INTERNATIONAL MONETARY FUND
INTERNATIONAL DEVELOPMENT ASSOCIATION

HAITI

Sixth Review Under the Extended Credit Facility, Request for Waiver of Performance Criterion and Augmentation of Access

Joint IMF/World Bank Debt Sustainability Analysis

Prepared by the Staffs of the International Monetary Fund and
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The updated LIC DSA shows that Haiti's risk of debt distress remains high due to the deterioration of the macroeconomic outlook and new borrowing. *Although HIPC and MDRI relief have substantially reduced Haiti's debt burden when the completion point was reached in June 2009, the updated DSA findings indicate that the present value (PV) of debt-to-exports ratio would breach the relevant policy-dependent threshold in the baseline scenario over a prolonged period.[1] The debt sustainability outlook has worsened since reaching completion point in June 2009 mainly due to new bilateral borrowing.[2] Staff will continue to closely monitor the evolution of external debt and the government's ability to secure highly concessional financing and mobilize domestic resources in the aftermath of the earthquake.*

I. Background

1. **Haiti's public debt as of end-September 2009 is estimated at about 24.8 percent of GDP**. Most of the debt is owed to external creditors (16.6 percent of GDP), while domestic debt (about 8.2 percent of GDP), corresponds to credit to the government from the central bank (BRH). These ratios reflect the HIPC and MDRI debt relief received at the completion point in June 2009, which reduced Haiti's debt stock in nominal terms by an estimated US$1.1 billion, with annual debt service savings of more than US$50 million in the first ten years following completion point.[3] The stock of debt reduction from MDRI was estimated to amount to US$841 million (US$446 million from IDA and US$395 million from the IADB).

2. **Haiti's debt sustainability outlook has worsened since reaching the HIPC Completion Point in June 2009, mainly due to new bilateral borrowing.** In particular, accumulated concessional trade financing from Venezuela under the PetroCaribe agreement of US$295 million raised the PV of external debt by more than 45 percentage points of exports in FY2010.[4] The deterioration in the debt sustainability outlook also results from the incorporation of preliminary post-earthquake medium-term macroeconomic assumptions. Compared to previous projections, the near-term growth and exports outlook have been revised downwards, although the extent of damage and impact on economic performance are subject to substantial uncertainty (Table A1). This DSA is based on the new lower discount rate of 4 percent (compared to 5 percent previously). This implies that, for a given set of

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[1] The new debt limits came into force on December 10, 2009, based on which Haiti was rated as high risk of debt distress and weak institutional capacity. Haiti is classified as a weak performer based on its three-year average score of 2.83 on the World Bank's Country Policy and Institutional Assessment (CPIA). For a weak performer (defined as those with three-year average CPIA ratings below 3.25), the indicative thresholds for external debt sustainability are PV of debt-to-GDP ratio of 30 percent, PV of debt-to-exports ratio of 100 percent, PV of debt-to-revenue ratio of 200 percent, debt service-to-exports ratio of 15 percent, and debt service-to-revenue ratio of 25 percent.

[2] Country Report No. 09/288, Appendix II, June 16, 2009.

[3] Debt service savings from the HIPC Initiative (US$265 million) and the MDRI (US$972.7 million).

[4] In the previous LIC DSA (Country Report No. 09/288), resources accumulated under the PetroCaribe agreement (US$104 million) were treated as private debt based on staff's understanding that these resources were about to be transferred to a private binational company. However, the binational company is yet to be established, and the authorities have clarified that these amounts represent government liabilities.

medium-term assumptions and debt service profile, the PV of debt would be higher. A full LIC DSA will be provided in the context of a follow-up discussion on a possible new arrangement to incorporate: (i) revised medium-term projections based on firmer assessment of reconstruction needs; and (ii) the effect of remittances on Haiti's debt dynamics, in line with new guidelines on debt limits that came into force in December 2009.[5]

II. External Debt Sustainability Analysis

3. **Given the significantly weaker near-term macroeconomic outlook and higher borrowing in 2009, Haiti remains at high risk of debt distress even in the baseline scenario** (Figure 1). Haiti's present value (PV) of external debt relative to exports breaches the indicative threshold over a prolonged period (2010-2025), reaching a peak of about 155 percent in 2011 before declining steadily below 100 percent over the projection period. Compared to the completion point DSA, these dynamics are driven in part by the worsened near-term outlook, but also, to a greater extent, by the higher borrowing accumulated in 2009. Figure 2 presents the key differences in assumptions underlying both DSAs. Compared to the completion point DSA, exports as a percent of GDP are expected to drop sharply in 2010 and recover only gradually to their pre-earthquake level by 2020, while imports are expected to increase significantly in 2010 and decline only gradually to 2009 levels by 2015. As a result, the external current account deficit is expected to be significantly higher over the medium-term compared to the previous DSA. At the same time, GDP growth and government revenues are expected to be significantly lower, with GDP contracting by about 13 percentage points in 2010 and only recovering to its pre-earthquake level by 2015. Together, these factors account for about 15 percentage points of the increase in the PV of debt to exports ratio compared to the completion point.

4. **Higher borrowing in 2009 raised the risk of debt distress substantially**. Figure 3 presents comparative debt indicators with and without new bilateral debt contracted in 2009.[6] Compared to the completion point, the new debt raises the PV of debt-to-exports ratio by more than 45 percentage points, which peaks to 140 percent in 2011 before declining steadily.

5. **The Fund augmentation does not, by itself, materially impact Haiti's debt dynamics.** The DSA incorporates the borrowing under the proposed augmentation of access under the Extended Credit Facility (ECF) arrangement. This augmentation would raise the PV of debt-to-export ratio by about 12 percentage points in 2010 and would not affect the duration of the breach of this indicator above the policy-related threshold. More importantly, the Fund's support is a critical element of the broader international effort to limit the damage

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[5] The full DSA will also incorporate a new airport loan in the amount of US$33 million contracted in December 2009, as well as the implications of the waiver on debt service payments announced by the World Bank on January 21, 2010.

[6] The analysis assumes a higher debt stock at end-2009 by the amount of new borrowing (US$295 million) and associated debt service projections. Financing under the PetroCaribe arrangement is provided on concessional terms. Based on the terms currently applicable—1 percent interest, 2 years grace, and 25 years maturity—the associated concessionality element is 44.5 percent.

resulting from the earthquake, which will set the foundation for the expected economic recovery. These efforts are essential to renewed medium-term economic growth, higher fiscal revenue and exports, and thus for debt sustainability. Indeed, while data limitations do not allow for a meaningful scenario analysis at this stage, staff considers that the counterfactual to Fund support would be a scenario with a more prolonged downturn and a higher risk of debt distress.

6. **Based on the sensitivity analysis, Haiti is most vulnerable to a combined shock to growth, exports, prices and non-debt creating flows.** Together these shocks could push the PV of debt-to-exports ratio up to 160 percent before declining in FY 2015, although the ratio would remain above the threshold for the projection period. Less favorable terms on new borrowing would also cause the debt-to-exports ratio to remain above 150 percent beyond 2020.

III. Public Debt Sustainability Analysis

7. **In the baseline scenario, public debt indicators rise somewhat over the projection period** Table A4. The PV of public debt-to-GDP rises from 25 percent in FY2009 to 41 percent in FY 2020, before declining to 39 in FY2030. The increase reflects primarily an increase in domestic borrowing, as external debt declines to 17 percent of GDP in 2030. The PV of the debt-to-revenue ratio starts at 242 percent in FY 2010, but declines rapidly below the threshold of 200 percent by 2014 and declines steadily over the projection period.

8. **Alternative and shock scenarios put public debt on a sharper rising trajectory over the projection period (Table A5).** If the primary balance is fixed at its relatively high level of FY 2009, the PV of public debt-to-GDP ratio would grow to 80 percent over the projection period as opposed to stabilizing at about 35 percent under the baseline. The most extreme shock (growth for the debt stock indicators and lower non-debt creating flows for the debt service measure) would also raise debt above the baseline scenario, although the deterioration would be less pronounced than seen when holding the FY 2009 primary balance constant.

IV. Debt Management

9. **As with other public financial management systems, the earthquake is likely to have severely disrupted existing debt management systems.** Based on an assessment of the damages, further technical and financial support will be needed to recover data, set up a working computer system, and rehabilitate other physical infrastructure.

10. **The earthquake is a major setback given recent steady progress.** Debt management capacity had improved in Haiti since the decision point was reached in December 2006. In the area of debt recording, the BRH and the MEF had completed the installation of the most recent version of UNCTAD DMFAS system, version 5.3, which allows for improvements in the availability, quality and security of debt data. In part resulting from the upgrade to the latest DMFAS system, debt reporting by the government had also improved.

11. **Prior to the earthquake, satisfactory progress had also been made in establishing the debt unit at the Ministry of Finance**, although the finalization of the draft operations manual, and the legal and institutional framework for debt management did depend on the results of the planned technical assistance by UNCTAD and CEMLA.

V. Conclusions

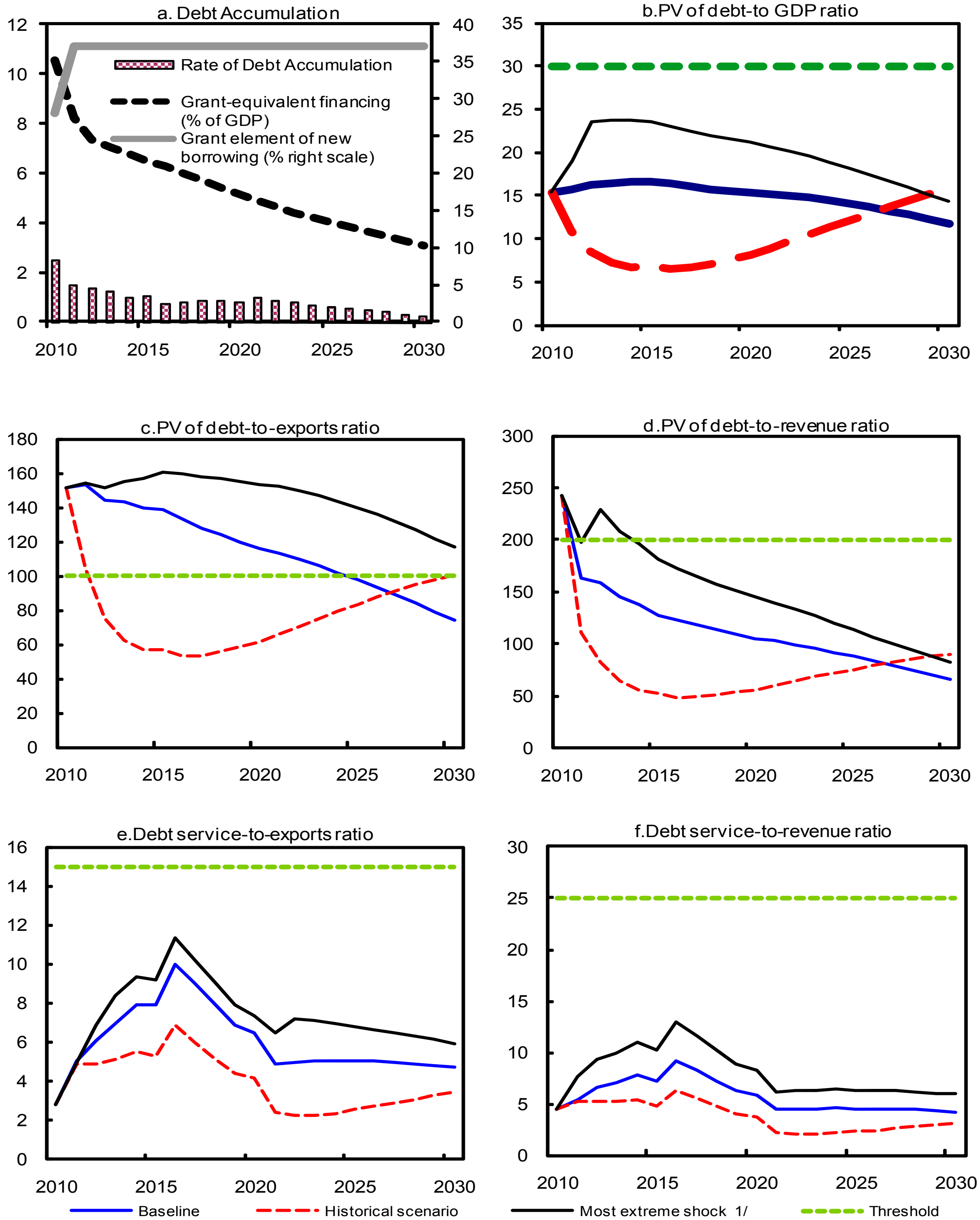
12. **Haiti's risk of external debt distress remains high even after HIPC and MDRI debt relief.** The PV of debt-to-exports ratio breaches the 100 percent threshold for a prolonged period, even though other debt indicators remain below their relevant thresholds. The Fund augmentation is a critical element in supporting a broader international effort to respond to the needs in the aftermath of the earthquake and lay the foundation for a subsequent economic recovery. The analysis, however, underscores the importance for donors to meet Haiti's large and immediate financing needs through grants and highly concessional loans.

Table A1. Haiti: Long-Term Macroeconomic Assumptions, FY 2009-2030

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Averages 2010-19	Averages 2020-30
(Annual percentage change)																								
National income and prices																								
GDP at constant prices	2.89	-10.00	1.00	2.50	3.50	3.50	4.49	4.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.45	5.00
GDP deflator	3.16	11.60	13.60	9.10	7.50	6.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	7.33	5.00
Real GDP per capita (local currency)	1.21	-11.45	-0.61	0.88	1.88	1.90	2.89	2.93	3.44	3.47	3.49	3.52	3.55	3.58	3.60	3.63	3.65	3.72	3.72	3.72	3.72	3.72	0.88	3.65
Consumer prices (period average)	3.43	8.40	13.06	8.85	7.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	7.68	6.50
External sector (value in USD)																								
Exports of goods and non-factor services	12.02	-33.29	6.42	15.54	8.57	8.44	7.17	8.75	9.22	9.18	9.14	9.10	9.06	9.02	8.98	8.95	8.92	8.88	8.85	8.82	8.79	8.76	4.91	8.92
Imports of goods and non-factor services	0.38	6.58	0.28	1.08	1.31	1.21	1.44	6.00	6.50	6.50	6.50	6.50	6.49	6.49	6.49	6.48	6.48	6.48	6.90	6.90	6.90	6.90	3.74	6.64
Central government (value in Gourdes)																								
Total revenue and grants	25.90	-10.27	22.42	10.09	16.73	13.84	13.29	10.05	10.49	10.56	10.63	10.69	10.75	10.81	10.86	10.91	10.95	11.00	11.04	11.07	11.10	11.14	10.78	10.94
Central government revenue 1/	11.29	-42.96	74.20	19.10	22.81	17.84	17.90	12.25	12.73	12.68	12.62	12.57	12.52	12.48	12.43	12.39	12.35	12.31	12.27	12.24	12.20	12.17	15.92	12.36
Central government primary expenditure	30.33	4.69	13.29	13.92	14.24	12.63	8.62	10.51	10.09	10.03	10.00	9.98	10.40	10.38	10.36	10.35	10.34	10.33	10.32	10.32	10.30	8.98	10.80	10.19
(In percent of GDP, unless otherwise indicated)																								
National income																								
Nominal GDP (Gourdes, billions)	267	268	308	344	383	422	463	508	560	617	680	750	827	912	1,005	1,108	1,222	1,347	1,485	1,638	1,806	1,991	455	1,281
Nominal GDP (USD billions)	7	6	6	7	7	8	8	9	9	10	11	11	12	13	14	15	16	17	18	19	21	22	8	16
GDP per capita (US dollars)	661	605	628	652	680	703	737	774	816	860	908	958	1,011	1,068	1,128	1,191	1,259	1,331	1,407	1,488	1,573	1,664	736	1,280
External sector																								
Non-interest current account deficit 2/, 3/	-4.74	-3.62	-5.83	-7.07	-5.52	-4.21	-2.99	-2.29	-1.60	-1.43	-1.38	-1.31	-1.22	-1.12	-1.01	-0.89	-0.76	-0.61	-0.46	-0.43	-0.36	-0.29	-3.59	-0.77
Exports of goods and non-factor services	14.22	10.20	10.29	11.27	11.55	11.93	12.00	12.25	12.50	12.75	13.00	13.25	13.50	13.75	14.00	14.25	14.50	14.75	15.00	15.25	15.50	15.75	11.78	14.50
Imports of goods and non-factor services	43.93	50.31	47.86	45.85	43.84	42.26	40.25	40.05	39.85	39.65	39.45	39.25	39.05	38.85	38.65	38.45	38.25	38.05	38.00	37.95	37.90	37.85	42.94	38.39
External current account balance 1/	-10.64	-19.07	-16.99	-14.17	-12.33	-10.91	-9.59	-9.74	-8.84	-8.31	-7.93	-7.54	-7.16	-6.78	-6.39	-6.01	-5.63	-5.25	-4.88	-4.67	-4.43	-4.20	-11.79	-5.72
External current account balance 2/	-3.21	-6.23	-7.38	-5.28	-3.60	-2.38	-1.62	-2.08	-1.38	-1.20	-1.14	-1.06	-0.97	-0.87	-0.76	-0.64	-0.50	-0.35	-0.20	-0.17	-0.11	-0.04	-3.23	-0.52
Liquid gross reserves (in months of imports of G&S)	3.70	3.38	3.53	3.78	4.04	4.28	4.41	4.51	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.17	4.61
Central government																								
Central government overall balance 2/	-4.43	-7.28	-5.91	-6.61	-6.41	-6.36	-5.52	-5.64	-5.56	-5.46	-5.34	-5.20	-5.15	-5.08	-5.00	-4.90	-4.80	-4.69	-4.56	-4.43	-4.28	-3.84	-6.01	-4.72
Total revenue and grants	17.88	15.97	17.04	16.78	17.60	18.18	18.77	18.83	18.87	18.92	18.99	19.06	19.15	19.25	19.35	19.47	19.59	19.73	19.87	20.02	20.17	20.33	17.99	19.64
Central government revenue 1/	11.20	6.36	9.65	10.28	11.35	12.13	13.04	13.34	13.64	13.94	14.24	14.54	14.84	15.14	15.44	15.74	16.04	16.34	16.64	16.94	17.24	17.54	11.80	16.04
Central government primary expenditure	21.47	22.62	22.31	22.68	23.14	23.53	23.23	23.03	22.83	22.73	22.63	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.53	22.87	22.53

1/ Excluding grants
2/ Including grants
3/ Includes interest earned on foreign exchange reserves.

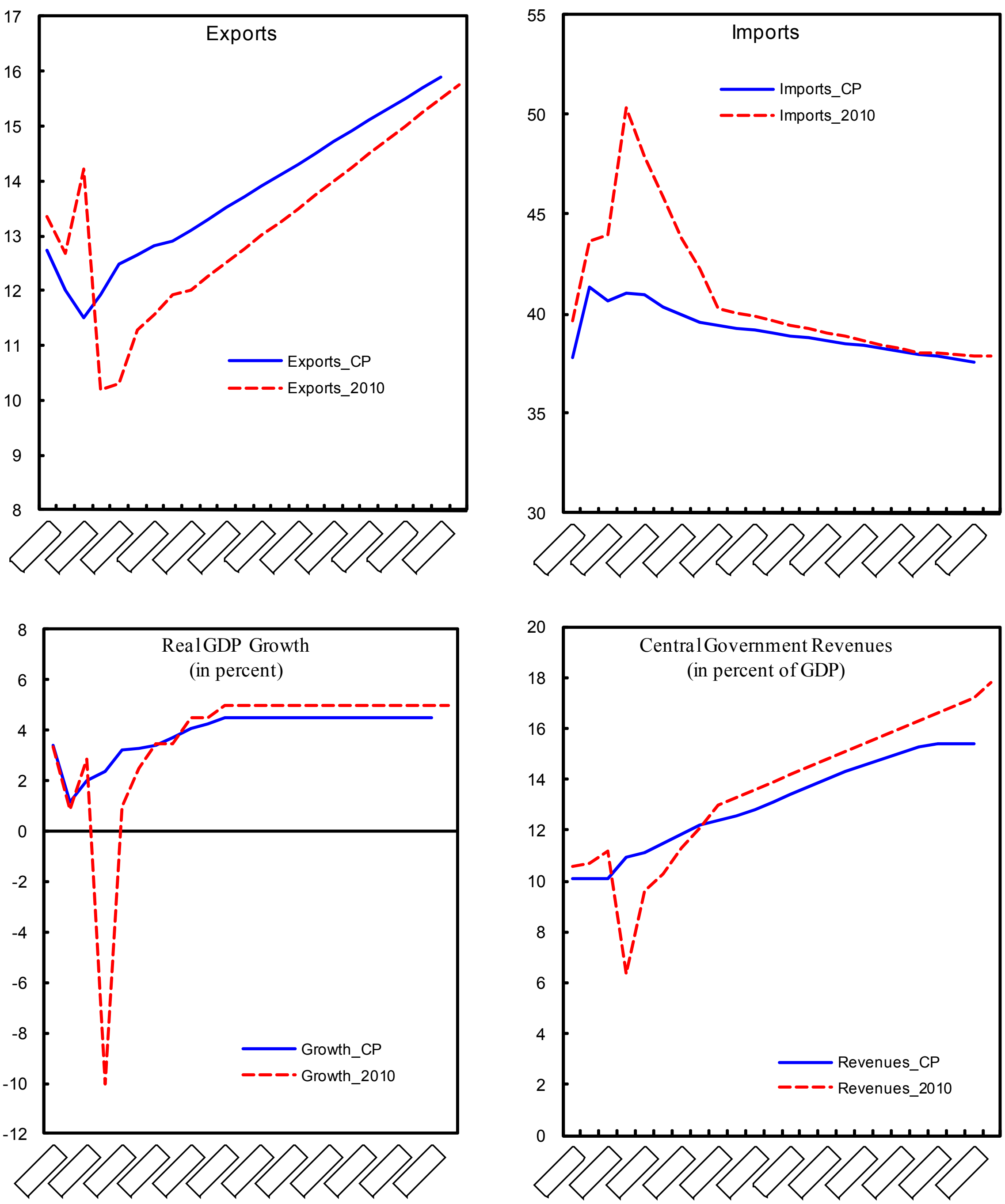
Figure 1. Haiti: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010-2030 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2020. In figure b. it corresponds to a Combination shock; in c. to a Terms shock; in d. to a Combination shock; in e. to a Combination shock and in figure f. to a One-time depreciation shock

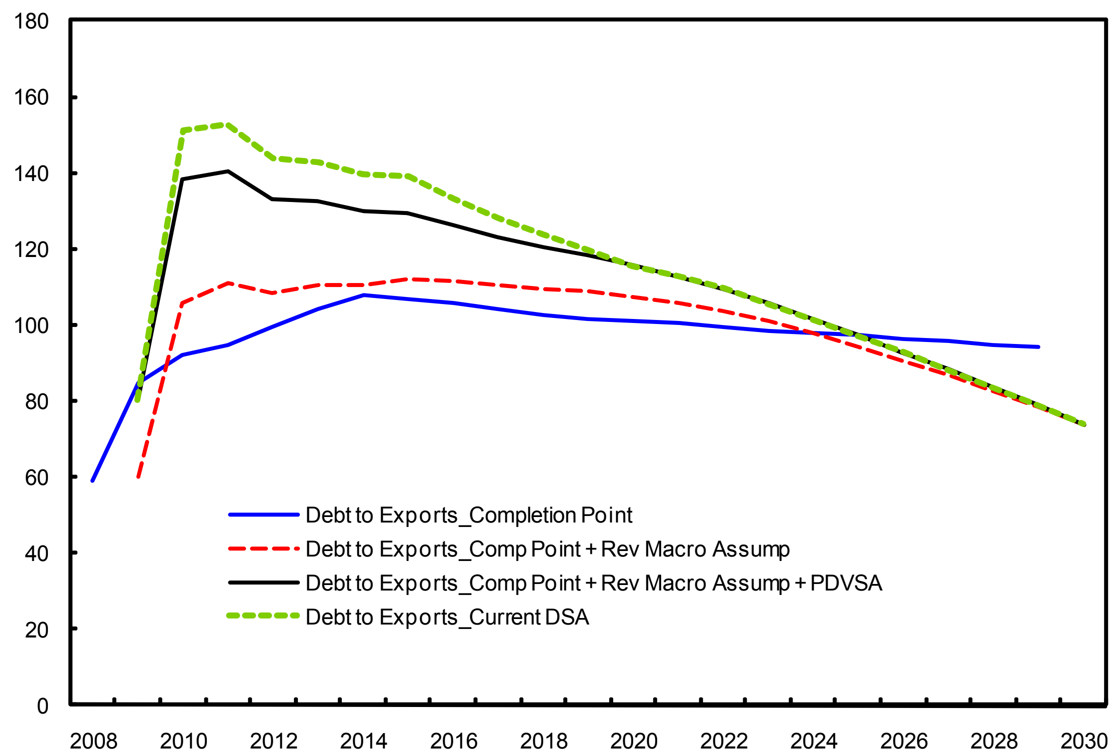
Figure 2. Haiti: Macroeconomic Assumptions, Completion Point DSA [1/] versus. 2010 DSA



Source: Fund staff estimates.

1/ Country Report No. 09/288

Figure 3. Haiti: Debit Indicators - Completion Point DSA [/1] versus 2010 DSA



The chart presents debt indicators based on four scenarios. The first assumes debt service projections as implied at the Completion Point following HIPC and MDRI in June 2009 (Completion Point). The second scenario assumes the same debt stock and debt service profile as at the Completion Point but adjusts for revised weaker near-term outlook. The third scenario augments the second by the amount of new borrowing acumulated in FY2009. The fourth scenario reflects the working assumptions underlying the current DSA as indicated in the text.

Source: Fund staff estimates

[/1] Country Report No. 09/288

Table 1a.Haiti: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007-2030
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate	Projections								
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
Public sector debt 1/	34.9	37.7	24.8			29.9	33.0	35.3	36.7	38.0	38.8		41.8	39.4	
o/w foreign-currency denominated	25.6	29.5	16.6			21.7	22.1	22.7	23.0	23.4	23.4		22.0	16.5	
Change in public sector debt	-4.4	2.7	-12.9			5.1	3.1	2.2	1.5	1.3	0.8		0.2	-0.6	
Identified debt-creating flows	-5.9	0.8	3.5			9.0	3.3	4.3	3.9	4.0	2.8		1.9	0.6	
Primary deficit	-1.1	2.5	3.8	2.2	1.7	6.7	5.3	5.9	5.5	5.4	4.5	5.5	3.5	2.0	3.2
Revenue and grants	15.8	15.1	17.9			16.0	17.0	16.8	17.6	18.2	18.8		19.1	20.3	
of which: grants	5.3	4.4	6.7			9.6	7.4	6.5	6.3	6.0	5.7		4.5	2.8	
Primary (noninterest) expenditure	14.7	17.6	21.7			22.6	22.4	22.7	23.1	23.5	23.2		22.6	22.3	
Automatic debt dynamics	-4.7	-1.7	-0.3			2.3	-2.1	-1.7	-1.7	-1.4	-1.7		-1.5	-1.4	
Contribution from interest rate/growth differential	-1.8	1.9	-1.0			2.2	-1.0	-1.4	-1.6	-1.5	-1.7		-1.5	-1.8	
of which: contribution from average real interest rate	-0.5	2.2	0.0			-0.6	-0.7	-0.6	-0.4	-0.2	0.0		0.4	0.1	
of which: contribution from real GDP growth	-1.3	-0.3	-1.1			2.8	-0.3	-0.8	-1.2	-1.2	-1.6		-2.0	-1.9	
Contribution from real exchange rate depreciation	-2.9	-3.6	0.7			0.1	-1.1	-0.2	-0.1	0.1	0.0		...	...	
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	1.5	1.9	-16.4			-3.9	-0.1	-2.0	-2.4	-2.7	-2.0		-1.8	-1.2	
Other Sustainability Indicators															
PV of public sector debt	9.4	8.2	19.6			23.6	26.7	28.8	30.2	31.3	32.1		35.2	34.5	
o/w foreign-currency denominated	0.0	0.0	11.4			15.4	15.7	16.2	16.5	16.7	16.7		15.3	11.7	
o/w external	...	...	11.4			15.4	15.7	16.2	16.5	16.7	16.7		15.3	11.7	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	10.3	11.7	12.5			15.6	13.4	16.9	18.3	19.4	19.5		23.3	24.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	59.0	54.4	109.9			147.7	156.9	171.7	171.4	172.4	170.9		184.4	169.9	
PV of public sector debt-to-revenue ratio (in percent)	88.3	76.8	175.5			371.1	276.9	280.1	265.8	258.3	246.1		241.8	196.9	
o/w external 3/	…	…	102.2			242.6	163.1	157.9	145.3	137.5	127.8		105.4	66.5	
Debt service-to-revenue and grants ratio (in percent) 4/	10.6	7.1	5.4			4.4	5.3	6.7	8.1	9.2	9.2		11.8	11.7	
Debt service-to-revenue ratio (in percent) 4/	15.8	10.1	8.5			11.2	9.4	11.0	12.5	13.8	13.2		15.5	13.6	
Primary deficit that stabilizes the debt-to-GDP ratio	3.2	-0.2	16.7			1.5	2.2	3.7	4.1	4.1	3.7		3.3	2.5	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.3	0.8	2.9	0.8	2.0	-10.0	1.0	2.5	3.5	3.5	4.5	0.8	5.0	5.0	5.0
Average nominal interest rate on forex debt (in percent)	0.5	1.0	0.7	-0.4	1.4	1.0	1.0	1.1	1.2	1.3	1.4	1.2	1.5	1.5	1.5
Average real interest rate on domestic debt (in percent)	0.7	-8.5	2.3	-8.9	7.9	-5.7	-7.2	-4.1	-1.9	-0.6	0.8	-3.1	2.9	2.9	2.9
Real exchange rate depreciation (in percent, + indicates depreciation)	-10.9	-12.6	2.6	-7.0	13.9	0.7	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	7.2	13.8	3.2	15.0	8.1	11.6	13.6	9.1	7.5	6.5	5.0	8.9	5.0	5.0	5.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.2	0.3	0.1	0.2	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	28.2	37.0	37.0	37.0	37.0	37.0	35.5	37.0	37.0	...

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.]

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 A2. Haiti: External Debt Sustainability Framework, Baseline Scenario, 2007-2030 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Historical 0	Standard	Projections									
				Average 0	Deviation							2010-2015			2016-203(
	2007	2008	2009			2010	2011	2012	2013	2014	2015	Average	2020	2030	Average
External debt (nominal) 1/	**25.6**	**29.5**	**16.6**			**21.7**	**22.1**	**22.7**	**23.0**	**23.4**	**23.4**		**22.0**	**16.5**	
o/w public and publicly guaranteed (PPG)	25.6	29.5	16.6			21.7	22.1	22.7	23.0	23.4	23.4		22.0	16.5	
Change in external debt	-2.9	3.9	-12.9			5.2	0.3	0.6	0.3	0.3	0.0		-0.3	-0.8	
Identified net debt-creating flows	-6.3	1.3	2.7			7.9	6.7	4.2	2.3	1.0	0.0		-1.0	-2.3	
Non-interest current account deficit	**0.1**	**4.2**	**3.0**	**1.5**	**1.8**	**6.1**	**7.2**	**5.1**	**3.3**	**2.1**	**1.3**		**0.8**	**-0.2**	0.5
Deficit in balance of goods and services	26.3	31.0	29.7			40.1	37.6	34.6	32.3	30.3	28.2		26.0	22.1	
Exports	13.4	12.7	14.2			10.2	10.3	11.3	11.5	11.9	12.0		13.3	15.8	
Imports	39.6	43.7	43.9			50.3	47.9	45.9	43.8	42.3	40.3		39.3	37.9	
Net current transfers (negative = inflow)	-25.9	-26.3	-26.3	-27.4	2.7	-34.0	-30.1	-28.7	-27.9	-27.1	-25.8		-24.7	-21.9	-23.8
o/w official	-6.7	-7.2	-7.4			-12.8	-9.6	-8.9	-8.7	-8.5	-8.0		-6.5	-4.2	
Other current account flows (negative = net inflow)	-0.2	-0.5	-0.3			-0.1	-0.3	-0.8	-1.1	-1.1	-1.1		-0.6	-0.4	
Net FDI (negative = inflow)	**-1.3**	**-0.5**	**-0.6**	**-0.9**	**1.1**	**-0.2**	**-0.5**	**-0.6**	**-0.6**	**-0.6**	**-0.6**		**-1.1**	**-1.6**	-1.2
Endogenous debt dynamics 2/	**-5.2**	**-2.5**	**0.2**			**2.0**	**0.0**	**-0.3**	**-0.5**	**-0.5**	**-0.7**		**-0.7**	**-0.6**	
Contribution from nominal interest rate	0.1	0.2	0.2			0.2	0.2	0.2	0.3	0.3	0.3		0.3	0.2	
Contribution from real GDP growth	-0.8	-0.2	-0.9			1.8	-0.2	-0.5	-0.7	-0.8	-1.0		-1.0	-0.8	
Contribution from price and exchange rate changes	-4.5	-2.6	0.9			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**3.4**	**2.6**	**-15.6**			**-2.7**	**-6.4**	**-3.5**	**-2.0**	**-0.7**	**0.0**		**0.7**	**1.5**	
o/w exceptional financing	-0.4	-0.3	-0.6			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	11.4			15.4	15.7	16.2	16.5	16.7	16.7		15.3	11.7	
In percent of exports	...	...	80.4			151.2	152.9	144.0	142.8	139.8	138.8		115.6	74.0	
PV of PPG external debt	**...**	**...**	**11.4**			**15.4**	**15.7**	**16.2**	**16.5**	**16.7**	**16.7**		**15.3**	**11.7**	
In percent of exports	**...**	**...**	**80.4**			**151.2**	**152.9**	**144.0**	**142.8**	**139.8**	**138.8**		**115.6**	**74.0**	
In percent of government revenues	**...**	**...**	**102.2**			**242.6**	**163.1**	**157.9**	**145.3**	**137.5**	**127.8**		**105.4**	**66.5**	
Debt service-to-exports ratio (in percent)	**6.8**	**5.8**	**3.7**			**2.8**	**5.1**	**6.1**	**7.0**	**7.9**	**7.9**		**6.4**	**4.7**	
PPG debt service-to-exports ratio (in percent)	**6.8**	**5.8**	**3.7**			**2.8**	**5.1**	**6.1**	**7.0**	**7.9**	**7.9**		**6.4**	**4.7**	
PPG debt service-to-revenue ratio (in percent)	**8.5**	**6.9**	**4.7**			**4.5**	**5.4**	**6.6**	**7.1**	**7.8**	**7.3**		**5.9**	**4.2**	
Total gross financing need (Billions of U.S. dollars)	0.0	0.3	0.2			0.4	0.5	0.3	0.3	0.2	0.1		0.1	-0.2	
Non-interest current account deficit that stabilizes debt ratio	3.0	0.4	15.9			0.9	6.8	4.4	3.0	1.8	1.3		1.1	0.6	
Key macroeconomic assumptions															
Real GDP growth (in percent)	3.3	0.8	2.9	0.8	2.0	-10.0	1.0	2.5	3.5	3.5	4.5	0.8	5.0	5.0	5.0
GDP deflator in US dollar terms (change in percent)	18.8	11.2	-3.0	9.1	13.9	3.4	4.4	2.9	2.4	1.4	1.9	2.7	1.9	1.9	1.9
Effective interest rate (percent) 5/	0.5	1.0	0.7	-0.4	1.4	1.0	1.0	1.1	1.2	1.3	1.4	1.2	1.5	1.5	1.5
Growth of exports of G&S (US dollar terms, in percent)	12.1	6.5	12.0	11.5	4.4	-33.3	6.4	15.5	8.6	8.4	7.2	2.1	9.1	8.8	9.0
Growth of imports of G&S (US dollar terms, in percent)	8.7	23.6	0.4	13.0	7.7	6.6	0.3	1.1	1.3	1.2	1.4	2.0	6.5	6.9	6.6
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	28.2	37.0	37.0	37.0	37.0	37.0	35.5	37.0	37.0	37.0
Government revenues (excluding grants, in percent of GDP)	10.6	10.7	11.2			6.4	9.7	10.3	11.3	12.1	13.0		14.5	17.5	15.4
Aid flows (in Billions of US dollars) 7/	0.3	0.3	0.4			0.6	0.5	0.5	0.5	0.5	0.5		0.6	0.7	
o/w Grants	0.3	0.3	0.4			0.6	0.5	0.4	0.4	0.5	0.5		0.5	0.6	
o/w Concessional loans	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.1		0.1	0.1	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			10.6	8.2	7.3	7.0	6.8	6.5		5.1	3.1	4.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			81.4	85.5	83.9	83.9	84.1	83.2		83.1	85.4	83.6
Memorandum items:															
Nominal GDP (Billions of US dollars)	5.9	6.6	6.6			6.1	6.4	6.8	7.2	7.6	8.0		11.2	22.2	
Nominal dollar GDP growth	22.8	12.2	-0.2			-7.0	5.4	5.5	6.0	5.0	6.5	3.6	7.0	7.0	7.0
PV of PPG external debt (in Billions of US dollars)			0.7			0.9	1.0	1.1	1.2	1.2	1.3		1.7	2.5	
(PVt-PVt-1)/GDPt-1 (in percent)						2.5	1.5	1.4	1.2	1.0	1.0	1.4	0.8	0.3	0.7
Gross remittances (Billions of US dollars)	1.2	1.4	1.4			1.4	1.4	1.5	1.5	1.5	1.5		2.2	4.2	
PV of PPG external debt (in percent of GDP + remittances)	...	...	9.5			12.5	12.9	13.3	13.6	13.8	14.0		12.8	9.8	
PV of PPG external debt (in percent of exports + remittances)	...	...	32.5			46.4	48.1	49.2	50.6	51.5	53.4		46.2	33.7	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.5			0.9	1.6	2.1	2.5	2.9	3.0		2.6	2.1	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

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

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Assumes that PV of private sector debt is equivalent to its face value.

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

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

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

8/ 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 A3.Haiti: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030
(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	**2020**	2030
PV of debt-to GDP ratio								
Baseline	15	16	16	16	17	17	**15**	12
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	15	11	8	7	7	7	**8**	16
A2. New public sector loans on less favorable terms in 2010-2030 2	15	16	17	18	19	19	**20**	18
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	15	16	17	17	17	17	**16**	12
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	15	15	16	16	17	17	**15**	11
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	15	17	19	19	19	19	**18**	13
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	15	19	23	23	23	23	**20**	14
B5. Combination of B1-B4 using one-half standard deviation shocks	15	19	24	24	24	24	**21**	14
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	15	21	22	22	23	23	**21**	16
PV of debt-to-exports ratio								
Baseline	151	153	144	143	140	139	**116**	74
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	151	104	75	63	57	57	**61**	100
A2. New public sector loans on less favorable terms in 2010-2030 2	151	154	151	155	157	161	**153**	117
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	151	148	140	139	136	135	**112**	71
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	151	147	154	153	149	148	**123**	78
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	151	148	140	139	136	135	**112**	71
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	151	187	202	197	192	189	**153**	86
B5. Combination of B1-B4 using one-half standard deviation shocks	151	174	201	197	191	188	**153**	87
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	151	148	140	139	136	135	**112**	71
PV of debt-to-revenue ratio								
Baseline	243	163	158	145	138	128	**105**	66
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	243	111	82	64	56	52	**56**	90
A2. New public sector loans on less favorable terms in 2010-2030 2	243	164	166	158	154	148	**140**	105
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	243	162	163	150	142	132	**109**	68
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	243	158	158	145	137	127	**105**	65
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	243	173	182	167	158	147	**121**	76
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	243	199	221	201	188	174	**139**	78
B5. Combination of B1-B4 using one-half standard deviation shocks	243	197	229	209	196	181	**145**	82
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	243	222	215	198	187	174	**143**	90

Table A3.Haiti: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030 (continued)
(In percent)

Debt service-to-exports ratio

Baseline	3	5	6	7	8	8	**6**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	3	5	5	5	5	5	**4**	3
A2. New public sector loans on less favorable terms in 2010-2030 2	3	5	6	7	9	9	**7**	7
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	3	5	6	7	8	8	**6**	5
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	3	5	6	8	9	9	**7**	5
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	3	5	6	7	8	8	**6**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	3	5	7	8	9	9	**7**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	3	5	7	8	9	9	**7**	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	3	5	6	7	8	8	**6**	5

Debt service-to-revenue ratio

Baseline	4	5	7	7	8	7	**6**	4
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2010-2030 1/	4	5	5	5	5	5	**4**	3
A2. New public sector loans on less favorable terms in 2010-2030 2	4	5	7	7	8	8	**7**	6
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	4	6	7	8	8	8	**6**	4
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	4	5	7	7	8	7	**6**	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	4	6	8	8	9	9	**7**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	4	5	7	8	9	8	**7**	5
B5. Combination of B1-B4 using one-half standard deviation shocks	4	6	8	9	10	9	**7**	6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	4	8	9	10	11	10	**8**	6
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	35	35	35	35	35	35	**35**	35

Sources: Country 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 (implicity 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 A4. Haiti: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007-2030
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate	Projections								
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
Public sector debt 1/	34.9	37.7	24.8			29.9	33.0	35.3	36.7	38.0	38.8		41.8	39.4	
o/w foreign-currency denominated	25.6	29.5	16.6			21.7	22.1	22.7	23.0	23.4	23.4		22.0	16.5	
Change in public sector debt	-4.4	2.7	-12.9			5.1	3.1	2.2	1.5	1.3	0.8		0.2	-0.6	
Identified debt-creating flows	-5.9	0.8	3.5			9.0	3.3	4.3	3.9	4.0	2.8		1.9	0.6	
Primary deficit	-1.1	2.5	3.8	2.2	1.7	6.7	5.3	5.9	5.5	5.4	4.5	5.5	3.5	2.0	3.2
Revenue and grants	15.8	15.1	17.9			16.0	17.0	16.8	17.6	18.2	18.8		19.1	20.3	
of which: grants	5.3	4.4	6.7			9.6	7.4	6.5	6.3	6.0	5.7		4.5	2.8	
Primary (noninterest) expenditure	14.7	17.6	21.7			22.6	22.4	22.7	23.1	23.5	23.2		22.6	22.3	
Automatic debt dynamics	-4.7	-1.7	-0.3			2.3	-2.1	-1.7	-1.7	-1.4	-1.7		-1.5	-1.4	
Contribution from interest rate/growth differential	-1.8	1.9	-1.0			2.2	-1.0	-1.4	-1.6	-1.5	-1.7		-1.5	-1.8	
of which: contribution from average real interest rate	-0.5	2.2	0.0			-0.6	-0.7	-0.6	-0.4	-0.2	0.0		0.4	0.1	
of which: contribution from real GDP growth	-1.3	-0.3	-1.1			2.8	-0.3	-0.8	-1.2	-1.2	-1.6		-2.0	-1.9	
Contribution from real exchange rate depreciation	-2.9	-3.6	0.7			0.1	-1.1	-0.2	-0.1	0.1	0.0		...	...	
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	1.5	1.9	-16.4			-3.9	-0.1	-2.0	-2.4	-2.7	-2.0		-1.8	-1.2	
Other Sustainability Indicators															
PV of public sector debt	9.4	8.2	19.6			23.6	26.7	28.8	30.2	31.3	32.1		35.2	34.5	
o/w foreign-currency denominated	0.0	0.0	11.4			15.4	15.7	16.2	16.5	16.7	16.7		15.3	11.7	
o/w external	...	...	11.4			15.4	15.7	16.2	16.5	16.7	16.7		15.3	11.7	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	10.3	11.7	12.5			15.6	13.4	16.9	18.3	19.4	19.5		23.3	24.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	59.0	54.4	109.9			147.7	156.9	171.7	171.4	172.4	170.9		184.4	169.9	
PV of public sector debt-to-revenue ratio (in percent)	88.3	76.8	175.5			371.1	276.9	280.1	265.8	258.3	246.1		241.8	196.9	
o/w external 3/	…	…	102.2			242.6	163.1	157.9	145.3	137.5	127.8		105.4	66.5	
Debt service-to-revenue and grants ratio (in percent) 4/	10.6	7.1	5.4			4.4	5.3	6.7	8.1	9.2	9.2		11.8	11.7	
Debt service-to-revenue ratio (in percent) 4/	15.8	10.1	8.5			11.2	9.4	11.0	12.5	13.8	13.2		15.5	13.6	
Primary deficit that stabilizes the debt-to-GDP ratio	3.2	-0.2	16.7			1.5	2.2	3.7	4.1	4.1	3.7		3.3	2.5	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	3.3	0.8	2.9	0.8	2.0	-10.0	1.0	2.5	3.5	3.5	4.5	0.8	5.0	5.0	5.0
Average nominal interest rate on forex debt (in percent)	0.5	1.0	0.7	-0.4	1.4	1.0	1.0	1.1	1.2	1.3	1.4	1.2	1.5	1.5	1.5
Average real interest rate on domestic debt (in percent)	0.7	-8.5	2.3	-8.9	7.9	-5.7	-7.2	-4.1	-1.9	-0.6	0.8	-3.1	2.9	2.9	2.9
Real exchange rate depreciation (in percent, + indicates depreciation)	-10.9	-12.6	2.6	-7.0	13.9	0.7	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	7.2	13.8	3.2	15.0	8.1	11.6	13.6	9.1	7.5	6.5	5.0	8.9	5.0	5.0	5.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.2	0.3	0.1	0.2	-0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	…	…	28.2	37.0	37.0	37.0	37.0	37.0	35.5	37.0	37.0	...

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.]

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 A5. Haiti: Sensitivity Analysis for Key Indicators of Public Debt 2010-2030

		Projections						
	2010	2011	2012	2013	2014	2015	2020	2030
PV of Debt-to-GDP Ratio								
Baseline	24	27	29	30	31	32	35	35
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	24	24	22	21	19	18	15	6
A2. Primary balance is unchanged from 2010	24	28	31	33	36	39	54	83
A3. Permanently lower GDP growth 1/	24	27	29	31	32	34	40	50
A4. Alternative Scenario :[Costumize, enter title]	24	26	28	29	30	31	32	25
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	24	28	31	34	36	37	44	51
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	24	25	25	27	28	29	32	32
B3. Combination of B1-B2 using one half standard deviation shocks	24	25	24	26	28	29	36	41
B4. One-time 30 percent real depreciation in 2011	24	33	35	36	37	37	40	40
B5. 10 percent of GDP increase in other debt-creating flows in 2011	24	37	39	40	41	42	43	41
PV of Debt-to-Revenue Ratio 2/								
Baseline	148	157	172	171	172	171	184	170
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	148	138	132	116	103	94	75	26
A2. Primary balance is unchanged from 2010	148	165	184	189	197	206	285	409
A3. Permanently lower GDP growth 1/	148	158	173	174	177	178	206	244
A4. Alternative Scenario :[Costumize, enter title]	151	137	138	141	144	146	148	106
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	148	160	183	187	192	194	228	248
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	148	148	150	151	153	153	169	159
B3. Combination of B1-B2 using one half standard deviation shocks	148	144	143	147	152	155	186	202
B4. One-time 30 percent real depreciation in 2011	148	196	209	205	204	200	209	197
B5. 10 percent of GDP increase in other debt-creating flows in 2011	148	216	230	227	225	221	228	200
Debt Service-to-Revenue Ratio 2/								
Baseline	4	5	7	8	9	9	12	12
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	4	5	6	7	7	7	9	1
A2. Primary balance is unchanged from 2010	4	5	7	9	10	10	15	24
A3. Permanently lower GDP growth 1/	4	5	7	8	9	9	13	15
A4. Alternative Scenario :[Costumize, enter title]	4	5	6	7	8	8	11	11
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	4	5	7	9	10	10	14	16
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	4	5	6	7	8	8	11	11
B3. Combination of B1-B2 using one half standard deviation shocks	4	5	6	7	8	9	12	13
B4. One-time 30 percent real depreciation in 2011	4	6	9	10	12	12	15	15
B5. 10 percent of GDP increase in other debt-creating flows in 2011	4	5	9	11	11	11	13	15

Sources: Country 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.