INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

REPUBLIC OF CONGO

Joint IMF and World Bank Debt Sustainability Analysis

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

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Based on the joint IMF-World Bank Debt Sustainability Framework for Low-Income Countries, Congo's gross external debt is assessed at high risk of distress.[1] Owing mainly to the debt relief from London Club creditors in November 2007, Congo's debt ratios have improved significantly over the past year. Debt ratios are projected to decline further over the long term, reflecting buoyant oil revenue and continued fiscal consolidation. However, an alternative scenario demonstrates that Congo is vulnerable to movements in oil prices; consequently, pursuing a prudent fiscal stance is critical to achieving debt sustainability.

VI. INTRODUCTION

1. The previous DSA was carried out during the 2007 Article IV consultation, based on the outstanding stock of debt at end-June 2006.[2] The analysis concluded that, under the long-term scenario that assumes the continuation of policies prevailing in 2006, the risk of debt distress in Congo was high, even after accounting for the full unconditional delivery of HIPC and MDRI assistance.

2. **Congo's net public debt has declined significantly during the past several years.**[3] Three developments have contributed to this decline: (i) debt restructuring from the Paris

[1] This takes into account the classification of Congo as a weak performer, with an average CPIA rating for the past three years of 2.74.

[2] This analysis can be found in Appendix I of Country Report No. 07/205.

[3] Public debt includes central government debt only. Net debt is defined as external and domestic debt less liquid financial assets. Liquid financial assets are government deposits at the central bank, which, apart from the funds in the operations account, are allocated into one of three accounts to help manage the large oil savings: (i)

(continued…)

Club; (ii) debt relief from London Club commercial creditors in 2007, which significantly lowered the stock of external arrears; and (iii) favorable world oil prices, which strengthened the external position and public finances.[4]

3. **In 2007, total external debt is estimated at US$ 6.3 billion or 73 percent of GDP (down from 255 percent in 2004) and its net present value is slightly above US$ 5 billion (Table 1).** The bulk of this debt is owed to bilateral official creditors and commercial creditors, whose shares represent 65 and 27 percent of outstanding debt, respectively; multilateral creditors only account for 8 percent. More than two thirds of domestic payment arrears (which accounted for about 99 percent of the total domestic debt) were repaid over the last two years. At end-2007, domestic debt stood at 8 percent of GDP.

Table 1. Republic of Congo: Net Present Value of Disbursed Debt Outstanding, 2007-13
(Millions of U.S. dollars)

	2007	2008	2009	2010	2011	2012	2013
	Actual	Projected					
Total	5282.6	5090.4	4841.8	4718.3	4580.4	4385.5	4183.7
Multilateral	323.4	317.2	311.1	300.0	282.5	260.8	239.3
IDA	162.3	166.6	171.0	174.0	174.7	174.4	173.3
IMF	33.4	34.4	35.4	33.9	29.9	23.2	16.2
Others	127.6	116.2	104.7	92.0	77.9	63.1	49.9
Official bilateral	3213.3	3059.2	2902.1	2878.3	2849.9	2780.9	2711.6
Paris Club	2896.9	2740.7	2597.9	2592.7	2592.4	2552.3	2513.1
Non-Paris Club	316.4	318.5	304.2	285.7	257.5	228.6	198.5
Commercial	1745.9	1714.1	1628.6	1540.0	1447.9	1343.8	1232.8

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

4. **Since the previous DSA, there have been important developments on Congo's creditor relations.** The authorities concluded agreements with the London Club and all but one of its bilateral Paris Club creditors, and are negotiating in good faith with the remaining commercial and litigating creditors. The authorities have reportedly paid the equivalent of 5.2 percent of non-oil GDP to the litigating creditors to keep the discussions moving forward.

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short-term deposits (1-month minimum maturity), (ii) stabilization account (6-month minimum maturity), and (iii) a fund for future generations (5-year minimum maturity).

[4] The agreement involved the swap of US$2.1 billion in outstanding commercial debt and arrears of US$0.5 billion in new Eurobonds maturing in 2029, implying relief of over US$1.6 billion. The participation rate was over 92 percent. The agreement was broadly consistent with the enhanced HIPC Initiative.

The authorities are cognizant of the need for comparability of treatment of creditors; and for reaching agreements that are—to the extent possible—fair to all of them.

5. **The authorities are making significant progress in strengthening debt management.** Although not regularly, Congo is already publishing quarterly debt service projections on the government's website and is preparing a new external debt management strategy, in line with CEMAC regional guidelines. The strategy will benefit from technical assistance, such as the debt management performance assessment recently conducted by the government, from the regional central bank and the World Bank, following the DeMPA methodology.

VII. Key Macroeconomic Assumptions in the Baseline Scenario

6. **The main assumptions underlying the DSA are based on a macroeconomic framework consistent with the proposed Poverty Reduction and Growth Facility arrangement and the authorities' Poverty Reduction Strategy paper.** In broad terms, the baseline scenario assumes (Table 2):

- Real GDP growth of 3.4 percent over the long term, largely reflecting declining oil production. The baseline takes account of proven oil reserves only, which amounted to about 1.6 billion barrels at end-2006.

- Inflation averaging 3 percent per year, in line with the CEMAC convergence criterion.

- A trend decline in exports and a worsening external current account balance, due to a decline in oil production.

- A strong fiscal position, mainly on account of a build up of financial assets as the counterpart to continued fiscal consolidation (see below).

- Medium-term world oil price projections are based on the most recent WEO assumptions until 2013 (which imply prices rising from US$ 68 per barrel in 2009 to US$ 83 per barrel in 2013) and constant in real terms thereafter.

Table 2. Republic of Congo: Macroeconomic Baseline Assumptions, 2008-28

	Historical Average (1998-2007)	2008	2009	2010	2011	2012	2013	Average (2014-28)
Real GDP growth (percent)	3.4	7.6	12.7	12.3	1.3	1.8	1.4	3.4
Inflation (percent)	2.5	4.5	4.2	3.0	3.0	3.0	3.0	3.0
Exports of G&S (U.S. dollars terms, percent change)	18.5	42.0	-6.7	36.8	-2.9	-4.9	-8.2	0.4
Imports of G&S (U.S. dollars terms, percent change)	14.7	19.6	-16.0	21.2	2.3	-5.4	-1.8	3.0
Current account balance (percent of GDP)	3.7	0.6	1.2	10.9	8.7	10.6	8.1	0.9
Foreign direct investment (percent of GDP)	9.9	23.7	21.3	22.7	21.5	20.8	17.7	12.2
Gross public debt (billions of US dollars)	...	5.6	5.8	5.7	5.7	5.8	5.8	5.6
Assets (government deposits, billions of US dollars)	0.3	3.2	4.6	7.5	10.5	13.5	16.3	18.7
Grant element of new external borrowing (percent)	...	50.9	50.1	51.5	43.9	42.4	31.8	24.9
Exchange rate (national currency per U.S. dollar, p.a.)	598.2	444.7	489.7	487.5	485.4	483.3	481.1	412.6
Government revenue and grants (percent of GDP)	32.1	49.0	45.6	47.0	48.4	48.5	48.9	42.0
Non-oil balance (percent of non-oil GDP)	-34.6	-43.2	-40.2	-36.9	-33.5	-29.5	-26.6	derived from PIH
Oil production (millions of barrels)	89.7	89.0	109.6	133.2	119.6	107.4	94.2	46.4
WEO Oil prices	36.4	99.8	68.0	75.0	79.3	82.0	83.0	const. in real terms

7. **The fiscal stance is set to achieve long-term sustainability.** In this regard, the baseline assumes a gradual reduction of the non-oil primary deficit—the program's fiscal anchor—and a consolidation path consistent with a permanent-income hypothesis model (PIH)[5]. Based on this model, the sustainable non-oil primary deficit is estimated at about 3-5 percent of non-oil GDP, compared with more than 40 percent of non-oil GDP currently. Specific fiscal assumptions include: (i) a peak in oil production of 133.2 million barrels in 2010, before declining gradually; (ii) world oil prices based on the latest WEO projections until 2013 and constant in real terms thereafter; (iii) a quality discount on Congolese oil,[6] which is assumed to remain constant over the long term; and (iv) a real rate of return on government (financial) assets increasing gradually to about 3½ percent per year.

8. **The profile of new external borrowing is consistent with the concessionality requirement under the proposed PRGF arrangement.** Given that Congo has passed the IDA-only income threshold in 2007, it is assumed to receive World Bank financing on "hardened" terms from FY11 onwards, and to graduate to IBRD status in 2018.[7] Anticipated

[5] The permanent income hypothesis helps determine the level of the non-oil primary deficit that can be financed over the long term from government oil revenue, including investment income from its accumulated financial assets.

[6] The discount on Congolese oil was between US$1 and US$ 25 per barrel in 2008, depending on the quality. The discount on gas is somewhat larger, between US$ 35 and US$ 55 dollars per barrel.

[7] If a country maintains its Gross National Income per capita above the annual IDA operational income cutoff for two consecutive years, it receives IDA financing on "hardened" terms from the third year onwards. The concessionality of hardened terms is lower than that of regular IDA credits as the maturity is reduced to 20

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borrowing under the June 2006 framework agreement with China is included in the analysis.[8] Domestic debt is assumed to be fully amortized over the next three years.

A. External and Public Debt Sustainability Analysis

9. **In the baseline DSA, Congo's external debt burden ratios indicate a high risk of debt distress, although these ratios show a declining trend (Figure 1 and Table 3).** Despite the gradual reduction in the concessionality of new loans and the decline in oil revenue, total external debt falls over time as income from financial assets offsets the revenue loss caused by the decline in oil production.

- The NPV of debt-to-GDP ratio breaches the indicative threshold during 2008-17, then drops below the threshold in 2018 and remains there through the rest of the projection period.[9]

- The debt service-to-exports and debt service-to-revenue ratios are projected to be below their respective thresholds throughout the projection period.

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years, compared with 40 years for regular IDA credits. Other conditions remain the same. Graduation to IBRD requires a country to be judged as creditworthy by the World Bank, a process that normally takes several years.

[8] The authorities have provided the staffs with information on a number of infrastructure projects, which are to be financed through concessional Chinese loans amounting to about US$1 billion. No loans have been signed yet. The DSA assumes these loans are disbursed over 5 years, beginning in 2009. The authorities are negotiating financial terms for all these loans of 20-year maturity, 5-year grace period, an interest rate of 0.25 percent, with biannual repayments. The staffs estimate the grant element of these loans at about 52.7 percent. The impact of these loans on the DSA is limited (they contribute to a temporary 5-percent increase in the NPV of debt-to-GDP ratio) because (i) they account for a relatively small share of GDP (about 8 percent) and a fraction of the financial assets the government is projected to accumulate over the medium-term and (ii) are concessional.

[9] In judging Congo to be at high risk of debt distress currently, the staffs have taken account of the breach of the NPV of debt-to-GDP ratio above the indicative threshold and the highly uncertain global economic environment (volatile world oil prices, and global financial crisis and slowing growth), which suggests a cautious approach, even though the long-term scenario indicates an adequate capacity to service external debt.

Table 3. Republic of Congo: External Debt Burden Indicators, 2008-28

	Indicators			
	2008	2018	2028	Thresholds [1]
NPV of debt in percent of:				
GDP	40	29	19	30
Exports	50	45	38	100
Revenues (including grants)	82	65	54	200
Debt service in percent of:				
Exports	5	6	5	15
Revenues (including grants)	8	8	7	25

[1] Based on Congo's 2008 classification as a weak performer

10. **Standardized stress tests seem to point to Congo's vulnerability to various shocks.** Under the most extreme stress test, net non-debt creating flows are lower than the historical average (by one half standard deviation). Under this scenario, the NPV of external debt-to-GDP rises to 66 percent in 2013. It should be noted, however, that this shock does not constitute a particularly relevant benchmark for Congo as its economic performance during the period used to perform these tests is affected by a structural break (the civil war), and a temporary fall in oil production caused by an oil accident at the Nkossa oil platform.

11. **The historical scenario displays an unfavorable evolution of Congo's debt ratios over the medium term.** Most ratios show a worsening trend and the NPV of debt-to-GDP breaches the indicative thresholds early in the projection period, before improving markedly thereafter. In the case of Congo, however, this scenario presents the same limitations as the standardized stress tests.[10]

12. **Over the long term, total public debt evolves in a similar manner to external debt.** Given the projected repayment of the remaining domestic debt obligations over the next several years, the evolution of total debt coincides with that of external debt.[11] On a net basis, both stock and flow indicators display a declining trend over time.

[10] It should also be noted, more fundamentally, that the historical scenario introduced in the LIC DSA template is not well suited to oil-producing countries like Congo, which can accumulate net foreign assets well beyond prudential needs (i.e., more than the equivalent of a few months of imports). *De facto*, while this scenario replaces the non-interest current account deficits and FDI by their historical averages, it also assumes that the government accumulates the same level of reserves as under the baseline scenario. This latter assumption is unrealistic for a country with ample reserves: in the event the authorities were facing less favorable external developments (as assumed in the historical scenario), they would likely prefer to accumulate less reserves, rather then undertake external borrowing (and higher gross debt) to maintain the level of reserves.

[11] This assumes that there is no development of a domestic bond market in the future, which is contrary to BEAC plans. This development would not, however, change the net debt and the sustainability of total public debt.

- The NPV of debt-to GDP becomes negative, because financial assets accumulate as a result of fiscal consolidation under the baseline scenario;

- The debt service-to-revenue falls to 7 percent by 2028, compared with 13 percent currently.

13. **Congo's net public debt does not appear to be vulnerable to the standardized DSA stress tests (Figure 2).** This is because the buildup of financial assets stemming from fiscal consolidation provides a significant cushion against shocks. However, Congo's public debt appears vulnerable to oil price shocks and alternative assumptions on the conduct of fiscal policy (elaborated in the alternative scenario B below).

VIII. Alternative Macroeconomic Scenarios

14. Two alternative scenarios are elaborated to highlight the impact of (i) the full delivery of HIPC and MDRI relief at the completion point, which is assumed to take place in June 2010 and (ii) a combination of lower world oil prices and no fiscal adjustment.

A. Alternative scenario: HIPC and MDRI relief

15. **The first alternative scenario simulates full delivery of enhanced HIPC and MDRI assistance to illustrate the importance of this debt relief for sustainability**. Owing to earlier relief granted by London Club creditors, the remaining debt relief due at the completion point is relatively small compared to the savings from fiscal consolidation and, consequently, has only a limited impact on sustainability:

- The NPV of debt-to-GDP is on average about 4 percentage points lower than under the baseline;
- The NPV of debt service-to-exports is about ½ percentage point lower compared with the baseline.

B. Alternative scenario: Lower World Oil Prices and No Fiscal Adjustment

16. **The second alternative scenario simulates a two-pronged shock: lower world oil prices combined with no fiscal adjustment.** Oil prices are 1 standard deviation lower over the simulation period compared with the baseline, and the non-oil basic primary deficit in percent of non-oil GDP is kept at the level recorded in 2007 (55 percent).[12] Under these assumptions, the rate of debt accumulation increases; it reaches 32 percent by 2028 as oil

[12] The oil price shock is calibrated as one standard deviation of Brent crude prices over the period 1970-2006. This reduces future oil prices by US$19 per barrel, corresponding to average prices of around US$49 per barrel in 2009.

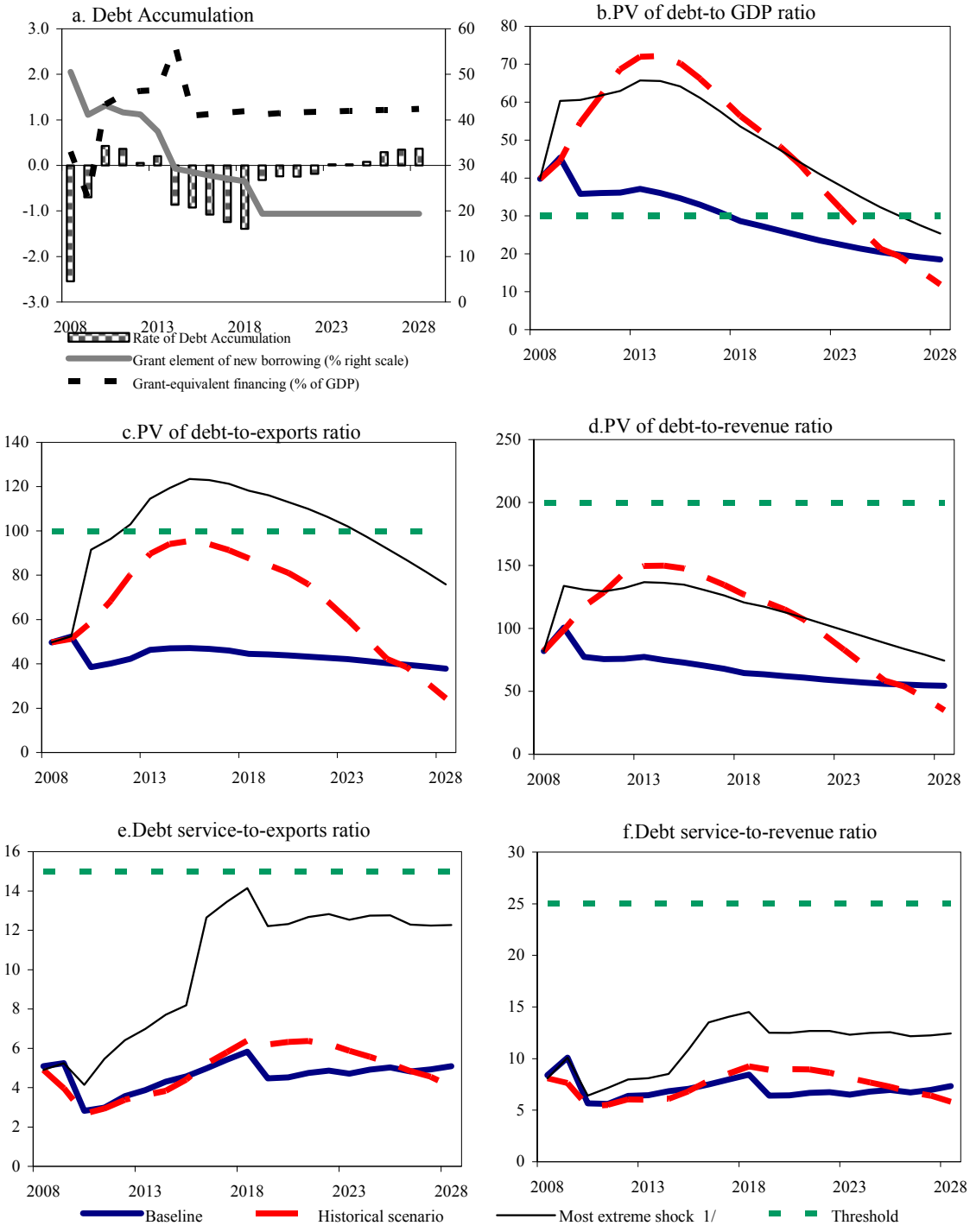
revenue declines and income from financial assets is not sufficient to offset the combined oil shock and the lack of fiscal adjustment.

- The NPV of debt-to-GDP breaches the indicative threshold in 2008 and remains above this level throughout the projection period, rising sharply to 290 percent in 2028.
- The debt service indicators also deteriorate, especially during the latter part of the simulation period.

IX. CONCLUSION

17. **Under the baseline scenario, Congo's external debt ratios indicate a high risk of debt distress.** This baseline is predicated on world oil prices at around US$ 77 over the medium term, and a path of fiscal consolidation consistent with long-term sustainability. Standardized stress tests and alternative scenarios, however, point to Congo's vulnerability to prolonged oil price shocks and slow fiscal adjustment.

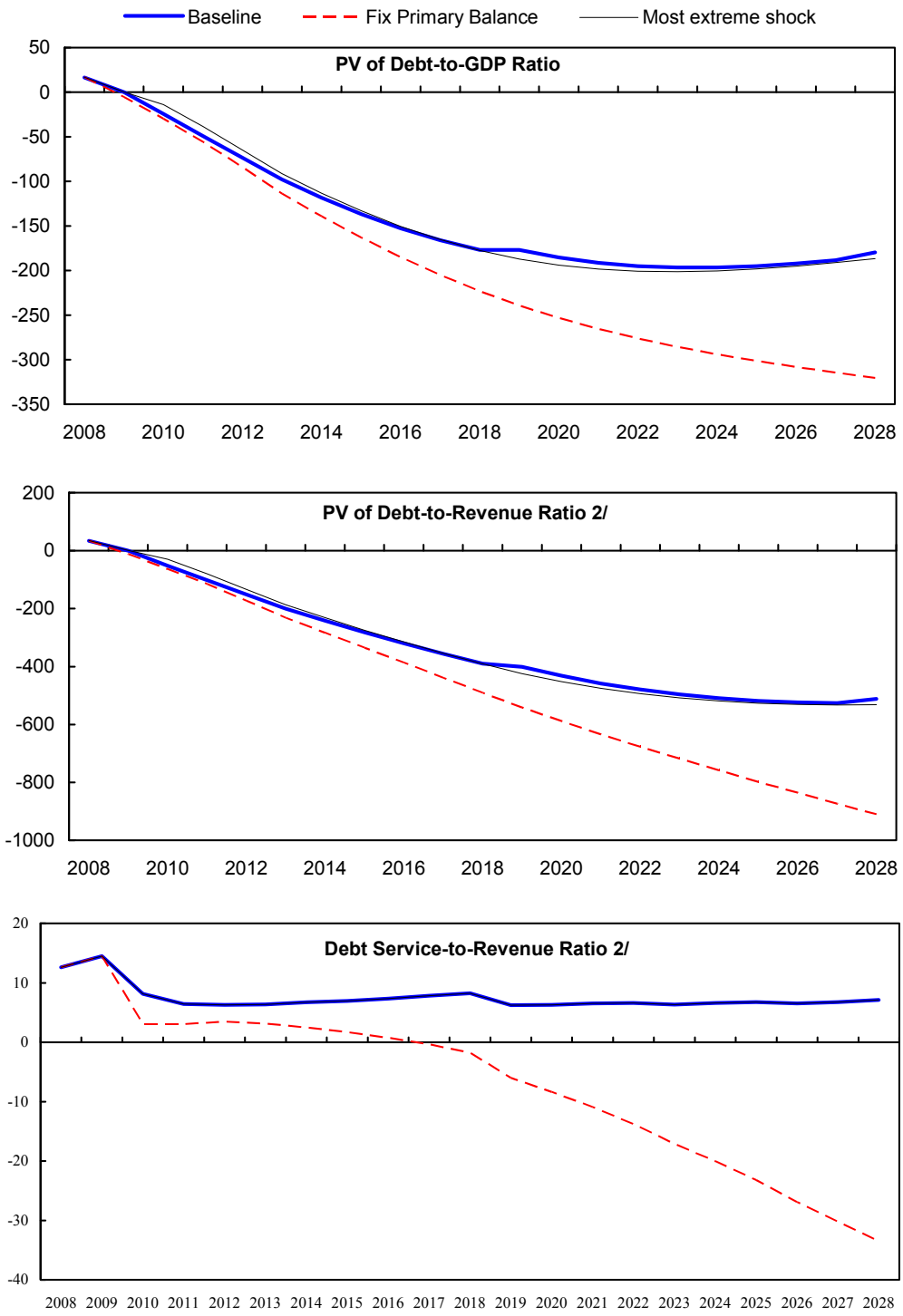
Figure 1. Republic of Congo: Indicators of Public and Publicly Guaranteed External Debt under the Baseline Scenario and Stress Tests, 2008-28 [1]



Source: Staff projections and simulations.

[1] The most extreme stress test is the test that yields the highest ratio in 2018. In figure b. it corresponds to a Combination shock; in c. to a Exports shock; in d. to a Combination shock; in e. to a Exports shock and in picture f. to a Combination shock

Republic of Congo: Indicators of Public Debt Under the Baseline Scenario and Stress Tests, 2008-28 [1]



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

[1] The most extreme stress test is the test that yields the highest ratio in 2018.

[2] Revenues are defined inclusive of grants.

Table 1a.: Public Sector Debt Sustainability Framework, Baseline Scenario, 2005-2028
(In percent of GDP, unless otherwise indicated)

	Actual			Estimate		Projections					
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2018	2028
Public sector debt 1/	112.3	80.8	69.0	23.9	13.3	-14.0	-38.7	-62.8	-87.0	-168.8	-174.3
o/w foreign-currency denominated	103.5	85.7	78.1	51.3	58.6	46.3	46.4	46.7	48.1	36.8	23.7
Change in public sector debt	-124.3	-31.5	-11.8	-45.1	-10.6	-27.3	-24.7	-24.1	-24.2	-11.5	4.8
Identified debt-creating flows	-52.4	-52.7	-64.4	-38.9	-17.1	-27.5	-24.8	-21.8	-22.3	-10.2	5.5
Primary deficit	-19.1	-21.5	-13.9	-27.8	-19.2	-25.1	-25.4	-24.7	-23.3	-17.1	-4.6
Revenue and grants	38.8	44.4	43.1	49.0	45.6	47.0	48.4	48.5	48.9	45.4	35.1
of which: grants	0.2	0.1	0.4	0.4	0.5	0.6	0.8	0.8	0.9	1.0	1.0
Primary (noninterest) expenditure	19.7	23.0	29.2	21.2	26.3	21.8	23.0	23.8	25.6	28.3	30.5
Automatic debt dynamics	-30.3	-27.8	1.5	-11.1	2.1	-2.3	0.6	2.9	1.0	6.9	10.1
Contribution from interest rate/growth differential	-23.0	-6.2	0.6	-2.9	-7.1	3.3	-0.6	1.1	-1.6	6.6	10.6
of which: contribution from average real interest rate	-6.0	0.3	-0.7	2.0	-4.4	4.8	-0.8	0.4	-2.5	1.1	5.6
of which: contribution from real GDP growth	-17.0	-6.6	1.3	-4.9	-2.7	-1.5	0.2	0.7	0.9	5.5	5.0
Contribution from real exchange rate depreciation	-7.3	-21.6	0.9	-8.2	9.2	-5.6	1.2	1.8	2.6	...	...
Other identified debt-creating flows	-3.0	-3.4	-52.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Privatization receipts (negative)	0.0	0.0	-0.1	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)	-3.0	-3.4	-52.0	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	-71.9	21.2	52.6	-6.2	6.5	0.2	0.1	-2.3	-1.9	-1.2	-0.7
Other Sustainability Indicators											
PV of public sector debt	8.8	-4.9	47.7	16.6	-0.1	-24.5	-49.2	-73.5	-98.0	-177.0	-179.5
o/w foreign-currency denominated	0.0	0.0	56.8	43.9	45.3	35.8	35.9	36.1	37.1	28.7	18.5
o/w external	...	...	56.8	43.9	45.3	35.8	35.9	36.1	37.1	28.7	18.5
PV of contingent liabilities (not included in public sector debt)	...	...	...	...	...	...	...	...	...	...	...
Gross financing need 2/	6.3	-5.6	-7.4	-2.1	-19.6	-12.7	-21.4	-22.4	-21.7	-14.8	-3.0
PV of public sector debt-to-revenue and grants ratio (in percent)	22.6	-11.1	110.8	33.8	-0.1	-52.1	-101.5	-151.3	-200.3	-389.7	-511.5
PV of public sector debt-to-revenue ratio (in percent)	22.7	-11.1	111.9	34.1	-0.1	-52.8	-103.1	-153.9	-203.9	-398.5	-526.9
o/w external 3/	…	…	133.1	90.4	100.3	77.2	75.4	75.5	77.1	64.5	54.4
Debt service-to-revenue and grants ratio (in percent) 4/	9.2	9.9	6.4	3.3	2.7	2.0	1.9	2.2	2.2	2.1	1.8
Debt service-to-revenue ratio (in percent) 4/	9.2	9.9	6.5	3.4	2.8	2.1	2.0	2.2	2.2	2.2	1.9
Primary deficit that stabilizes the debt-to-GDP ratio	105.2	10.0	-2.1	17.3	-8.6	2.1	-0.7	-0.6	0.9	-5.6	-9.4
Key macroeconomic and fiscal assumptions											
Real GDP growth (in percent)	7.8	6.2	-1.6	7.6	12.7	12.3	1.3	1.8	1.4	3.6	2.9
Average nominal interest rate on forex debt (in percent)	1.6	4.5	2.7	2.8	2.1	2.1	2.0	2.3	2.2	2.5	2.8
Average real interest rate on forex debt (in percent)	-13.5	-11.4	3.6	-24.2	30.9	-11.5	1.0	...	...	...	...
Real exchange rate depreciation (in percent, + indicates depreciation)	-3.9	-22.5	-7.4	-17.5	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	21.6	19.5	0.5	35.2	-23.5	13.7	-0.7	-2.0	-3.6	-0.5	2.2
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.2	0.3	-0.2	0.4	-0.1	0.1	0.1	0.1	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	50.5	41.1	43.2	41.6	41.2	37.4	26.5	19.3

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

1/ The central government net debt is used in the analysis.

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 1b.: Sensitivity Analysis for Key Indicators of Public Debt 2008-2028

	Projections							
	2008	2009	2010	2011	2012	2013	2018	2028
PV of Debt-to-GDP Ratio								
Baseline	17	0	-24	-49	-73	-98	-177	-179
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	17	9	-7	-23	-42	-59	-112	-127
A2. Primary balance is unchanged from 2008	17	-5	-30	-56	-84	-114	-223	-320
A3. Permanently lower GDP growth 1/	17	1	-24	-48	-75	-102	-189	-188
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	17	4	-19	-42	-69	-94	-165	-131
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	17	13	2	-25	-51	-77	-159	-171
B3. Combination of B1-B2 using one half standard deviation shocks	17	12	-2	-28	-54	-78	-150	-125
B4. One-time 30 percent real depreciation in 2009	17	18	-10	-35	-62	-88	-174	-183
B5. 10 percent of GDP increase in other debt-creating flows in 2009	17	0	-14	-39	-65	-91	-177	-187
PV of Debt-to-Revenue Ratio 2/								
Baseline	34	0	-52	-102	-151	-200	-390	-511
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	34	19	-16	-48	-86	-121	-247	-360
A2. Primary balance is unchanged from 2008	34	-12	-64	-115	-173	-232	-490	-910
A3. Permanently lower GDP growth 1/	34	1	-50	-100	-155	-209	-417	-533
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	34	9	-40	-87	-141	-191	-361	-369
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	34	29	4	-51	-106	-156	-351	-488
B3. Combination of B1-B2 using one half standard deviation shocks	34	26	-5	-57	-110	-160	-329	-356
B4. One-time 30 percent real depreciation in 2009	34	39	-22	-72	-127	-180	-383	-523
B5. 10 percent of GDP increase in other debt-creating flows in 2009	34	1	-30	-80	-134	-186	-391	-532
Debt Service-to-Revenue Ratio 2/								
Baseline	13	14	8	6	6	6	8	7
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	13	16	18	24	26	27	27	27
A2. Primary balance is unchanged from 2008	13	14	3	3	3	3	-2	-34
A3. Permanently lower GDP growth 1/	13	15	8	7	7	8	12	19
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010	13	16	14	17	19	21	26	39
B2. Primary balance is at historical average minus one standard deviations in 2009-2010	13	14	19	26	13	10	10	13
B3. Combination of B1-B2 using one half standard deviation shocks	13	16	21	29	22	21	25	38
B4. One-time 30 percent real depreciation in 2009	13	17	11	10	10	10	14	13
B5. 10 percent of GDP increase in other debt-creating flows in 2009	13	14	8	6	6	6	8	7

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

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

2/ Revenues are defined inclusive of grants.

Table 2a.: External Debt Sustainability Framework, Baseline Scenario, 2005-2028 1/
(In percent of GDP, unless otherwise indicated)

	Actual			Projections							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2018	2028
External debt (nominal) 1/	**103.5**	**85.7**	**78.1**	**51.3**	**58.6**	**46.3**	**46.4**	**46.7**	**48.1**	**36.8**	**23.7**
o/w public and publicly guaranteed (PPG)	103.5	85.7	78.1	51.3	58.6	46.3	46.4	46.7	48.1	36.8	23.7
Change in external debt	-110.7	-17.8	-7.6	-26.8	7.3	-12.3	0.1	0.3	1.4	-2.7	-0.6
Identified net debt-creating flows	-63.4	-36.7	-0.4	-28.3	-31.2	-35.4	-27.1	-28.8	-24.0	-16.4	-9.3
Non-interest current account deficit	**-6.9**	**0.8**	**23.8**	**-2.0**	**-2.4**	**-11.8**	**-9.6**	**-11.7**	**-9.2**	**-3.2**	**2.7**
Deficit in balance of goods and services	-29.7	-18.5	2.8	-10.3	-18.6	-28.3	-24.0	-23.2	-17.7	-1.9	10.8
Exports	84.2	84.2	82.1	80.1	86.7	92.9	89.7	85.5	80.3	64.3	48.9
Imports	54.5	65.6	84.9	69.8	68.0	64.6	65.7	62.4	62.6	62.5	59.7
Net current transfers (negative = inflow)	-0.5	0.3	0.5	0.4	0.0	-0.2	-0.3	-0.4	-0.4	-0.6	-0.9
o/w official	-1.0	-0.2	-0.2	-0.1	-0.5	-0.6	-0.8	-0.8	-0.9	-1.0	-1.1
Other current account flows (negative = net inflow)	23.3	19.0	20.5	7.8	16.2	16.7	14.7	11.9	8.9	-0.7	-7.3
Net FDI (negative = inflow)	**-8.4**	**-19.2**	**-27.5**	**-23.7**	**-22.4**	**-18.8**	**-17.8**	**-17.3**	**-15.1**	**-12.8**	**-12.0**
Endogenous debt dynamics 2/	**-48.1**	**-18.3**	**3.2**	**-2.6**	**-6.3**	**-4.7**	**0.3**	**0.2**	**0.4**	**-0.4**	**0.0**
Contribution from nominal interest rate	2.6	3.7	2.3	1.5	1.2	0.9	0.9	1.1	1.1	1.0	0.6
Contribution from real GDP growth	-12.7	-5.1	1.4	-4.1	-7.6	-5.7	-0.6	-0.8	-0.7	-1.4	-0.7
Contribution from price and exchange rate changes	-38.0	-16.9	-0.5	…	…	…	…	…	…	…	…
Residual (3-4) 3/	**-47.4**	**18.9**	**-7.2**	**1.6**	**38.5**	**23.1**	**27.2**	**29.1**	**25.3**	**13.6**	**8.7**
o/w exceptional financing	-3.3	-4.1	-8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV of external debt 4/	...	...	60.4	39.8	45.3	35.8	36.0	36.1	37.2	28.7	18.5
In percent of exports	...	...	73.6	49.7	52.3	38.6	40.1	42.3	46.3	44.6	37.8
PV of PPG external debt	**...**	**...**	**60.4**	**39.8**	**45.3**	**35.8**	**36.0**	**36.1**	**37.2**	**28.7**	**18.5**
In percent of exports	**...**	**...**	**73.6**	**49.7**	**52.3**	**38.6**	**40.1**	**42.3**	**46.3**	**44.6**	**37.8**
In percent of government revenues	**...**	**...**	**141.6**	**81.9**	**100.5**	**77.3**	**75.5**	**75.7**	**77.3**	**64.5**	**54.4**
Debt service-to-exports ratio (in percent)	**11.9**	**13.3**	**10.7**	**5.1**	**5.3**	**2.8**	**3.0**	**3.6**	**3.9**	**5.8**	**5.1**
PPG debt service-to-exports ratio (in percent)	**11.9**	**13.3**	**10.7**	**5.1**	**5.3**	**2.8**	**3.0**	**3.6**	**3.9**	**5.8**	**5.1**
PPG debt service-to-revenue ratio (in percent)	**25.8**	**25.3**	**20.6**	**8.4**	**10.1**	**5.7**	**5.6**	**6.4**	**6.5**	**8.4**	**7.3**
Total gross financing need (billions of U.S. dollars)	-0.3	-0.6	0.4	-2.4	-1.9	-3.4	-3.1	-3.2	-2.6	-1.6	-1.4
Non-interest current account deficit that stabilizes debt ratio	103.9	18.6	31.5	24.8	-9.7	0.5	-9.8	-12.0	-10.6	-0.5	3.3
Key macroeconomic assumptions											
Real GDP growth (in percent)	7.8	6.2	-1.6	7.6	12.7	12.3	1.3	1.8	1.4	3.6	2.9
GDP deflator in US dollar terms (change in percent)	21.6	19.5	0.5	35.2	-23.5	13.7	-0.7	-2.0	-3.6	-0.5	2.2
Effective interest rate (percent) 5/	1.6	4.5	2.7	2.8	2.1	2.1	2.0	2.3	2.2	2.5	2.8
Growth of exports of G&S (US dollar terms, in percent)	36.9	26.9	-3.5	42.0	-6.7	36.8	-2.9	-4.9	-8.2	-1.4	4.5
Growth of imports of G&S (US dollar terms, in percent)	40.4	52.8	28.0	19.6	-16.0	21.2	2.3	-5.4	-1.8	0.8	5.9
Grant element of new public sector borrowing (in percent)	...	...	...	50.5	41.1	43.2	41.6	41.2	37.4	26.5	19.3
Government revenues (excluding grants, in percent of GDP)	38.6	44.3	42.7	48.6	45.1	46.4	47.7	47.7	48.1	44.4	34.1
Aid flows (in billions of US dollars) 7/	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
o/w Grants	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
o/w 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) 8/	...	...	...	0.3	-0.7	1.3	1.6	1.6	1.7	1.2	1.2
Grant-equivalent financing (in percent of external financing) 8/	...	...	...	75.3	-104.0	53.4	55.5	55.6	52.9	57.0	39.0
Memorandum items:											
Nominal GDP (billions of US dollars)	6.1	7.7	7.7	11.1	9.6	12.3	12.3	12.3	12.0	13.2	20.9
(PVt-PVt-1)/GDPt-1 (in percent)				-2.5	-0.7	0.4	0.4	0.1	0.2	-1.4	0.4

Source: Staff simulations.

1/ Includes both public and private sector external debt.

2/ [r - g - r(1+g)]/(1+g+r+gr) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = growth rate of GDP deflator in U.S.D. 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. The high residuals in this case, reflects the accumulation of reserves (from oil production).

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 2b.: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2008-2028
(In percent)

	Projections							
	2008	2009	2010	2011	2012	2013	**2018**	2028
PV of debt-to GDP ratio								
Baseline	40	45	36	36	36	37	**29**	19
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008-2028 1/	40	45	55	61	69	72	**56**	12
A2. New public sector loans on less favorable terms in 2008-2028 2	40	46	36	36	36	36	**28**	20
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	40	51	46	46	46	47	**36**	24
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	40	45	58	59	60	63	**52**	25
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	40	37	36	36	36	37	**29**	19
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	40	60	61	62	63	66	**54**	25
B5. Combination of B1-B4 using one-half standard deviation shocks	40	40	59	60	61	64	**53**	26
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	40	75	59	59	59	61	**47**	30
PV of debt-to-exports ratio								
Baseline	50	52	39	40	42	46	**45**	38
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008-2028 1/	50	51	59	68	80	90	**88**	24
A2. New public sector loans on less favorable terms in 2008-2028 2	50	53	39	40	42	45	**43**	40
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	50	52	39	40	42	46	**45**	38
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	50	52	92	96	103	115	**118**	76
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	50	52	39	40	42	46	**45**	38
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	50	70	65	69	74	82	**83**	52
B5. Combination of B1-B4 using one-half standard deviation shocks	50	50	72	76	81	91	**93**	60
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	50	52	39	40	42	46	**45**	38
PV of debt-to-revenue ratio								
Baseline	82	101	77	76	76	77	**65**	54
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008-2028 1/	82	99	118	129	144	150	**127**	35
A2. New public sector loans on less favorable terms in 2008-2028 2	82	102	78	75	75	75	**63**	58
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	82	114	98	96	96	98	**82**	69
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	82	101	125	123	126	130	**116**	74
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	82	83	78	76	76	78	**65**	55
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	82	134	131	129	132	137	**121**	74
B5. Combination of B1-B4 using one-half standard deviation shocks	82	89	128	126	129	133	**119**	76
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	82	165	127	124	125	127	**106**	89

Table 2b.: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2008-2028 (continued)
(In percent)

Debt service-to-exports ratio								
Baseline	5	5	3	3	4	4	**6**	5
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008-2028 1/	5	4	3	3	3	4	**6**	4
A2. New public sector loans on less favorable terms in 2008-2028 2	5	5	3	3	4	4	**5**	4
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	5	5	3	3	4	4	**6**	5
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	5	5	4	5	6	7	**14**	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	5	5	3	3	4	4	**6**	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	5	5	3	4	4	5	**10**	9
B5. Combination of B1-B4 using one-half standard deviation shocks	5	5	3	4	5	6	**11**	10
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	5	5	3	3	4	4	**6**	5
Debt service-to-revenue ratio								
Baseline	8	10	6	6	6	6	**8**	7
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2008-2028 1/	8	8	5	6	6	6	**9**	6
A2. New public sector loans on less favorable terms in 2008-2028 2	8	10	6	6	7	7	**8**	6
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2009-2010	8	11	7	7	8	8	**11**	9
B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/	8	10	6	7	8	8	**14**	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010	8	8	6	6	6	7	**8**	7
B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/	8	10	6	7	8	8	**15**	12
B5. Combination of B1-B4 using one-half standard deviation shocks	8	8	6	7	8	8	**14**	12
B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/	8	17	9	9	11	11	**14**	12
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	26	26	26	26	26	26	**26**	26

Source: 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.