently lower rate of economic growth would put external debt on an explosive path** (Table A2b). Under an alternative scenario with key variables (GDP growth, the current account deficit, and FDI) at historical averages in 2011–30 (primarily with real GDP growth of 1.7 percent rather than 4 percent and a slightly lower net FDI rate of 15 percent), the PV of external public-debt-to-GDP ratio would reach 59.7 percent by 2030 (Scenario A1), a dramatic change from the baseline scenario (see Figure 2a).[8] New public sector loans on less favorable terms during 2011–2030 (Scenario A2, assuming 2 percentage point higher interest rate than in the baseline) would slightly increase the PV of external debt to GDP, but the ratio would still fall below the 40 percent threshold by 2020. Reaching the relevant external thresholds with a small delay would also occur if trade-related variables defer from their projected values (bound tests in A2b).

V. Conclusions

16. **Assuming that the authorities are successful in implementing their policy program supported by a successor ECF arrangement, Grenada's public debt-to-GDP ratio would reach the ECCU's target of 60 percent on time by 2020.** However, such an achievement would come with significant efforts on increasing revenues and restraining spending while guaranteeing a level of public investment necessary to foster economic growth. The debt outlook is sensitive to any delay in recovery, a new downturn, or fiscal slippages that do not generate the projected primary surpluses over the medium term. The fiscal adjustment assumed in this DSA is more ambitious than in the previous DSA, and the risks associated with it are therefore greater. A possible large loan from Export-Import Bank of China could undermine the goal of debt sustainability if it does not generate sufficient economic growth to at least keep the impact on the debt trajectory neutral. The illustrative scenario will hopefully encourage the authorities to very carefully select a viable project associated with a strong impact analysis performed by an independent third party. The debt outlook also faces risks from contingent liabilities related to the collapse of the CL Financial Group.

17. **Grenada's risk of external debt distress remains high, according to indicative thresholds**. The external debt outlook is susceptible to economic growth materializing in the near future. Were this not to be the case, a permanently lower potential growth rate could

---

[7] The analysis excludes flows of private sector external debt, which are believed to be small, due to lack of data. Given this exclusion, the size of the residuals in the baseline scenario is determined by developments in Grenada's BOP e.g., the financing gap, the change in imputed reserves, and other investments (net).

[8] The historical average real GDP growth, which includes post-hurricane recovery years, is higher than average growth projected for the medium term, which is driven by the effect of the global economic slowdown.

lead to an explosive debt path. In the context of the successor Fund arrangement Grenada is likely to approach its bilateral creditors (Paris Club and non-Paris Club) for additional debt relief. A positive outcome in the context would accelerate the timing of debt reverting to more sustainable levels.

Table 1. Grenada: Public Sector Debt, 2009

(Year end, in millions of U.S. dollars)

		Percent of	
	Stock	Total Debt	GDP
Public sector debt 1/	752.0	100.0	122.3
Central government debt	657.2	87.4	106.9
Central-government guaranteed debt	49.3	6.6	8.0
Other public sector debt	45.5	6.0	7.4
External debt	538.7	71.6	87.6
Central government	474.4	63.1	77.2
Multilateral	192.0	25.5	31.2
CDB	108.4	14.4	17.6
IDA	39.0	5.2	6.3
IBRD	10.8	1.4	1.8
IMF	23.0	3.1	3.7
Other multilateral	10.7	1.4	1.7
Official bilateral	83.0	11.0	13.5
Paris Club	18.3	2.4	3.0
Belgium	7.3	1.0	1.2
France	4.3	0.6	0.7
Russian Federation	0.2	0.0	0.0
United Kingdom	3.7	0.5	0.6
United States	2.9	0.4	0.5
Non-Paris Club	64.7	8.6	10.5
Kuwait	21.8	2.9	3.5
Taiwan Province of China	20.3	2.7	3.3
Trinidad and Tobago	17.1	2.3	2.8
Other bilateral	5.6	0.7	0.9
Commercial, total	199.4	26.5	32.4
Restructured bonds	193.5	25.7	31.5
Unrestructured bonds	5.8	0.8	0.9
Central government guaranteed	18.9	2.5	3.1
Of which			
Paris Club	5.0	0.7	0.8
Other public sector 2/	45.5	6.0	7.4
Domestic debt	213.2	28.4	34.7
Central government	182.9	24.3	29.7
Restructured Bonds	68.1	9.1	11.1
Unrestructured bonds	2.8	0.4	0.5
Treasury bills	36.9	4.9	6.0
Commercial bank loans	25.5	3.4	4.1
Overdraft	16.5	2.2	2.7
Domestic arrears	17.6	2.3	2.9
Compensation claims	14.8	2.0	2.4
Other	0.6	0.1	0.1
Central-government guaranteed	30.4	4.0	4.9
Memorandum item:			
Nominal GDP	678.5		

Sources: Grenada authorities; and Fund staff estimates.

1/ Includes central government liabilities to the National Insurance Scheme.
2/ Includes PetroCaribe-related borrowing.

Table A1a. Grenada: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007–30 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 2/	Standard Deviation 2/	Projections										
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010–15 Average	2020	2025	2030	2016–30 Average
Public sector debt 1/	111.0	102.2	122.3			119.1	116.3	111.8	104.5	96.8	89.1		60.1	45.5	38.4	
o/w foreign-currency denominated	78.4	74.6	87.6			87.2	86.6	83.1	76.9	70.2	63.5		37.8	24.5	19.3	
Change in public sector debt	-6.1	-8.8	20.1			-3.2	-2.8	-4.5	-7.3	-7.7	-7.6		-5.0	-2.1	-1.9	
Identified debt-creating flows	-3.1	-8.8	16.7			-2.9	-4.6	-6.2	-7.2	-7.6	-7.5		-4.9	-2.1	-1.1	
Primary deficit	**5.1**	**2.1**	**2.8**	**2.2**	**4.7**	**0.0**	**-1.7**	**-2.9**	**-3.8**	**-4.4**	**-4.7**	**-2.9**	**-3.8**	**-1.6**	**-1.3**	**-2.5**
Revenue and grants	39.1	42.4	41.5			41.2	41.3	41.7	42.0	42.3	42.2		42.0	39.7	38.9	
of which: grants	1.0	4.1	4.1			3.9	3.0	2.8	2.7	2.5	2.4		1.7	1.3	1.0	
Primary (noninterest) expenditure	44.2	44.6	44.3			41.2	39.6	38.8	38.2	37.9	37.5		38.2	38.1	37.6	
Automatic debt dynamics	**-6.0**	**-8.2**	**14.4**			**-2.9**	**-2.6**	**-3.0**	**-3.1**	**-3.0**	**-2.6**		**-0.9**	**-0.3**	**0.3**	
Contribution from interest rate/growth differential	-5.9	-3.5	11.5			-0.7	-1.4	-2.4	-2.8	-2.6	-2.4		-0.8	-0.5	0.1	
of which: contribution from average real interest rate	-0.4	-1.1	3.0			0.3	0.9	1.0	1.0	1.4	1.4		1.7	1.4	1.7	
of which: contribution from real GDP growth	-5.5	-2.4	8.5			-1.0	-2.3	-3.4	-3.8	-4.0	-3.7		-2.5	-1.8	-1.6	
Contribution from real exchange rate depreciation	-0.1	-4.7	2.9			-2.2	-1.2	-0.7	-0.3	-0.4	-0.3		...	...	...	
Other identified debt-creating flows	**-2.2**	**-2.7**	**-0.4**			**0.0**	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**-0.2**		**-0.2**	**-0.1**	**-0.1**	
Privatization receipts (negative)	-2.2	-2.7	-0.4			0.0	-0.3	-0.3	-0.2	-0.2	-0.2		-0.2	-0.1	-0.1	
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	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	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	0.0	
Residual, including asset changes	-3.0	0.0	3.4			-0.3	1.8	1.7	-0.1	-0.1	-0.1		-0.1	-0.1	-0.8	
Other Sustainability Indicators																
PV of public sector debt	…	…	118.6			115.8	113.4	109.5	103.0	95.6	88.4		58.3	46.0	39.2	
o/w foreign-currency denominated	…	…	83.9			83.9	83.7	80.8	75.3	69.1	62.8		35.9	24.9	20.0	
o/w external	...	...	83.9			83.9	83.7	80.8	75.3	69.1	62.8		35.9	24.9	20.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	...	
Gross financing need 3/	10.5	7.0	8.8			4.8	4.0	4.5	3.1	2.8	2.4		1.9	6.5	5.0	
PV of public sector debt-to-revenue and grants ratio (in percent	**…**	**…**	**285.6**			**280.9**	**274.4**	**262.4**	**245.3**	**226.3**	**209.4**		**138.7**	**115.9**	**100.7**	
PV of public sector debt-to-revenue ratio (in percent)	**…**	**…**	**316.9**			**310.2**	**295.8**	**281.5**	**261.9**	**240.5**	**221.8**		**144.6**	**119.9**	**103.3**	
Of which: external 4/	…	…	224.3			224.9	218.4	207.7	191.6	173.7	157.5		89.2	65.0	52.9	
Debt service-to-revenue and grants ratio (in percent) 5/	**13.7**	**11.5**	**14.4**			**11.8**	**13.8**	**17.8**	**16.3**	**17.0**	**16.7**		**13.6**	**20.6**	**16.4**	
Debt service-to-revenue ratio (in percent) 5/	14.1	12.7	99.6	36.9		13.0	14.9	19.1	17.5	18.0	17.7		14.2	21.3	16.8	
Primary deficit that stabilizes the debt-to-GDP ratio	11.2	11.0	-17.3			3.2	1.0	1.6	3.5	3.4	3.0		1.2	0.5	0.6	
Key macroeconomic and fiscal assumptions		2.5														
Real GDP growth (in percent)	4.9	2.2	-7.7	1.5	6.1	0.8	2.0	3.0	3.5	4.0	4.0	2.9	4.0	4.0	4.0	4.0
Average nominal interest rate on forex debt (in percent)	2.7	3.1	3.5	5.1	2.8	2.4	2.6	2.7	2.8	3.4	3.4	2.9	4.9	4.6	6.5	5.0
Average real interest rate on domestic debt (in percent)	-0.9	-5.7	5.0	1.2	3.7	-1.5	-0.2	0.8	1.0	1.5	1.7	0.6	2.7	3.5	4.1	3.3
Real exchange rate depreciation (in percent, + indicates depreciatior	-0.2	-6.1	3.5	-1.0	2.7	...	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	3.0	8.8	-1.9	3.1	3.0	4.1	2.8	2.6	2.4	2.5	2.4	2.8	2.5	1.5	1.0	1.8
Growth of real primary spending (deflated by GDP deflator, in percer	0.0	0.0	-0.1	0.0	0.1	-0.1	0.0	0.0	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	12.9	8.4	7.7	7.3	5.7	10.2	5.5	-12.1	-13.2	...

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

1/ The coverage of the public sector is public and publicly guaranteed debt, including debt of public enterprises and the debt of the central government to the public sector.
2/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
3/ 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.
4/ Revenues excluding grants.
5/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

Table A1b. Grenada: Sensitivity Analysis for Key Indicators of Public Debt 2010–30

	Projections								
	2010	2011	2012	2013	2014	2015	**2020**	2025	2030
PV of Debt-to-GDP Ratio									
Baseline	115.8	113.4	109.5	103.0	95.6	88.4	**58.3**	46.0	39.2
A. Alternative scenarios									
A1. Real GDP growth and primary balance are at historical averages	115.8	117.4	119.7	120.7	121.6	122.8	**130.6**	150.8	171.2
A2. Primary balance is unchanged from 2010	115.8	114.9	113.6	110.4	106.7	103.4	**89.6**	85.6	81.1
A3. Permanently lower GDP growth 1/	115.8	115.3	113.8	109.9	105.4	101.3	**92.6**	114.8	154.9
B. Bound tests									
B1. Real GDP growth is at historical average minus one standard deviations in 2011–12	115.8	123.6	134.3	132.1	128.8	125.6	**115.4**	125.3	138.7
B2. Primary balance is at historical average minus one standard deviations in 2011–12	115.8	121.0	125.8	119.1	111.4	103.9	**72.4**	59.1	51.3
B3. Combination of B1-B2 using one half standard deviation shocks	115.8	123.1	131.4	127.1	121.8	116.6	**96.5**	95.8	99.4
B4. One-time 30 percent real depreciation in 2011	115.8	149.2	144.4	137.0	128.7	120.6	**87.0**	74.4	68.9
B5. 10 percent of GDP increase in other debt-creating flows in 2011	115.8	122.3	118.4	111.7	104.2	96.8	**65.9**	53.1	45.7
PV of Debt-to-Revenue Ratio 2/									
Baseline	280.9	274.4	262.4	245.3	226.3	209.4	**138.7**	115.9	100.7
A. Alternative scenarios									
A1. Real GDP growth and primary balance are at historical averages	280.9	284.1	286.6	286.6	286.7	289.5	**307.9**	375.4	433.7
A2. Primary balance is unchanged from 2010	280.9	278.1	272.2	262.8	252.6	245.1	**213.4**	215.9	208.5
A3. Permanently lower GDP growth 1/	280.9	278.9	272.2	261.0	248.7	239.3	**219.2**	287.5	395.2
B. Bound tests									
B1. Real GDP growth is at historical average minus one standard deviations in 2011–12	280.9	297.6	318.5	311.5	302.1	295.1	**273.0**	314.4	355.2
B2. Primary balance is at historical average minus one standard deviations in 2011–12	280.9	293.0	301.6	283.6	263.6	246.1	**172.2**	149.1	131.8
B3. Combination of B1-B2 using one half standard deviation shocks	280.9	297.2	313.1	301.0	286.7	274.9	**229.0**	240.9	255.0
B4. One-time 30 percent real depreciation in 2011	280.9	361.2	346.0	326.3	304.5	285.7	**207.0**	187.7	177.0
B5. 10 percent of GDP increase in other debt-creating flows in 2011	280.9	296.1	283.7	266.1	246.6	229.3	**156.9**	133.9	117.5
Debt Service-to-Revenue Ratio 2/									
Baseline	11.8	13.8	17.8	16.3	17.0	16.7	**13.6**	20.6	16.4
A. Alternative scenarios									
A1. Real GDP growth and primary balance are at historical averages	11.8	13.9	18.5	17.9	19.5	20.3	**22.0**	40.7	47.1
A2. Primary balance is unchanged from 2010	11.8	13.8	18.0	16.8	17.8	17.9	**16.5**	26.3	25.2
A3. Permanently lower GDP growth 1/	11.8	14.0	18.3	17.1	18.1	18.3	**17.7**	31.2	35.2
B. Bound tests									
B1. Real GDP growth is at historical average minus one standard deviations in 2011–12	11.8	14.7	20.6	19.5	20.8	21.1	**20.0**	33.5	35.2
B2. Primary balance is at historical average minus one standard deviations in 2011–12	11.8	13.8	18.6	18.2	18.8	18.3	**15.0**	24.3	19.9
B3. Combination of B1-B2 using one half standard deviation shocks	11.8	14.3	19.8	19.0	20.0	19.9	**17.8**	29.5	28.4
B4. One-time 30 percent real depreciation in 2011	11.8	16.3	24.6	22.8	23.8	23.7	**20.1**	32.5	29.2
B5. 10 percent of GDP increase in other debt-creating flows in 2011	11.8	13.8	18.7	17.5	17.8	17.6	**14.4**	22.6	18.3

Sources: Grenada 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.

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 2/	Standard Deviation 2/	Projections										
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010–15 Average	2020	2025	2030	2016–30 Average
External debt (nominal) 1/	**78.4**	**74.6**	**87.6**			**87.2**	**86.6**	**83.1**	**76.9**	**70.2**	**63.5**		**37.8**	**24.5**	**19.3**	
o/w public and publicly guaranteed (PPG)	78.4	74.6	87.6			87.2	86.6	83.1	76.9	70.2	63.5		37.8	24.5	19.3	
Change in external debt	-3.2	-3.8	13.0			-0.4	-0.6	-3.5	-6.2	-6.6	-6.7		-4.4	-1.9	-1.0	
Identified net debt-creating flows	12.2	9.6	22.1			12.9	12.3	11.2	9.8	7.9	7.1		8.9	4.3	3.3	
Non-interest current account deficit	**41.1**	**36.6**	**22.8**	**25.0**	**11.2**	**23.0**	**23.9**	**24.0**	**23.4**	**22.5**	**22.5**		**23.6**	**19.2**	**17.8**	21.5
Deficit in balance of goods and services	41.1	39.2	27.9			26.9	27.6	28.4	28.3	28.2	28.1		24.8	18.8	16.9	
Exports	30.8	28.2	26.7			26.8	27.8	28.6	29.4	30.0	30.7		31.8	32.4	32.9	
Imports	71.9	67.5	54.6			53.7	55.4	57.0	57.7	58.2	58.8		56.6	51.2	49.8	
Net current transfers (negative = inflow)	-5.4	-7.8	-7.8	-11.9	6.9	-7.5	-7.7	-8.4	-8.8	-9.3	-9.3		-5.2	-4.4	-3.8	-4.8
o/w official	-1.9	-4.7	-4.8			-4.5	-4.4	-4.5	-4.9	-5.6	-5.7		-2.1	-1.6	-1.2	
Other current account flows (negative = net inflow)	5.4	5.1	2.7			3.6	3.9	4.0	3.9	3.5	3.7		4.0	4.8	4.7	
Net FDI (negative = inflow)	**-24.8**	**-21.2**	**-11.3**	**-15.4**	**4.9**	**-11.5**	**-12.1**	**-12.5**	**-13.1**	**-14.1**	**-15.0**		**-15.0**	**-15.0**	**-15.0**	-15.0
Endogenous debt dynamics 3/	**-4.1**	**-5.7**	**10.6**			**1.4**	**0.5**	**-0.2**	**-0.5**	**-0.5**	**-0.4**		**0.3**	**0.2**	**0.5**	
Contribution from nominal interest rate	2.1	2.2	2.9			2.0	2.2	2.2	2.2	2.4	2.2		1.9	1.2	1.3	
Contribution from real GDP growth	-3.7	-1.5	6.3			-0.7	-1.7	-2.5	-2.7	-2.9	-2.6		-1.6	-1.0	-0.8	
Contribution from price and exchange rate changes	-2.4	-6.3	1.4			…	…	…	…	…	…		…	…	…	
Residual 4/	**-15.4**	**-13.4**	**-9.1**			**-13.3**	**-12.9**	**-14.8**	**-16.0**	**-14.5**	**-13.8**		**-13.4**	**-6.2**	**-4.3**	
o/w exceptional financing	0.0	0.0	-0.8			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
PV of external debt 5/	...	...	83.9			83.9	83.7	80.8	75.3	69.1	62.8		35.9	24.9	20.0	
In percent of exports	...	...	314.4			312.9	301.2	282.6	256.7	230.5	204.5		113.0	76.9	60.9	
PV of PPG external debt	**...**	**...**	**83.9**			**83.9**	**83.7**	**80.8**	**75.3**	**69.1**	**62.8**		**35.9**	**24.9**	**20.0**	
In percent of exports	**...**	**...**	**314.4**			**312.9**	**301.2**	**282.6**	**256.7**	**230.5**	**204.5**		**113.0**	**76.9**	**60.9**	
In percent of government revenues	**...**	**...**	**224.3**			**224.9**	**218.4**	**207.7**	**191.6**	**173.7**	**157.5**		**89.2**	**65.0**	**52.9**	
Debt service-to-exports ratio (in percent)	**15.1**	**14.6**	**19.1**			**15.0**	**17.7**	**22.6**	**20.2**	**20.4**	**19.7**		**14.4**	**22.0**	**16.4**	
PPG debt service-to-exports ratio (in percent)	**15.1**	**14.6**	**19.1**			**15.0**	**17.6**	**22.6**	**20.2**	**20.4**	**19.7**		**14.4**	**22.0**	**16.4**	
PPG debt service-to-revenue ratio (in percent)	**12.3**	**10.7**	**13.6**			**10.8**	**12.8**	**16.6**	**15.1**	**15.4**	**15.1**		**11.4**	**18.6**	**14.2**	
Total gross financing need (Millions of U.S. dollars)	127.6	131.9	102.3			100.3	112.9	128.1	123.1	116.8	116.9		155.6	174.0	165.7	
Non-interest current account deficit that stabilizes debt ratio	44.3	40.4	9.8			23.3	24.5	27.5	29.6	29.1	29.2		28.0	21.1	18.8	
Key macroeconomic assumptions																
Real GDP growth (in percent)	4.9	2.2	-7.7	1.5	6.1	0.8	2.0	3.0	3.5	4.0	4.0	2.9	4.0	4.0	4.0	4.0
GDP deflator in U.S. dollar terms (change in percent)	3.0	8.8	-1.9	3.1	3.0	4.1	2.8	2.6	2.4	2.5	2.4	2.8	2.5	1.5	1.0	1.8
Effective interest rate (percent) 6/	2.7	3.1	3.5	5.1	2.8	2.4	2.6	2.7	2.8	3.4	3.4	2.9	4.9	4.7	6.5	5.0
Growth of exports of G&S (U.S. dollar terms, in percent)	15.9	1.8	-14.3	-1.9	13.7	5.4	8.6	8.7	8.8	8.9	9.0	8.2	7.2	5.9	5.4	6.3
Growth of imports of G&S (U.S. dollar terms, in percent)	10.4	4.3	-26.6	3.3	14.4	3.1	8.2	8.7	7.3	7.6	7.5	7.1	7.3	3.8	2.5	4.7
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	19.5	12.9	8.4	7.7	7.3	5.7	10.2	5.5	-12.1	-13.2	-6.9
Government revenues (excluding grants, in percent of GDP)	38.0	38.4	37.4			37.3	38.3	38.9	39.3	39.8	39.8		40.3	38.3	37.9	38.9
Aid flows (in Millions of U.S. dollars) 7/	6.4	27.5	25.3			25.2	20.2	20.2	20.2	20.2	20.2		20.2	20.2	20.2	
o/w Grants	6.4	27.5	25.3			25.2	20.2	20.2	20.2	20.2	20.2		20.2	20.2	20.2	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			5.0	3.8	3.3	2.8	2.6	2.4		1.8	0.7	0.5	1.2
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			52.0	41.4	40.2	58.5	61.1	68.9		69.4	9.6	8.9	29.6
Memorandum items:																
Nominal GDP (Millions of U.S. dollars)	610.3	678.5	614.8			645.2	676.6	714.9	757.7	807.8	860.1		1179.5	1541.7	2015.8	
Nominal dollar GDP growth	8.1	11.2	-9.4			4.9	4.9	5.7	6.0	6.6	6.5	5.8	6.6	5.6	5.0	5.8
PV of PPG external debt (in Millions of U.S. dollars)	...	...	516.1			541.4	566.2	577.5	570.9	558.0	539.8		424.0	384.5	403.8	
(PVt-PVt-1)/GDPt-1 (in percent)	...	...	...			4.1	3.8	1.7	-0.9	-1.7	-2.3	0.8	-2.4	0.0	0.1	-0.9

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

1/ The coverage of the public sector is public and publicly guaranteed debt, including debt of public enterprises and the debt of the central government to the public sector.
2/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.
3/ Derived as [i - g - r(1+g)]/(1+g+r+gr) times previous period debt ratio, with i = 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/ Assumes that PV of private sector debt is equivalent to its face value.
6/ Current-year interest payments divided by previous period debt stock.
7/ Defined as grants, concessional loans, and debt relief.
8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

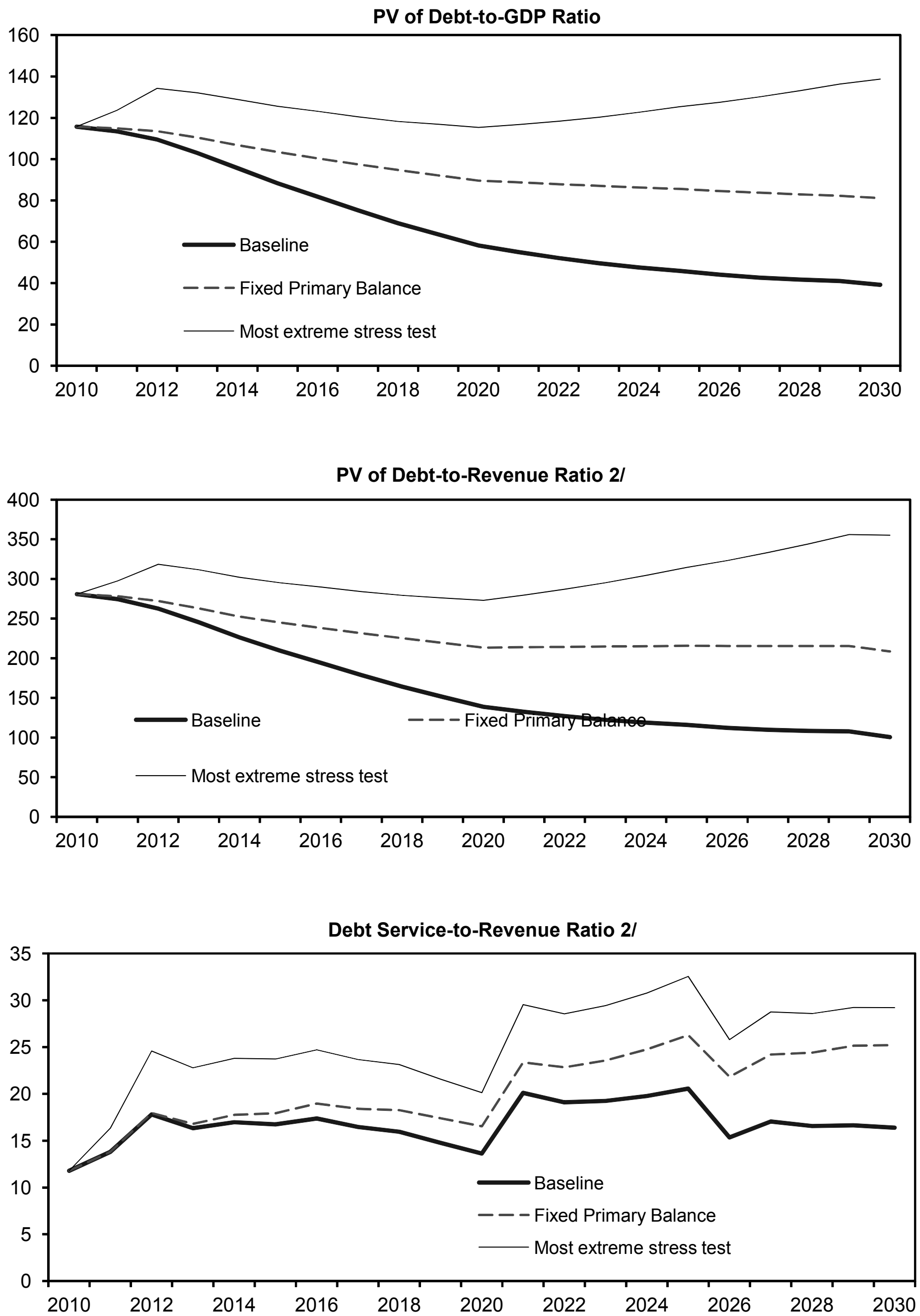
Table A2b. Grenada: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010–30
(In percent)

	Projections								
	2010	2011	2012	2013	2014	2015	**2020**	2025	2030
PV of debt-to GDP ratio									
Baseline	83.9	83.7	80.8	75.3	69.1	62.8	**35.9**	24.9	20.0
A. Alternative Scenarios									
A1. Key variables at their historical averages in 2010-2030 1/	83.9	80.4	75.3	69.1	64.9	61.7	**41.8**	47.1	59.7
A2. New public sector loans on less favorable terms in 2011–30 2/	83.9	84.5	82.7	77.6	71.5	65.2	**39.1**	29.3	26.8
B. Bound Tests									
B1. Real GDP growth at historical average minus one standard deviation in 2011–12	83.9	89.5	93.2	87.0	79.7	72.4	**41.5**	28.8	23.1
B2. Export value growth at historical average minus one standard deviation in 2010–11 3/	83.9	90.6	100.2	94.6	87.3	78.8	**42.0**	26.5	20.5
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010–11	83.9	85.9	85.0	79.3	72.7	66.0	**37.8**	26.2	21.1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010–11 4/	83.9	88.3	91.3	85.7	78.8	71.4	**39.1**	25.8	20.3
B5. Combination of B1–B4 using one-half standard deviation shocks	83.9	92.0	106.2	100.0	92.3	83.5	**45.2**	29.0	22.6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	83.9	118.2	114.1	106.4	97.5	88.6	**50.8**	35.2	28.3
PV of Debt-to-Exports ratio									
Baseline	312.9	301.2	282.6	256.7	230.5	204.5	**113.0**	76.9	60.9
A. Alternative Scenarios									
A1. Key variables at their historical averages in 2010-2030 1/	312.9	289.5	263.3	235.3	216.6	201.1	**131.3**	145.2	181.5
A2. New public sector loans on less favorable terms in 2011–30 2/	312.9	304.3	289.3	264.5	238.7	212.4	**123.0**	90.4	81.5
B. Bound Tests									
B1. Real GDP growth at historical average minus one standard deviation in 2011–12	312.9	301.2	282.6	256.7	230.5	204.5	**113.0**	76.9	60.9
B2. Export value growth at historical average minus one standard deviation in 2010–11 3/	312.9	419.7	581.4	534.1	482.8	425.9	**219.0**	135.6	103.2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010–11	312.9	301.2	282.6	256.7	230.5	204.5	**113.0**	76.9	60.9
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010–11 4/	312.9	317.8	319.3	292.1	263.0	232.5	**123.0**	79.5	61.6
B5. Combination of B1–B4 using one-half standard deviation shocks	312.9	376.3	476.1	436.5	394.6	348.5	**181.9**	114.6	87.9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	312.9	301.2	282.6	256.7	230.5	204.5	**113.0**	76.9	60.9
Debt service-to-exports ratio									
Baseline	15.0	17.6	22.6	20.2	20.4	19.7	**14.4**	22.0	16.4
A. Alternative Scenarios									
A1. Key variables at their historical averages in 2009–29 1/	15.0	17.7	22.3	19.5	18.7	17.6	**14.1**	29.8	33.4
A2. New public sector loans on less favorable terms in 2009–29 2/	15.0	17.6	22.1	18.6	17.5	19.1	**13.1**	25.9	25.3
B. Bound Tests									
B1. Real GDP growth at historical average minus one standard deviation in 2010–11	15.0	17.6	22.6	20.2	20.4	19.7	**14.4**	22.0	16.4
B2. Export value growth at historical average minus one standard deviation in 2010–11 3/	15.0	22.7	39.6	39.1	42.9	47.6	**35.2**	39.0	27.9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010–11	15.0	17.6	22.6	20.2	20.4	19.7	**14.4**	22.0	16.4
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010–11 4/	15.0	17.6	23.5	22.0	23.6	24.5	**18.1**	22.8	16.6
B5. Combination of B1–B4 using one-half standard deviation shocks	15.0	21.0	33.1	32.4	34.4	37.9	**28.0**	32.9	23.8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	15.0	17.6	22.6	20.2	20.4	19.7	**14.4**	22.0	16.4
Memorandum item:									
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	-11.4	-11.4	-11.4	-11.4	-11.4	-11.4	**-11.4**	-11.4	-11.4

Source: Grenada authorities; and IMF 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.
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.

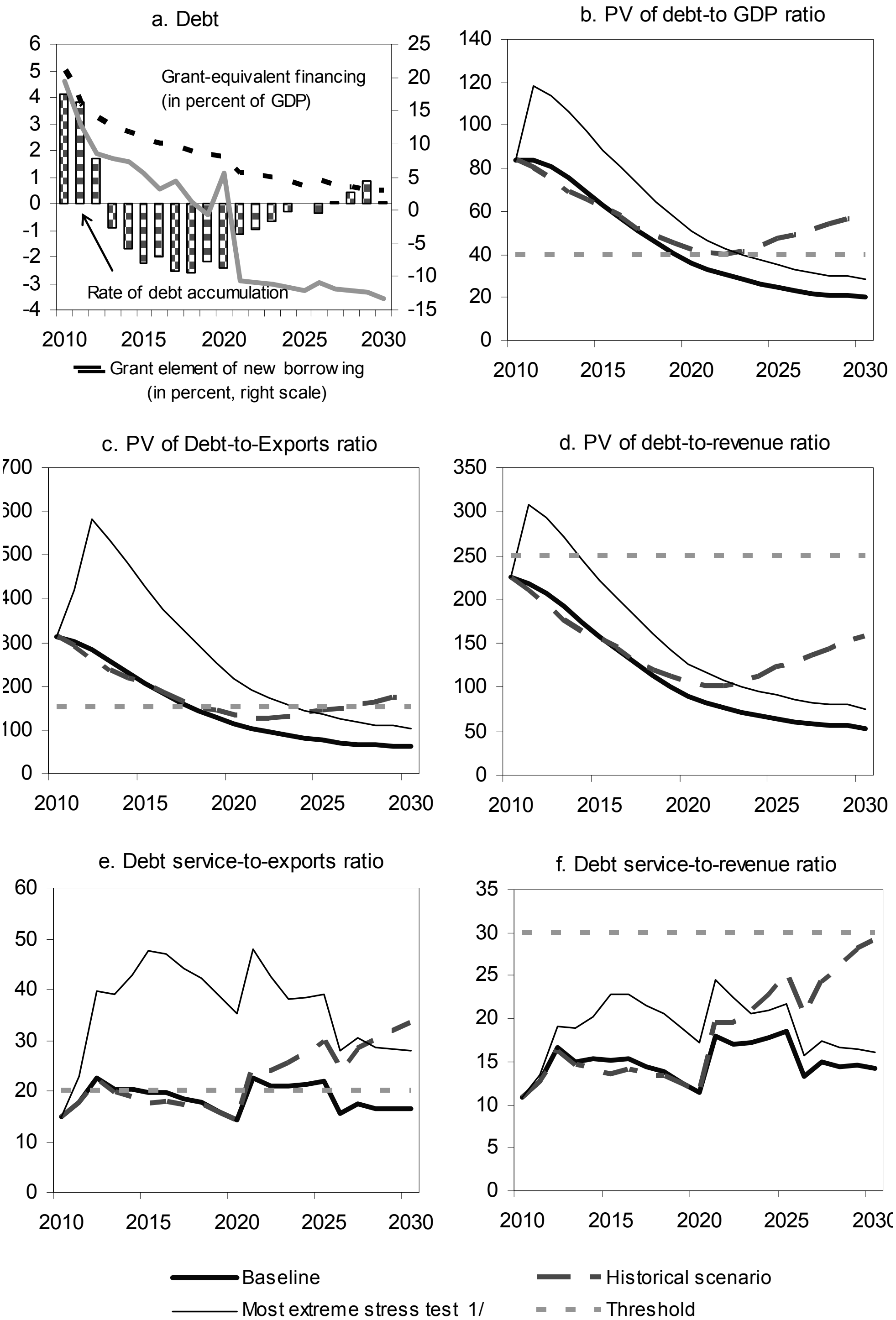
Figure 1. Grenada: Indicators of Public Debt Under Alternative Scenarios, 2010–30 1/



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

1/ The most extreme stress test is the test that yields the highest ratio in 2020. It corresponds to real GDP growth at historical average minus one standard deviations in 2010–11 in panels one and two and to a one-time real depreciation of 30 percent in 2010 in panel three.
2/ Revenues are defined inclusive of grants.

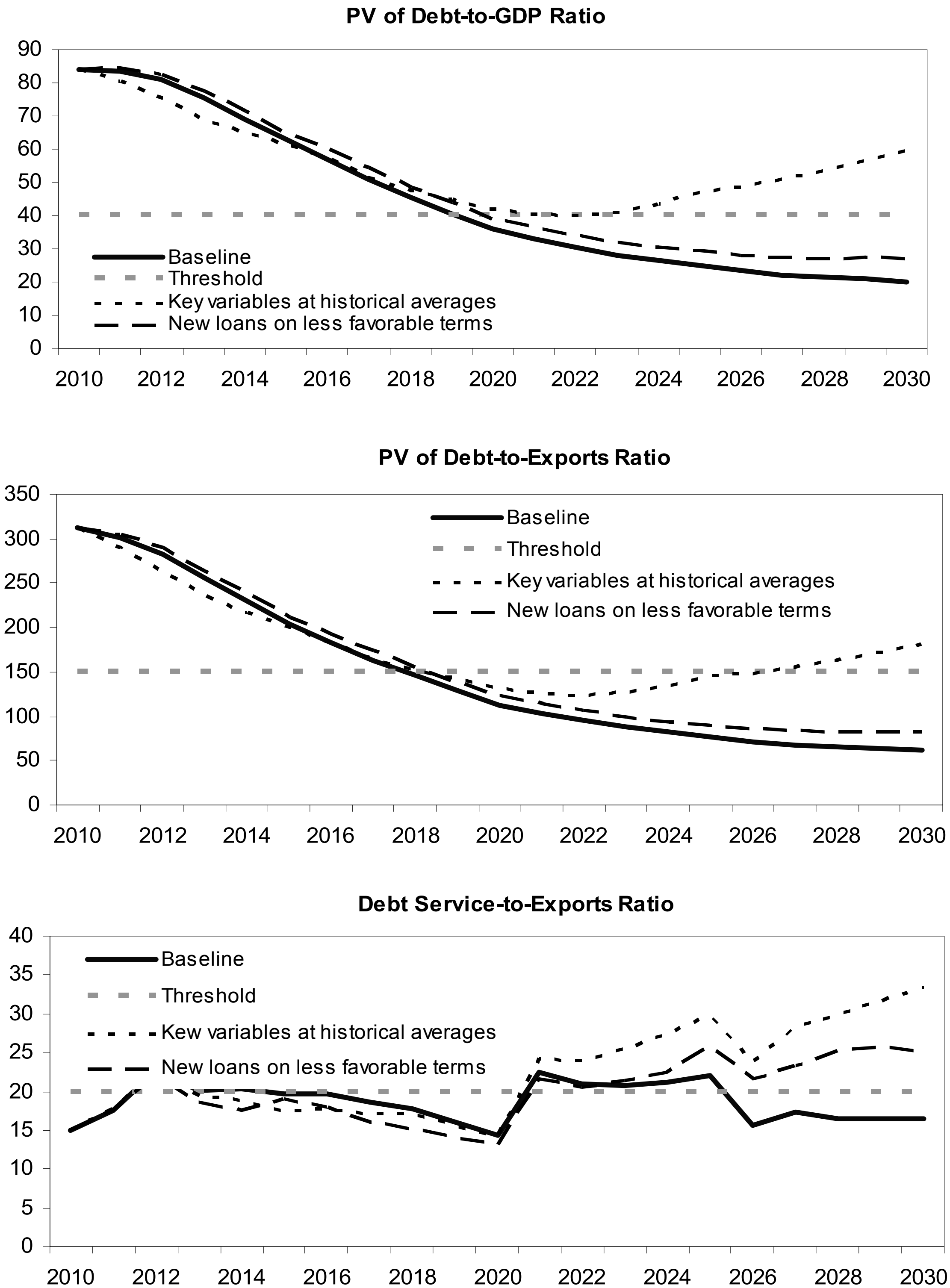
Figure 2. Grenada: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010–30 1/



Source: IMF staff projections, and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2019. In figure b. it corresponds to a one-time depreciation shock; in c. to an exports shock; in d. to a one-time depreciation shock; in e. to an exports shock and in picture f. to a one-time depreciation shock.

Figure 2a. Grenada: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010–30 1/



Source: IMF staff projections, and simulations.