INTERNATIONAL DEVELOPMENT ASSOCIATION
INTERNATIONAL MONETARY FUND

DOMINICA

Joint Bank-Fund Debt Sustainability Analysis -2018 Update

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

Approved by Paloma Anos-Casero (IDA) and Ana Corbacho (IMF)

Dominica continues to be at high risk of debt distress. However, hurricane Maria in September 2017 caused severe social hardship and deterioration of fiscal and external balances, weakening sustainability. In addition, Dominica's debt carrying capacity as measured by the three-year CPIA average declined. [1] *Thus, setting public and publicly guaranteed total and external debt on a declining path would require prudent and efficient fiscal policies that safeguard fiscal space for social relief and reconstruction investment. A fiscal consolidation plan is needed after recovery takes hold to sustain reconstruction investment. Donor grant mobilization is key to minimize the debt burden. Main risks to the debt sustainability outlook include sudden stop in citizenship-by-investment (CBI) program revenues, financial instability from weakened balance sheets, and recurrent natural disasters.*

[1] Dominica's performance category shifted from "strong" to "medium" based on its latest 3-year average CPIA score (2014-16) of 2.63. As a result, the relevant policy thresholds have tightened somewhat from last DSA. Debt burden thresholds corresponding to medium policy performers are as follows: 150 for the PV of debt in percent of exports, 40 for the PV of debt in percent of GDP, 250 for the PV of debt in percent of revenue and 20 for the debt service in percent of export or revenue.

BACKGROUND

1. Category 5 hurricane Maria hit Dominica in September 2017, causing estimated losses and damage of 226 percent of GDP. About 58 percent of losses and damage fell on the private sector, where private housing damage was equivalent to 61 percent of GDP. Main sectors – including tourism, agriculture, and transport – sustained significant losses and damage (text table). Within the public sector, infrastructure carried the brunt of the damage (43 percent of GDP). Prior to the worst natural disaster in Dominica's history, the government was making progress in implementing a medium-term fiscal consolidation plan of over 6 percent of GDP in cumulative adjustment. In addition to the initial fiscal measures discussed in the context of the 2015 RCF disbursement, the government also passed additional measures, including comprehensive reforms to increase tax revenues and broaden the tax base, and contain current expenditures, to further strengthen the fiscal position.

Estimated Losses and Damages after Hurricane Maria
(In percent of GDP) [1/]

	Damage [2/]			Losses [3/]			Recovery Cost [4/]		
Sector	**Public**	**Private**	**Total**	**Public**	**Private**	**Total**	**Public**	**Private**	**Total**
Agriculture	6.5	3.0	9.5	0.0	21.4	21.4	8.6	4.0	12.5
Forestry	4.9	0.0	4.9	0.0	0.0	0.0	2.6	0.0	2.6
Fisheries	0.1	0.4	0.5	0.0	0.1	0.1	0.0	0.3	0.4
Commerce/Microbusiness	0.0	12.1	12.1	0.0	1.2	1.2	0.0	12.6	12.6
Tourism	0.0	3.5	3.5	0.0	12.2	12.2	0.0	4.5	4.5
Education	8.4	4.3	12.7	0.4	0.2	0.6	10.5	5.4	16.0
Health	1.9	0.0	1.9	1.2	0.0	1.2	3.8	0.1	3.8
Transport	27.9	6.6	34.6	8.5	1.4	9.9	44.8	11.0	55.8
Water and Sanitation	4.1	0.0	4.1	2.3	4.3	6.6	9.7	0.0	9.7
Electricity	5.7	0.0	5.7	5.7	0.0	5.7	8.8	0.0	8.8
Telecommunications	0.1	8.1	8.2	0.0	1.4	1.4	0.1	8.2	8.2
Housing	0.0	60.9	60.9	0.6	4.3	4.9	44.7	44.7	89.4
Other [5/]	4.5	-3.5	1.1	12.8	-12.2	0.6	6.6	-4.5	2.1
Total	64.0	95.6	159.6	31.4	34.3	65.7	140.1	86.2	226.3
Memorandum items:									
Total (in millions of U.S. dollars)	372	556	928	183	199	382	815	501	1316

Source: Commonwealth of Dominica Post-Disaster Risk Assessment, November 2017.
1/ Based on 2016 GDP.
2/ Includes mainly replacement cost of structures.
3/ Includes flow losses, typically in terms of output foregone.
4/ Captures the costs of reconstruction of structures with resilience to natural disasters.
5/ Includes costs for disaster-risk reduction and other cross-cutting costs.

2. Prior to the hurricane, Dominica was grappling with fiscal sustainability concerns while making progress on the consolidation plan it had committed to in the October 28, 2015 Rapid Credit Facility disbursement. Dominica's overall public debt was on a declining path with the implementation of first-generation fiscal consolidation measures committed in the 2015 RCF disbursement. As of end-FY2016/17, the stock of public sector debt (central government and rest of the public sector,[2] henceforth public debt) is estimated to be around 72 percent of GDP. About ¾ of the stock is external debt, owed largely to multilateral and bilateral creditors, and the remainder is held domestically, mostly by commercial banks and other financial institutions. The debt of the rest of the public sector (state owned enterprises and Petrocaribe debt) is about 20 percent of GDP (text table).

Total Public Sector Debt
(In percent of GDP, fiscal years [1/])

	FY2014/15	FY2015/16	FY2016/17
Public sector debt 2/	78.7	75.3	71.7
PPG external debt	61.0	58.1	54.7
Central government debt	44.7	42.7	40.8
Bilateral	16.4	14.9	13.4
Multilateral	19.0	19.3	18.4
Commercial	9.3	8.5	9.0
Government guaranteed debt	16.3	15.4	13.9
Bilateral	8.9	8.7	8.0
Multilateral	7.4	6.7	5.9
PPG domestic debt	17.7	17.1	17.1
Central government debt	14.2	13.3	12.0
Government guaranteed debt	3.5	3.8	5.1

Source: Dominican authorities.
1/ Fiscal year run from July to June.
2/ Public sector includes Central Government, State Owned Enterprises and staff estimate of PetroCaribe arrangement.

3. Debt sustainability is highly dependent on access to grants and concessional financing, and the continued success of the CBI program, as highlighted below under the customized scenarios. The debt sustainability analysis includes disbursement of US$115 million in commitments approved by the World Bank[3]; US$90 million assumed financing option from the Caribbean Development Bank (CDB); and conservative assumptions on donor grant disbursements and CBI revenues. An annualized cost of reconstruction after natural disasters of 1.5 percent of GDP per year is included in all scenarios, in line with historical costs, to ensure consistency of the projections with the recurrent nature of natural disasters.

[2] Debt of the rest of the public sector also includes staff's estimate of the Petrocaribe arrangement. The estimation is based on the Petrocaribe loan agreement. It should be noted, however, that Petrocaribe debt service payments have been cancelled or rescheduled in the last three years, a pattern that may continue into the coming years. However, this DSA includes these obligations for prudence given the uncertainty about the continuation of this practice.

[3] The $115 million in World Bank support includes support to the Geothermal Risk Mitigation Project (US$17 million), the Agriculture Resilience and Livelihoods Enhancement Project (US$25 million), the Dominica Housing Reconstruction Project (US$40 million), and additional financing to the Dominica Disaster Vulnerability Reduction Project (US$31 million).

UNDERLYING ASSUMPTIONS

4. The baseline scenario captures expected outcomes consistent with identified financing sources and anticipated policies. Due to losses and damage sustained after hurricane Maria, the baseline scenario has been revised significantly to accommodate post-storm recovery and reconstruction. In this scenario, return of financing flows to historical norms results in a financing constraint that limits fiscal space to maintain reconstruction. The government becomes financially constrained by FY2022/23. Fiscal space becomes insufficient to sustain post-hurricane increases in public investment with the depletion of deposits, under the assumption of downwardly rigid recurrent spending. The fiscal space for public investment declines to 3 percent of GDP, insufficient for capital replacement. Public debt increases to near 90 percent of GDP.

5. Macroeconomic assumptions underlying the DSA are summarized in Box 1. The main differences relative to the DSA in the 2017 Staff Report are as follows:

- The Country Policy and Institutional Assessment (CPIA) score has been revised from "strong" to "medium", which serves to tighten policy-dependent thresholds in the context of the DSA. The long-term fiscal outlook has deteriorated due to higher capital spending and tax revenue losses, mostly related to hurricane Maria.
- Observed CBI revenues have been lower than previously estimated, and hence projections have been revised down. These flows are unpredictable and subject to the risk of a sudden stop. The increased dependence on these inflows for government and external financing add to overall risks.
- Grants have been revised upward in the near-term to reflect donor support post-hurricane Maria.
- The longer-term external outlook has deteriorated, as imports surged, and exports collapsed following hurricane Maria, and time will be required to re-establish the momentum of exports.
- In the immediate wake of the hurricane, economic growth has been revised downward significantly. But growth should increase as reconstruction spending underpins output back toward potential rates though the medium term.

- National Accounts, historical debt, and corresponding debt service obligations have been revised by the authorities.

Key macroeconomic and fiscal assumptions
(In percent of GDP, unless otherwise indicated)

				Projections						
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Current DSA										
Real GDP growth (in percent)	0.2	-0.6	-1.1	-9.3	-3.2	8.0	5.1	2.9	1.9	1.5
Inflation rate (GDP deflator, in percent)	2.4	5.6	3.1	0.9	1.6	1.7	1.8	1.9	1.8	1.8
Primary balance 1/	-3.0	1.0	5.4	2.0	-3.6	-3.8	-8.1	-6.7	1.4	1.1
Current account balance	-7.1	-1.9	0.8	-12.5	-31.7	-22.1	-20.4	-21.3	-14.2	-11.9
2017 DSA										
Real GDP growth (in percent)	4.2	-1.8	1.0	3.6	3.3	2.2	2.1	1.7	1.5	1.5
Inflation rate (GDP deflator, in percent)	-0.3	-0.3	0.0	0.6	1.4	1.6	1.8	1.9	2.0	1.6
Primary balance 1/	-3.1	1.1	0.8	2.3	2.0	2.1	2.1	2.7	3.2	2.9
Current account balance	-9.5	-8.0	-11.8	-12.1	-16.6	-16.0	-13.2	-10.3	-9.7	-10.6

Sources: Dominican authorities; and staff estimates and projections.
1/ Primary balance of the central government.

Box A1. Underlying Assumptions (2017-37)

The baseline scenario assumes an increase in public investment for post-Maria reconstruction of public infrastructure through 2018–22, leading to a widening fiscal deficit. Increased investment spending boosts growth, while higher imports worsen the external current account. Over the medium-term, the fiscal position is projected to improve as public investment eases due to financial constraints, and gradual recovery of output and exports, and the normalization of imports. Output growth declines gradually to 1.5 percent per year.

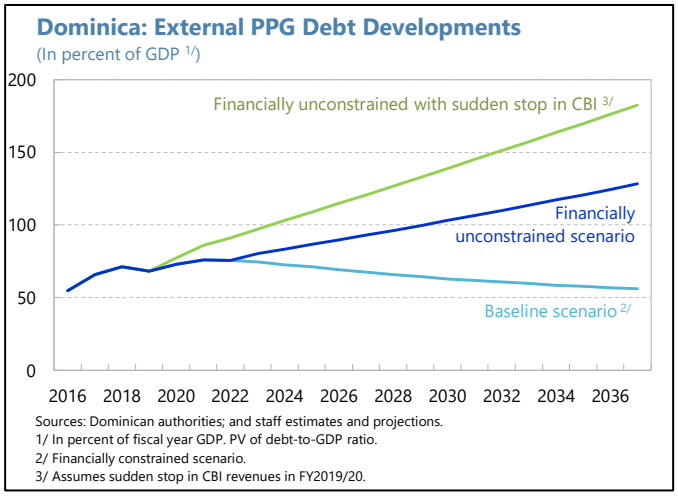
- **Fiscal position**. The fiscal balance sharply deteriorates in the near term as fiscal revenues decline and public investment increases in the aftermath of hurricane Maria. Over the medium term, investment spending declines to 3 percent of GDP as the government becomes financially constrained, improving the fiscal balance.
- **CBI revenues**. The baseline scenario assumes conservative revenues from the CBI program, which are projected to decline to 2.7 percent of GDP over the medium-term.
- **Grants**. In the near-term, grants are assumed to support reconstruction efforts, and then are expected to decline to 1 percent of GDP. This is a conservative assumption as it stands below historical averages but is justified given global trends.
- **Real GDP**. Real GDP growth peaks at over 9 percent in the near term as output rebounds after the hurricane, underpinned by reconstruction spending, and then gradually declines towards 1.5 percent growth by 2023.
- **Inflation**. Inflation is projected to remain near 2 percent, in line with international inflation, and consistent with the quasi-currency board arrangement of the Eastern Caribbean dollar.
- **Balance of Payments**. The current account deficit deteriorates substantially after the hurricane, with increase in imports and a collapse in exports, mainly driven by decline in tourism services and agriculture output. The current account is financed by official debt flows, CBI revenues, grants, and FDI inflows.

EXTERNAL DSA

6. The risk of debt distress rating assigned to PPG external debt remains "high." In the baseline scenario, and without further shocks, the PV of the debt-to-GDP ratio is breached over the entire projection period (see Figure 1). Other debt stock and debt service measures, however, remain at or below the policy-dependent indicative thresholds during the entire forecast period in the baseline scenario.

7. External PPG debt dynamics become unsustainable under the historical and alternative scenarios. Several risk thresholds are breached in the historical and alternative shock scenarios. Under the historical scenario – which assumes non-interest current account balance, FDI, real GDP growth, and the GDP deflator remain at their 10-year historical average – all debt stock and debt service measures take an increasing trajectory and both the PV of debt-to-GDP and the PV of debt-to-exports ratios breach the thresholds. In addition, under the alternative scenario assuming a shock to non-debt flows[4], the PV of debt-to-GDP remains above the threshold for the entire forecast horizon, while other debt stock and debt service measures all breach their respective thresholds for most of the projection period.

8. The results of customized scenarios, designed to pinpoint sources of high risk, further justify the classification of "high risk of external debt distress". Based on the main potential risks to external debt sustainability, two additional customized scenarios are included in the analysis: financially unconstrained and financially unconstrained with a sudden stop in CBI inflows (text chart). First, under the *financially unconstrained scenario*, the public sector is assumed to continue accumulating debt to finance post-Maria reconstruction, as capital spending remains at historical levels. Under this scenario public debt would take an increasing trajectory. Second, *financially unconstrained scenario with a sudden stop in CBI revenues* in FY2019/20 highlights the downside risk of increasing reliance on unpredictable and volatile CBI revenues and exacerbates debt dynamics further. The simulations indicate that materialization of these risks would result in a permanent



[4] This alternative scenario assumes net non-debt creating flows at historical average minus one standard deviation in 2018-2019.

breach of the PV of debt-to-GDP ratio threshold with an upward trajectory, rendering debt dynamics unsustainable.

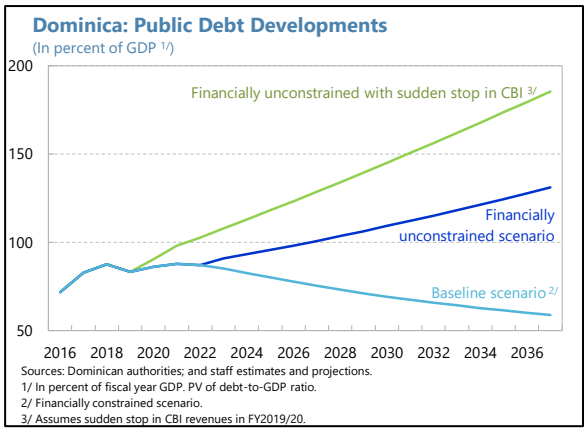
9. Based on the threshold breaches in the baseline, alternative, and customized scenarios, Dominica's external PPG debt is rated as "high risk of debt distress". Given the challenges associated with post-Maria recovery, the customized scenarios, which also simulate an upward trending PV of debt-to-GDP, are attached significant weight in the risk assessment as they attempt to capture important vulnerabilities in the economy overlooked by the standardized tests.

PUBLIC DSA

10. Dominica's rating of "high risk of external debt distress" is reinforced by vulnerabilities related to PPG domestic debt. Under the baseline scenario, the PV of total public-sector debt is expected to remain above the corresponding benchmark until 2032. Both the PV of the debt-to-revenue and debt service-to-revenue ratios increase in the near term. In the long-term, while the PV of the debt-to-revenue ratio declines marginally, the trajectory of the debt service-to-revenue ratio remains flat (see Figure A2).

11. PPG debt levels also breach the benchmark under alternative shock scenarios. The most extreme shock – which assumes one-time real depreciation of 30 percent in 2018 – leads to an unsustainable and increasing PV of debt-to-GDP ratio. Under the "fixed primary balance" scenario – which assumes that the primary balance-to-GDP ratio remains at its 2017 level – the PV of debt-to-GDP ratio falls below the threshold by 2021. Similar debt dynamics are also observed under the historical scenario, where key macroeconomic variables are set at their 10-year historical averages.

12. Under the customized scenarios, total PPG debt takes on an increasing trajectory. Under the two customized scenarios – financially unconstrained and financially unconstrained with a sudden stop in CBI revenues – which are included to highlight some of the main risks not captured in the standard stress tests, the PV of debt-to-GDP, debt-to-revenue, and debt service-to-revenue ratios continue to increase throughout the forecast period (text chart).

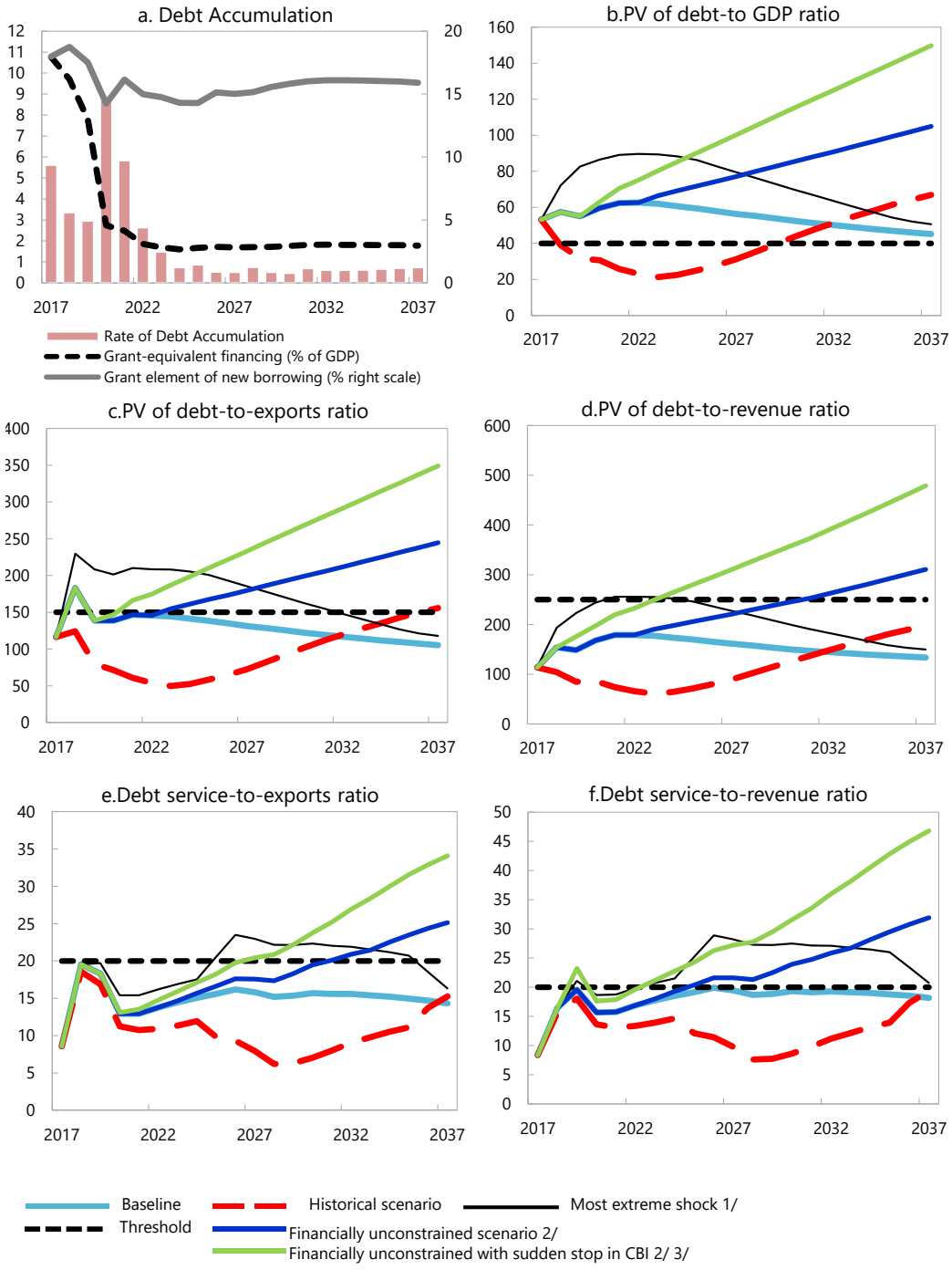


A. CONCLUSION

13. In light of the high debt burden and the significant risks to the debt sustainability outlook, Dominica is assessed at a "high risk of debt distress." This assessment is based on debt dynamics presented in the baseline policies scenario and in alternative scenarios and reinforced by the risks in the customized scenarios. Under the baseline scenario, the government becomes financially constrained by FY2022/23. Under the macroeconomic projection in this DSA, and the assumption that recurrent government spending is downward rigid, Dominica would need of a fiscal consolidation of about 4 percent of GDP in order to create the fiscal space for public investment, as required for public capital replacement and to sustain the reconstruction.

14. The authorities concurred with Staff that Dominica remains at a high risk of debt distress. They agreed on the importance of grants and CBI flows to finance post-Maria reconstruction. In addition, they acknowledged the need to focus on cost-effective fiscal policies with a view to adopt a consolidation plan to restore sustainability when recovery takes hold. The fiscal consolidation measures committed to after the October 2015 RCF disbursement remain eligible, with appropriate recalibration. Finally, while Petrocaribe debt remains a gross liability of the government, the authorities continued to question the inclusion of Petrocaribe obligations in the stock of public debt.

Figure A1. Dominica: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2017-37 (Baseline Scenario) [1]



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2026. In all figures it corresponds to net non-debt creating flows at historical average minus one standard deviation in 2018-2019. Shocks are applied to baseline scenario.
2/ Customized scenarios.
3/ Sudden stop in CBI scenario assumes a complete stop of CBI inflows starting in FY2019/20.

Table A1. Dominica: External Debt Sustainability Framework, Baseline Scenario, 2014-37
(In percent of GDP, unless otherwise indicated) [1]

	Actual			Historical Average [7/]	Standard Deviation [7/]	Projections									
												2017-2022			2023-2037
	2014	2015	2016			2017	2018	2019	2020	2021	2022	Average	2027	2037	Average
External debt (nominal) 1/	**86.5**	**83.8**	**77.7**			**91.5**	**99.1**	**95.3**	**99.3**	**102.1**	**102.1**		**95.1**	**82.6**	
of which: public and publicly guaranteed (PPG)	61.0	58.1	54.7			66.0	71.1	68.1	72.8	75.8	75.7		67.5	56.0	
Change in external debt	2.4	-2.7	-6.1			13.8	7.6	-3.8	4.1	2.8	0.0		-1.7	-1.3	
Identified net debt-creating flows	2.4	-6.4	-8.0			15.7	26.6	7.8	9.3	12.6	7.8		2.1	1.6	
Non-interest current account deficit	**4.1**	**-1.1**	**-4.0**	**10.3**	**8.9**	**10.9**	**26.9**	**17.9**	**16.6**	**17.2**	**10.1**		**3.9**	**3.6**	4.5
Deficit in balance of goods and services	11.7	8.4	5.8			26.3	47.3	38.0	30.6	26.3	17.5		10.4	8.8	
Exports	51.3	48.0	49.4			45.6	31.4	39.7	43.0	42.4	43.0		42.9	42.9	
Imports	62.9	56.4	55.1			71.9	78.7	77.7	73.6	68.8	60.5		53.3	51.7	
Net current transfers (negative = inflow)	-8.9	-9.9	-10.1	-5.6	2.8	-17.0	-17.3	-16.3	-10.4	-9.7	-9.8		-9.2	-8.1	-8.9
of which: official	-2.6	-3.2	-3.2			-9.2	-8.5	-8.6	-4.2	-4.2	-4.2		-3.6	-2.6	
Other current account flows (negative = net inflow)	1.3	0.4	0.3			1.6	-3.1	-3.8	-3.7	0.6	2.3		2.8	2.9	
Net FDI (negative = inflow)	**-2.6**	**-4.1**	**-5.6**	**-7.7**	**3.5**	**-5.5**	**-6.5**	**-6.1**	**-6.0**	**-5.5**	**-4.3**		**-4.3**	**-4.1**	-4.3
Endogenous debt dynamics 2/	**0.9**	**-1.2**	**1.5**			**10.3**	**6.2**	**-4.0**	**-1.3**	**0.8**	**2.0**		**2.4**	**2.1**	
Contribution from nominal interest rate	3.0	2.9	3.2			2.5	3.1	3.3	3.3	3.6	3.9		3.8	3.3	
Contribution from real GDP growth	-0.2	0.5	0.9			7.9	3.0	-7.3	-4.6	-2.8	-1.9		-1.4	-1.2	
Contribution from price and exchange rate changes	-2.0	-4.6	-2.5			...	...	...	...	...	...		...	...	
Residual 3/	**0.0**	**3.6**	**2.0**			**-1.9**	**-18.9**	**-11.6**	**-5.2**	**-9.8**	**-7.8**		**-3.8**	**-2.8**	
of which: Capital transfers 4/							-19.8	-11.5	-6.8	-4.5	-3.7		-3.5	-3.3	
of which: Commercial Banks and other private flows							-2.5	-2.0	-2.4	-2.9	-2.9		-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	
PV of external debt 5/	...	...	66.1			78.6	85.5	82.2	86.1	88.7	89.0		84.0	71.8	
In percent of exports	...	...	133.8			172.5	272.2	207.4	200.2	208.9	207.1		195.6	167.4	
PV of PPG external debt	**...**	**...**	**43.0**			**53.2**	**57.5**	**55.0**	**59.6**	**62.3**	**62.6**		**56.4**	**45.2**	
In percent of exports	**...**	**...**	**87.2**			**116.6**	**183.0**	**138.8**	**138.6**	**146.9**	**145.7**		**131.4**	**105.4**	
In percent of government revenues	**...**	**...**	**78.2**			**113.9**	**154.0**	**148.5**	**168.1**	**178.8**	**178.8**		**161.5**	**133.8**	
Debt service-to-exports ratio (in percent)	**12.2**	**14.0**	**14.2**			**11.9**	**24.3**	**22.3**	**16.4**	**16.7**	**17.7**		**19.9**	**17.9**	
PPG debt service-to-exports ratio (in percent)	**9.0**	**10.3**	**10.5**			**8.6**	**19.5**	**18.3**	**12.9**	**12.9**	**13.8**		**15.8**	**14.3**	
PPG debt service-to-revenue ratio (in percent)	**13.6**	**13.0**	**9.5**			**8.4**	**16.4**	**19.6**	**15.7**	**15.8**	**16.9**		**19.4**	**18.2**	
Total gross financing need (Billions of U.S. dollars)	0.0	0.0	0.0			0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	
Non-interest current account deficit that stabilizes debt ratio	1.7	1.6	2.1			-2.9	19.3	21.7	12.5	14.5	10.1		5.6	4.8	
Key macroeconomic assumptions															
Real GDP growth (in percent)	0.2	-0.6	-1.1	1.0	2.4	-9.3	-3.2	8.0	5.1	2.9	1.9	0.9	1.5	1.5	1.5
GDP deflator in US dollar terms (change in percent)	2.4	5.6	3.1	2.5	1.8	0.9	1.6	1.7	1.8	1.9	1.8	1.6	2.0	2.0	2.0
Effective interest rate (percent) 6/	3.6	3.6	3.8	4.4	0.9	2.9	3.4	3.7	3.7	3.8	3.9	3.6	4.1	4.1	4.1
Growth of exports of G&S (US dollar terms, in percent)	40.9	-1.8	4.9	7.9	16.0	-15.5	-32.3	38.6	16.0	3.6	5.1	2.6	3.5	3.5	3.5
Growth of imports of G&S (US dollar terms, in percent)	37.3	-6.0	-0.2	5.6	15.1	19.3	7.6	8.4	1.5	-2.0	-8.7	4.4	3.6	2.3	2.5
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	18.0	18.7	17.5	14.2	16.2	15.0	16.6	15.0	15.9	15.5
Government revenues (excluding grants, in percent of GDP)	34.0	38.0	55.0			46.7	37.3	37.1	35.4	34.9	35.0		34.9	33.8	34.6
Aid flows (in Billions of US dollars) 8/	0.0	0.0	0.0			0.1	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) 9/	...	...	...			10.8	9.7	7.8	2.7	2.5	1.9		1.7	1.8	1.7
Grant-equivalent financing (in percent of external financing) 9/	...	...	...			58.8	58.6	51.5	19.8	23.2	25.4		27.3	27.7	27.4
Memorandum items:															
Nominal GDP (Billions of US dollars)	0.5	0.6	0.6			0.5	0.5	0.6	0.6	0.6	0.7		0.8	1.1	
Nominal dollar GDP growth	2.6	5.0	2.0			-8.4	-1.7	9.9	7.0	4.9	3.8	2.6	3.5	3.5	3.5
PV of PPG external debt (in Billions of US dollars)			0.2			0.3	0.3	0.3	0.4	0.4	0.4		0.4	0.5	
(PVt-PVt-1)/GDPt-1 (in percent)						5.6	3.4	3.0	8.7	5.8	2.6	4.9	0.5	0.7	0.7
Gross workers' remittances (Billions of US dollars)	...	...	...			...	...	...	...	...	...		...	...	
PV of PPG external debt (in percent of GDP + remittances)	...	...	43.0			53.2	57.5	55.0	59.6	62.3	62.6		56.4	45.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	87.2			116.6	183.0	138.8	138.6	146.9	145.7		131.4	105.4	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	10.5			8.6	19.5	18.3	12.9	12.9	13.8		15.8	14.3	

Sources: Dominican authorities; and staff estimates and projections.

1/ Includes public and private sector external debt. In percent of fiscal year GDP.

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/ Public and private capital transfers include CBI inflows and insurance payments.

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

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 PV of new debt).

Table A2. Dominica: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, Baseline Scenario, 2017-37

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
PV of debt-to GDP ratio								
Baseline	53	58	55	60	62	63	**56**	45
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	53	39	32	31	26	23	**31**	67
A2. New public sector loans on less favorable terms in 2017-2037 2/	53	59	59	66	71	72	**73**	77
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	53	56	59	64	67	67	**61**	49
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	53	48	49	54	57	57	**52**	44
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	53	58	56	61	64	64	**58**	46
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	53	72	83	87	89	90	**79**	51
B5. Combination of B1-B4 using one-half standard deviation shocks	53	54	66	70	73	74	**66**	49
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	53	82	78	85	88	89	**80**	64
PV of debt-to-exports ratio								
Baseline	117	183	139	139	147	146	**131**	105
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	117	124	80	71	61	54	**73**	156
A2. New public sector loans on less favorable terms in 2017-2037 2/	117	189	148	153	167	169	**169**	180
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	117	183	139	139	147	146	**131**	105
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	117	112	138	139	148	147	**134**	114
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	117	183	139	139	147	146	**131**	105
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	117	230	208	201	210	209	**185**	118
B5. Combination of B1-B4 using one-half standard deviation shocks	117	121	149	147	155	153	**138**	103
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	117	183	139	139	147	146	**131**	105
PV of debt-to-revenue ratio								
Baseline	114	154	148	168	179	179	**162**	134
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	114	104	85	86	74	66	**89**	198
A2. New public sector loans on less favorable terms in 2017-2037 2/	114	159	158	186	203	207	**208**	229
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	114	151	160	181	192	192	**174**	144
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	114	128	133	152	162	162	**149**	131
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	114	155	151	171	182	182	**165**	136
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	114	193	223	244	256	256	**228**	150
B5. Combination of B1-B4 using one-half standard deviation shocks	114	146	178	199	210	211	**190**	146
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	114	219	211	239	254	254	**229**	190

Table A2. Dominica: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, Baseline Scenario, 2017-37 (concluded)

	Projections							
	2017	2018	2019	2020	2021	2022	**2027**	2037
Debt service-to-exports ratio								
Baseline	9	20	18	13	13	14	**16**	14
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	9	19	17	11	11	11	**8**	15
A2. New public sector loans on less favorable terms in 2017-2037 2/	9	20	17	12	13	13	**18**	20
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	9	20	18	13	13	14	**16**	14
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	9	14	19	14	14	15	**16**	15
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	9	20	18	13	13	14	**16**	14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	9	20	20	15	15	16	**23**	16
B5. Combination of B1-B4 using one-half standard deviation shocks	9	13	17	13	13	14	**17**	14
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	9	20	18	13	13	14	**16**	14
Debt service-to-revenue ratio								
Baseline	8	16	20	16	16	17	**19**	18
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2017-2037 1/	8	16	18	14	13	13	**10**	19
A2. New public sector loans on less favorable terms in 2017-2037 2/	8	16	19	15	16	16	**22**	26
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	8	16	21	17	17	18	**21**	20
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	8	16	19	15	15	16	**18**	18
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	8	17	20	16	16	17	**20**	19
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	8	16	21	19	19	20	**28**	21
B5. Combination of B1-B4 using one-half standard deviation shocks	8	16	20	17	17	19	**23**	20
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	8	23	28	22	22	24	**28**	26
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	12	12	12	12	12	12	**12**	12

Sources: Dominican authorities; and staff estimates and projections.

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

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in 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 A3. Dominica: Public Sector Debt Sustainability Framework, Baseline Scenario, 2014-37
(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2014	2015	2016	Average 5/	Standard Deviation 5/	2017	2018	2019	2020	2021	2022	2017-22 Average	2027	2037	2023-37 Average
Public sector debt 1/	78.7	75.3	71.7			82.7	87.7	83.3	86.1	87.8	87.1		75.4	58.9	
of which: foreign-currency denominated	61.0	58.1	54.7			66.0	71.1	68.1	72.8	75.8	75.7		67.5	56.0	
Change in public sector debt	-1.4	-3.5	-3.5			11.0	5.0	-4.4	2.8	1.7	-0.7		-2.4	-1.2	
Identified debt-creating flows	-5.7	-2.9	-5.3			6.4	7.0	-2.3	4.4	4.5	-2.7		-1.9	-2.8	
Primary deficit	-5.8	-0.9	-5.9	-2.3	4.1	-2.1	2.8	2.7	7.0	5.6	-2.5	2.3	-2.0	-2.8	-1.8
Revenue and grants	36.0	40.1	55.9			55.8	45.4	43.3	36.3	35.8	35.9		35.8	34.7	
of which: grants	2.0	2.1	0.9			9.1	8.1	6.2	0.9	0.9	0.9		0.9	0.9	
Primary (noninterest) expenditure	30.2	39.2	50.1			53.7	48.3	46.0	43.3	41.3	33.4		33.8	31.9	
Automatic debt dynamics	0.2	-2.0	0.6			8.5	4.2	-5.0	-2.5	-1.0	-0.2		0.1	0.1	
Contribution from interest rate/growth differential	0.6	0.2	1.7			8.3	4.0	-5.6	-3.0	-1.1	-0.3		0.2	0.1	
of which: contribution from average real interest rate	0.8	-0.3	0.9			0.9	1.2	0.9	1.1	1.4	1.4		1.3	1.0	
of which: contribution from real GDP growth	-0.1	0.5	0.8			7.3	2.8	-6.5	-4.1	-2.5	-1.6		-1.1	-0.9	
Contribution from real exchange rate depreciation	-0.5	-2.2	-1.2			0.2	0.2	0.6	0.4	0.0	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	4.2	-0.5	1.8			4.6	-2.0	-2.1	-1.7	-2.8	2.0		-0.5	1.6	
of which, use of deposits						4.2	-2.5	-2.4	-1.9	-3.0	1.8		-0.6	0.0	
Other Sustainability Indicators															
PV of public sector debt	...	...	60.1			69.9	74.1	70.3	72.8	74.4	74.1		64.3	48.0	
of which: foreign-currency denominated	...	...	43.0			53.2	57.5	55.0	59.6	62.3	62.6		56.4	45.2	
of which: external	...	...	43.0			53.2	57.5	55.0	59.6	62.3	62.6		56.4	45.2	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	0.2	5.0	0.3			5.4	11.5	15.0	16.0	14.2	6.5		8.0	7.2	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	107.4			125.3	163.0	162.3	200.4	208.0	206.2		179.5	138.5	
PV of public sector debt-to-revenue ratio (in percent)	...	...	109.2			149.8	198.4	189.5	205.5	213.4	211.5		184.1	142.2	
of which: external 3/	...	...	78.2			113.9	154.0	148.5	168.1	178.8	178.8		161.5	133.8	
Debt service-to-revenue and grants ratio (in percent) 4/	16.8	14.7	11.0			13.4	19.1	28.3	24.7	24.0	25.2		28.0	28.9	
Debt service-to-revenue ratio (in percent) 4/	17.8	15.4	11.2			16.0	23.3	33.1	25.3	24.7	25.8		28.8	29.7	
Primary deficit that stabilizes the debt-to-GDP ratio	-4.4	2.6	-2.4			-13.1	-2.1	7.1	4.2	3.8	-1.8		0.4	-1.6	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	0.2	-0.6	-1.1	1.0	2.4	-9.3	-3.2	8.0	5.1	2.9	1.9	0.9	1.5	1.5	1.5
Average nominal interest rate on forex debt (in percent)	2.3	2.0	2.3	2.7	1.3	1.6	2.5	2.7	2.8	2.9	3.0	2.6	3.1	3.3	3.2
Average real interest rate on domestic debt (in percent)	2.0	-2.0	1.0	1.9	2.6	3.9	4.6	5.6	5.9	5.5	5.5	5.2	5.7	7.9	6.3
Real exchange rate depreciation (in percent, + indicates depreciation)	-0.7	-3.6	-2.0	-0.6	1.7	0.4	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	2.4	5.6	3.1	2.5	1.8	0.9	1.6	1.7	1.8	1.9	1.8	1.6	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	-3.0	29.1	26.3	5.3	11.9	-2.7	-12.9	3.0	-1.1	-1.8	-17.7	-5.5	1.7	-2.0	1.2
Grant element of new external borrowing (in percent)	...	...	...	...	...	18.0	18.7	17.5	14.2	16.2	15.0	16.6	15.0	15.9	...

Sources: Dominican authorities; and staff estimates and projections.

1/ Public sector includes Central Government, State Owned Enterprises, and staff estimate of PetroCaribe arrangement. In percent of fiscal year GDP.

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

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

Table A4. Dominica: Sensitivity Analysis for Key Indicators of Public Debt, Baseline Scenario, 2017-37
(In percent of GDP)

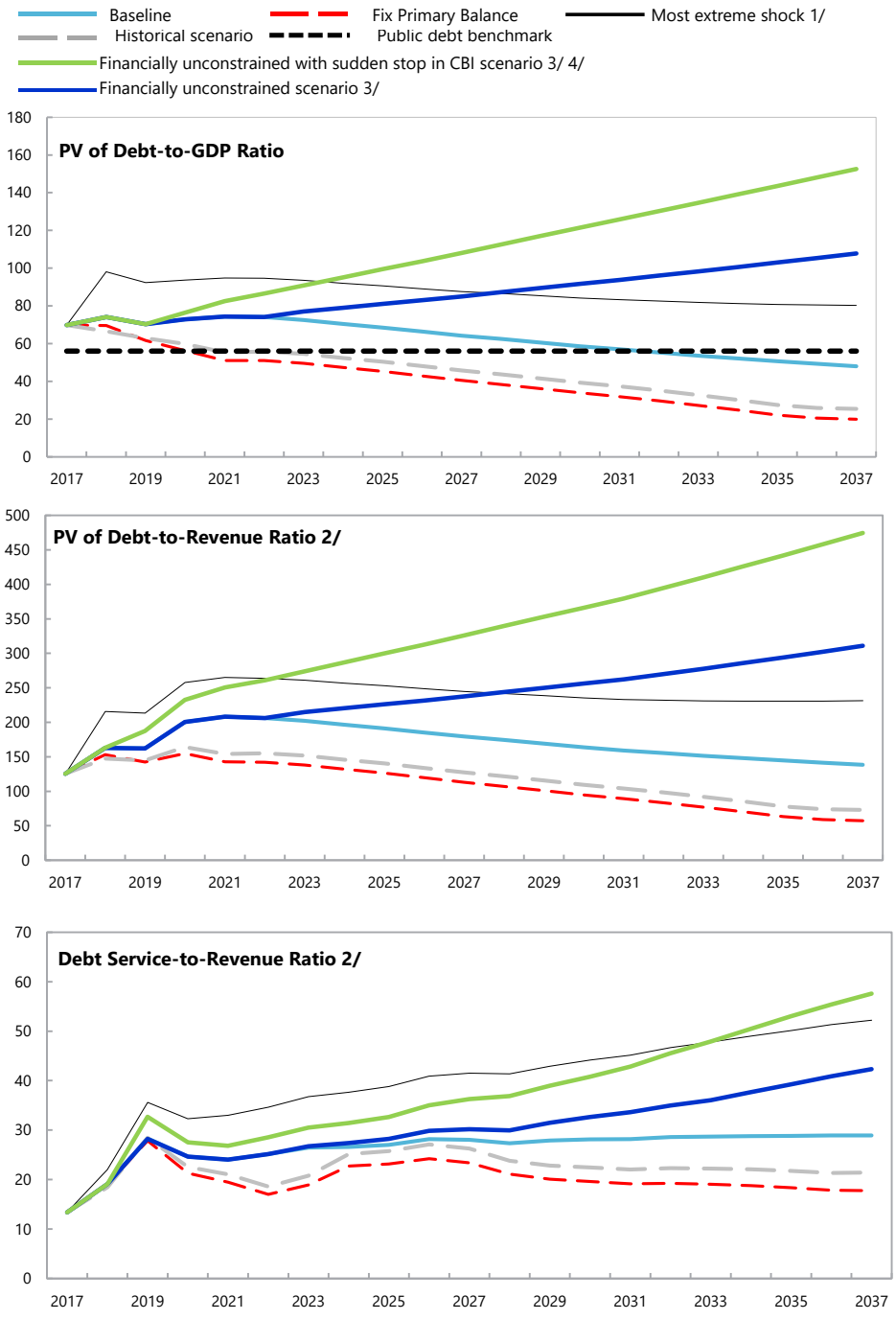
	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
PV of Debt-to-GDP Ratio								
Baseline	70	74	70	73	74	74	64	48
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	70	67	63	60	55	56	46	25
A2. Primary balance is unchanged from 2017	70	70	62	56	51	51	41	20
A3. Permanently lower GDP growth 1/	70	75	72	75	78	78	77	91
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	70	72	78	83	87	89	91	98
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	70	73	69	71	73	73	63	46
B3. Combination of B1-B2 using one half standard deviation shocks	70	69	68	73	76	77	75	74
B4. One-time 30 percent real depreciation in 2018	70	98	92	94	95	95	88	80
B5. 10 percent of GDP increase in other debt-creating flows in 2018	70	83	79	81	83	82	73	57
PV of Debt-to-Revenue Ratio 2/								
Baseline	125	163	162	200	208	206	179	139
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	125	147	145	164	154	155	127	73
A2. Primary balance is unchanged from 2017	125	153	142	155	143	142	113	57
A3. Permanently lower GDP growth 1/	125	164	165	206	217	218	215	261
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	125	159	177	227	242	247	253	284
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	125	161	159	196	204	202	175	134
B3. Combination of B1-B2 using one half standard deviation shocks	125	153	157	200	212	215	209	214
B4. One-time 30 percent real depreciation in 2018	125	216	213	258	265	264	245	231
B5. 10 percent of GDP increase in other debt-creating flows in 2018	125	183	182	223	231	229	203	164
Debt Service-to-Revenue Ratio 2/								
Baseline	13	19	28	25	24	25	28	29
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	13	18	28	23	21	19	26	21
A2. Primary balance is unchanged from 2017	13	19	28	21	19	17	23	18
A3. Permanently lower GDP growth 1/	13	19	29	25	25	26	32	42
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	13	19	30	26	28	29	35	46
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	13	19	28	24	23	25	28	28
B3. Combination of B1-B2 using one half standard deviation shocks	13	19	29	24	23	27	30	37
B4. One-time 30 percent real depreciation in 2018	13	22	36	32	33	35	41	52
B5. 10 percent of GDP increase in other debt-creating flows in 2018	13	19	29	30	25	27	31	32

Sources: Dominican authorities; and staff estimates and projections.

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

2/ Revenues are defined inclusive of grants.

Figure A2. Dominica: Indicators of Public Debt Under Alternative Scenarios, 2017-37 (Baseline Scenario)



Sources: Dominican authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio on or before 2027.
2/ Revenues are defined inclusive of grants.
3/ Customized scenarios.
4/ Financially unconstrained scenario with sudden stop in CBI scenario assumes a complete stop of CBI inflows starting in FY2019/20.