INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

DEMOCRATIC REPUBLIC OF CONGO

Joint IMF/World Bank Debt Sustainability Analysis 2009

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This note provides an updated debt sustainability analysis (DSA) for the Democratic Republic of the Congo (DRC) using the joint Bank-Fund Debt Sustainability Framework (DSF) for Low Income Countries. The results indicate that the DRC remains in debt distress, as was the case in the most recent DSA conducted in August 2007. In the absence of debt relief provided under the enhanced Heavily Indebted Poor Country (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI), external debt burden indicators are projected to remain above policy-dependent thresholds over prolonged periods. Even after HIPC/MDRI debt relief, the external debt outlook would be vulnerable to adverse shocks. External borrowing to finance public infrastructure projects under the Sino-Congolese Cooperation Agreement (SCCA) are projected to increase significantly the country's external debt burden indicators over the medium term, but related risks to debt sustainability appear manageable.

24. **The Democratic Republic of the Congo (DRC) remains in debt distress**. At end 2008 the present value of public and publicly guaranteed (PPG) external debt is estimated at 93 percent of GDP, 150 percent of exports and 501 percent of government revenue (excluding grants), well above policy-dependent threshold levels.[10] Moreover, all debt burden indicators are projected to worsen significantly in 2009 due to marked declines in GDP, exports and government revenue in the wake of the global economic slowdown and accompanying sharp decline in world commodity prices.

V. BACKGROUND

25. **The DRC continues to accumulate external arrears mainly on debt owed to bilateral creditors**. The DRC reached the decision point of the enhanced HIPC Initiative in

[10] With an average CPIA rating of 2.80 in 2006–08, the DRC is classified having a weak policy framework.

July 2003, qualifying for interim debt relief.[11] The IMF discontinued interim assistance in June 2006 when the PRGF program went off track. The Paris Club agreed to reschedule DRC's debt under Cologne flow terms in November 2003, which was also suspended in June 2006 when the PRGF program went off track. The International Development Agency's (IDA) interim HIPC assistance expired in October 2009. The African Development Bank/Fund will deliver interim assistance in 2010. The nominal value of PPG external debt (including arrears) is estimated at US$13.1 billion at end-2008, US$7.1 billion of which is owed to bilateral creditors, US$4.4 billion to multilateral institutions, and US$1.5 billion to commercial creditors. Arrears are estimated at US$3.3 billion at end-2008, of which US$1.5 billion is owed to Paris Club creditors.

VI. External Debt Sustainability Analysis

26. **The baseline scenario in this DSA assumes a strong recovery in economic activity over the medium term, supported by large investments in mining and public infrastructure projects**. In particular, it assumes that the security situation in the eastern provinces stabilizes and that the government adopts prudent macroeconomic policies and makes significant progress on key structural reforms, including strengthening tax collection, improving budget preparation and execution, and reforming the civil service. The near-term outlook is dominated by the impact of the global economic slowdown (Box 1), followed by a strong recovery over the medium term fueled by a US$3.2 billion investment in a mining project along with US$3 billion in investments in public infrastructure projects envisaged under the SCCA (Box 2).

27. **The baseline scenario assumes that a new three-year PRGF arrangement will be in place by the end of 2009**, which will allow the IMF and the DRC's Paris Club creditors to provide additional interim assistance under the enhanced HIPC Initiative.[12] It also assumes that arrears to bilateral creditors are rescheduled or deferred, the African Development Bank/Fund delivers interim HIPC assistance in 2010, and that IDA provided interim HIPC assistance up to October 2009.

[11] "*Democratic Republic of the Congo—Decision Point Document for the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative*", and IDA/R2003–0059.

[12] The baseline scenario does not assume that the DRC reaches the HIPC completion point in accordance with current LIC DSA guidelines outlined in: *"Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries"*, April 2007and IDA/No. 39748. An alternative scenario assumes that the DRC reaches the HIPC completion point in mid-2010.

Box 1. Democratic Republic of the Congo: Macroeconomic Assumptions for the DSA

Although short-term economic conditions remain weak, the medium-term outlook is positive. The baseline projection scenario has the following key elements.

- **GDP growth** declines from 6.2 percent in 2008 to 2.7 percent in 2009 due to the slowdown in global growth and the sharp decline in world commodity prices from record levels reached in mid-2008. Growth rebounds strongly over the medium term, averaging 7.5 percent over the period 2010–16, spurred by large investment expenditures under the SCCA (Box 2), and a recovery in mining activity. The mining project financed by the SCCA is projected to increase real GDP growth by 0.3 percentage points on average during the construction phase 2009–12 and by 0.6 percentage points on average during the production phase in 2013–16. The public infrastructure projects financed by SCCA are projected to increase real GDP growth by 0.7 percentage points on average during the construction phase 2009–12, declining to 0.2 percentage points in the long run (Box 3).

- **Inflation** declines to 48.7 percent by end-2009 and to single digits over the medium term, supported by prudent fiscal and monetary policies.

- The **overall fiscal deficit** (including grants) widens substantially in the short run, reaching 12 percent in 2010, before narrowing gradually to around 2 percent of GDP in the long run as ongoing reforms expand the tax base and noninterest expenditures decline slowly as a percent of GDP. Grants decline from 8.7 percent of GDP in 2009 to under 4 percent in 2018.

- **The current account deficit** widens from 15 percent of GDP in 2008 to 32 percent in 2011 mainly due to a large increase in imported factors used in the mining and public infrastructure projects. The deficit narrows thereafter as mining exports expand and investment-related imports diminish, stabilizing at around 6 percent of GDP over the long run.

- **External financing** over the medium term is dominated by loans disbursed to fund public infrastructure projects under the SCCA, accounting for 22 percent of gross borrowing needs over the period 2009–14. The average grant element of new borrowing rises steadily from 20 percent in 2009 to 43 percent in 2015 and beyond.

- **Net foreign direct investment** declines slightly from an average level of 6.3 percent of GDP in 2004–08 to 5.8 percent in 2009 in the wake of the global economic downturn, recovering to an average level of 7.2 percent of GDP by 2010–12 led by foreign investment in mining projects.

Box 2. Democratic Republic of the Congo: The Sino-Congolese Cooperation Agreement (SCCA)

In April 2008, the DRC signed a cooperation agreement between a Congolese parastatal mining enterprise (GECAMINES) and a consortium of Chinese enterprises, forming a joint venture company (SICOMINES). The net operating income from the joint venture is to be distributed by equity shares with 32 percent going to GECAMINES and 68 percent to the consortium of Chinese enterprises.

The original agreement (signed in April 2008) included a US$3.2 billion mining project, along with US$6 billion in public infrastructure projects to be implemented in two phases over the period 2009–17. The agreement was amended in October 2009 to exclude the second phase of public infrastructure projects totaling US$3 billion that was to be implemented over the period 2014–17, leaving just the first phase of public infrastructure projects totaling US$3 billion to be implemented over the period 2009–13.

Under the original agreement, the Congolese government provided a public guarantee on the loans for the mining and public infrastructure projects. However, the public guarantee on the mining loan was removed in the amended agreement. The public guarantee requires that the Congolese government repay any principal outstanding on the public infrastructure loans at end 2034 (25 years after the formation of the joint venture SICOMINES) with capitalized interest.

The US$3.2 billion mining investment is to be financed by a US$1.1 billion interest-free loan along with a US$2.1 billion loan with an interest rate of 6.1 percent. The US$3 billion investment in public infrastructure is to be financed by a series of loans to be disbursed for the individual projects, each with a fixed interest rate of 4.4 percent (LIBOR plus 100 basis points as of April 22, 2008). All loans are denominated in US dollars.

The consortium of Chinese enterprises provides the DRC government with a US$250 million signing bonus (“pas de porte”), half of which was disbursed in March 2009. The remaining balance will be disbursed upon the transfer of the mining concession title to SICOMINES. GECAMINES receives a US$100 million signing bonus, also disbursed in two tranches.

The mining project is expected to generate operating profits beginning in 2013, which will be used to repay the mining and public infrastructure loans in three stages. In the first stage, all profits from the mine will go to repay principal and capitalized interest on US$375 million in “urgent” public infrastructure loans. In the second stage, 85 percent of operating profits will be used to repay the mining loans. In the third stage, 85 percent of operating profits will be used to repay the remaining public infrastructure loans. In the second and third stages, 15 percent of operating profits will be paid to the shareholders of the joint venture SICOMINES.

Box 3. The Democratic Republic of the Congo: The Economic Impact of Public Infrastructure Projects

A two-stage approach was used to analyze the long-run growth impact of the US$3 billion in public infrastructure projects to be undertaken under the SCCA.[1] In the first stage, the analysis identified the location and size of current economic activities (e.g., agriculture, forestry, and mining) and the location-specific economic potential. Location-specific transport costs take the distance to relevant markets into account using a "cost-distance" algorithm. Sector-specific responses to changes in transport costs were estimated and used to simulate the long-term impact of transport investments on production location levels. Long-term elasticities based on cross-sectional reduced-form regressions were used to estimate the response of local production to a change in transportation costs. In a second stage, a multiplier approach was used to gauge the demand side effects of public infrastructure projects during the implementation phase. The analysis indicates that the public infrastructure projects would raise real GDP growth by 0.7 percentage points on average during the construction phase 2009–13 mainly through the impact of the higher investment on domestic demand. The growth impact declines to 0.2 percentage points upon completion of the projects reflecting gains in total factor productivity associated with the improved public infrastructure.

[1] See World Bank (2009, forthcoming), "Prioritizing Infrastructure Investments: A Spatial Approach".

28. **Under the baseline scenario, external debt burden indicators breach policy-dependent thresholds over prolonged periods** (Figure 1). The present value of PPG external debt exceeds the 30 percent of GDP threshold over most of the 20-year projection period (Figure 1b), notwithstanding the strong recovery projected over the medium term. The debt-to-export and debt-to-revenue ratio indicators decline somewhat faster over the projection period, falling below their thresholds in 2018 and 2019, respectively (Figures 1c and 1d). This reflects higher export revenues resulting from the large mining projects and higher tax revenue ensuing from reforms undertaken to broaden the tax base.

29. **The baseline projections are subject to significant downside risks**. Given the DRC's high dependence on mining exports, the external account and overall economic outlook remains highly vulnerable to adverse terms of trade shocks. Moreover, poor governance, unresolved security issues, weak implementation capacity and lower than envisaged donor support could also worsen the external debt outlook significantly.

30. **All debt burden indicators worsen substantially under standard stress tests**. The debt profile is most vulnerable to a shock that entails public sector debt financed under less favorable terms than assumed in the baseline (Figure 1).[13] The external debt burden indicators decline somewhat more rapidly under the historical scenario. This reflects the fact

[13] The average grant element on net borrowing is only 30 percent in the period 2009–13, well below the 35 percent grant element required to qualify as concessional. The large difference reflects two main factors. First, the concessionality calculation is based on a much higher discount rate than that used in the DSA. Second, the DSA includes refinancing of arrears to bilateral creditors on non-concessional terms.

that the country had no access to external financing during the conflict period which restricted the noninterest current account deficit.

31. **The external debt burden indicators are projected to breach their thresholds even if the country were to receive debt relief under the enhanced HIPC Initiative and the MDRI**. If the DRC were to reach the completion point in mid-2010, all three external debt burden indicators breach their thresholds (Figure 2). The external debt-to-GDP ratio breaches the 30 percent threshold over the period 2010–18 reaching a high of 45 percent in 2012 (Figure 2b). The external debt-to-revenue ratio breaches the 200 percent threshold slightly in just two years (2012 and 2014). New purchases under the proposed PRGF arrangement would account for 6.5 percent of the PV of external PPG debt in 2012 (2.9 percent of GDP), declining to 2.7 percent in 2019 (0.7 percent of GDP). The external debt profiles are robust to lower long-run growth projections. Reducing real GDP growth by half of a percentage point after 2017 (which roughly offsets the assumed benefit from the public infrastructure projects) raises the PV of the PPG external debt-to-GDP ratio by only 1.3 percentage points in 2029. The debt profiles are vulnerable to adverse shocks, however. In particular, two of the three external debt burden indicators breach their respective thresholds over the entire projection period under the most extreme stress test (Figures 2b and 2d).

32. **The public guarantee on the infrastructure financing under the SCCA raises the external debt burden indicators over the medium term but does not have a major impact on debt sustainability over the long term**. Removing the public guarantee on the loans for the public infrastructure projects would reduce the external debt-to-GDP ratio by 8.6 percentage points on average over the period 2011–16, but would have no impact after 2019 when the loans are projected to be fully repaid (Figure 3).[14] The present-value calculations underlying the DSA take into account that the public guarantee can only be invoked after 25 years.[15] If the public guarantee were based on a conventional loan agreement with a fixed repayment schedule equal to the projected payments from the net operating income of SICOMINES,[16] the external debt burden indicators would be just slightly higher over medium term, but with no impact beyond 2019 (Figure 3).

[14] The DSA includes the public guarantee on the infrastructure financing made under the SCCA as external PPG debt, but does not include the debt service payments made by the net operating profit from the joint venture SICOMINES.

[15] To illustrate, consider the following example. In 2009, the Chinese consortium is projected to disburse a total of $375 million in loans for public infrastructure projects. The legal obligation of the government under the terms of the agreement is to repay any outstanding balance (principal and compounded interest) in 2034. In keeping with the conventional for valuing public guarantees, we assume the worst outcome—zero operating income over the entire 25-year period. This implies a legal obligation of $375 million in principal and $725 million in compounded interest in 2034, which has a present value of $397 million in 2009 (based on a discount rate of 4 percent used in DSAs for low-income countries).

[16] For example, the $375 million in loans to be disbursed in 2009 is projected to be fully repaid (principal and capitalized interest) in 2013. This would raise the present value of external debt by $426 million in the case of a

(continued)

VII. Public Debt Sustainability Analysis

33. **The DRC's domestic debt is relatively low and as a result, the above external debt sustainability analysis broadly applies to total public debt, albeit with slightly higher debt burden indicators** (Figure 4). Although information on domestic debt is poor, the authorities recently provided updated estimates on claims of about US$1.3 billion at end-2008 (11 percent of GDP). These claims are mainly from suppliers, public enterprises and public sector employees dating back to the period of conflict in the 1990s. The authorities are in the process of developing a strategy—to be finalized in mid 2010—to address with these claims.

VIII. Conclusion

34. **The DRC would remain in debt distress in the absence of substantial debt relief**. The external debt indicators would breach policy-dependent thresholds over prolonged periods even with a strong economic recovery over the medium term (assumed under the baseline scenario). Even if the DRC were to reach the HIPC completion point in mid-2010 and benefit from HIPC/MDRI debt relief, the external debt outlook remain vulnerable to adverse shocks. The public guarantee on the SCCA financing increases the external debt-to-GDP ratio significantly above the policy-dependent threshold level for a prolonged period. However, these calculations substantially overstate the risk of debt distress because they assume that the mining project will not generate any net operating profits over the entire 25-year projection period. Calculations based on a model of income generated by the mining project developed by the DRC authorities predict that the net operating profits from the mining project would fully repay the public infrastructure loans by 2018, 16 years before the public guarantee would be invoked. Net operating income would have to decline by 65 percent of the amount projected in the baseline scenario in order for the public guarantee to be invoked. These calculations indicate that the risk for debt sustainability is manageable.

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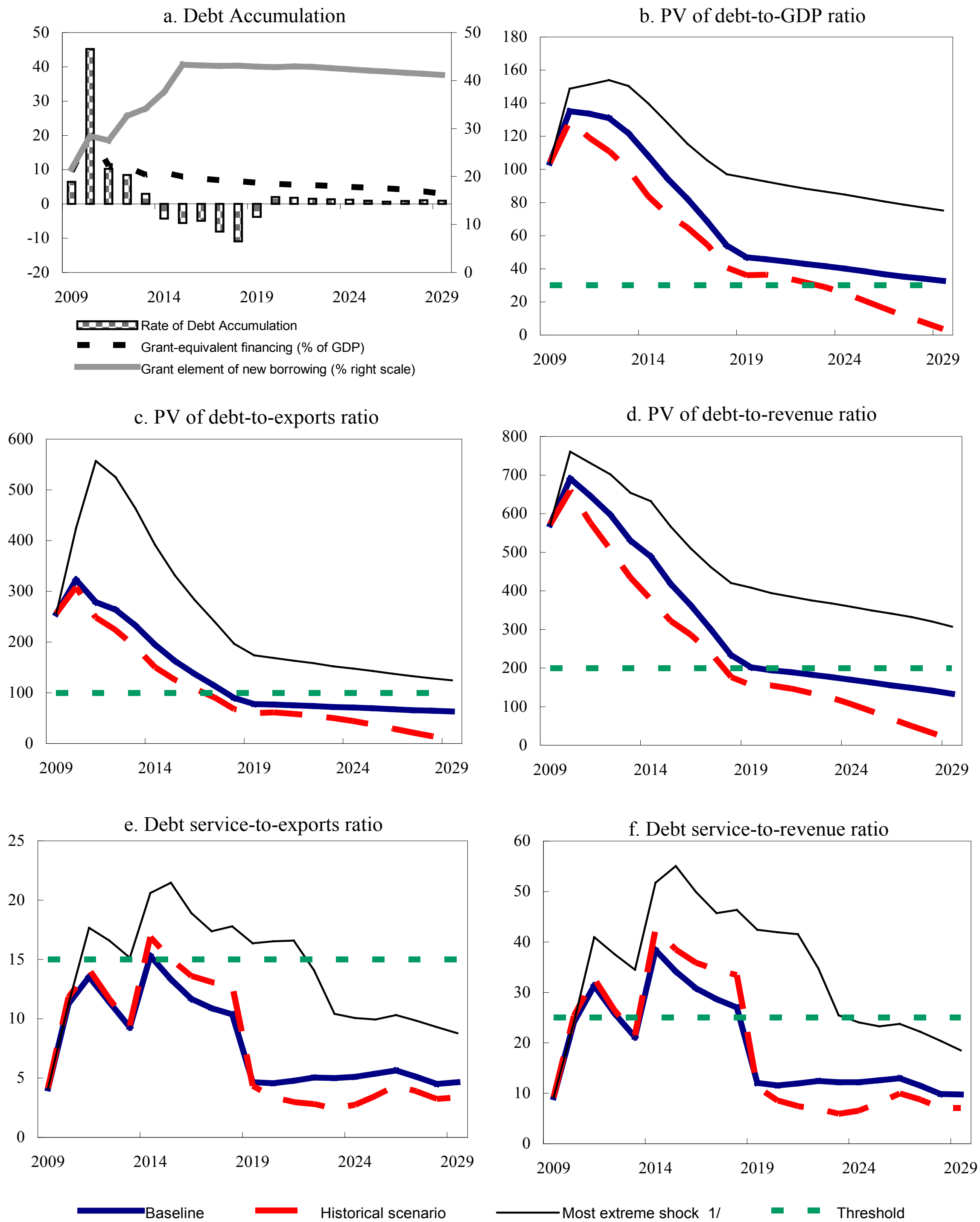
conventional loan with a fixed repayment schedule, compared to only $267 million in the case where the public guarantee can only be invoked after 25 years.

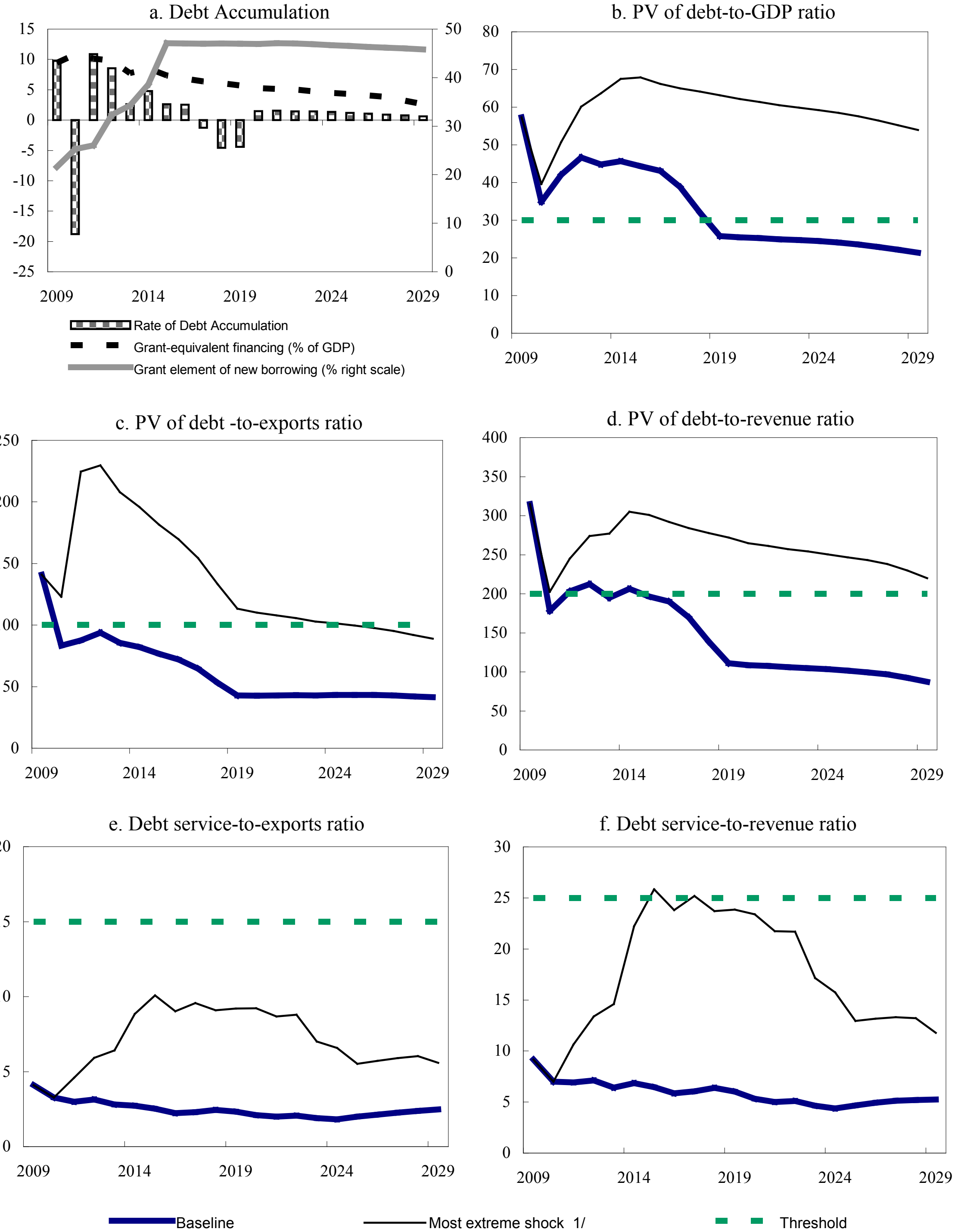
Figure 1. Democratic Republic of the Congo: Indicators of Public and Publicly Guaranteed External Debt without Debt Relief, 2009–29



Source: IMF staff projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2019, which is new public sector loans on less favorable terms in figures b, d and f and lower exports in figures c and e.

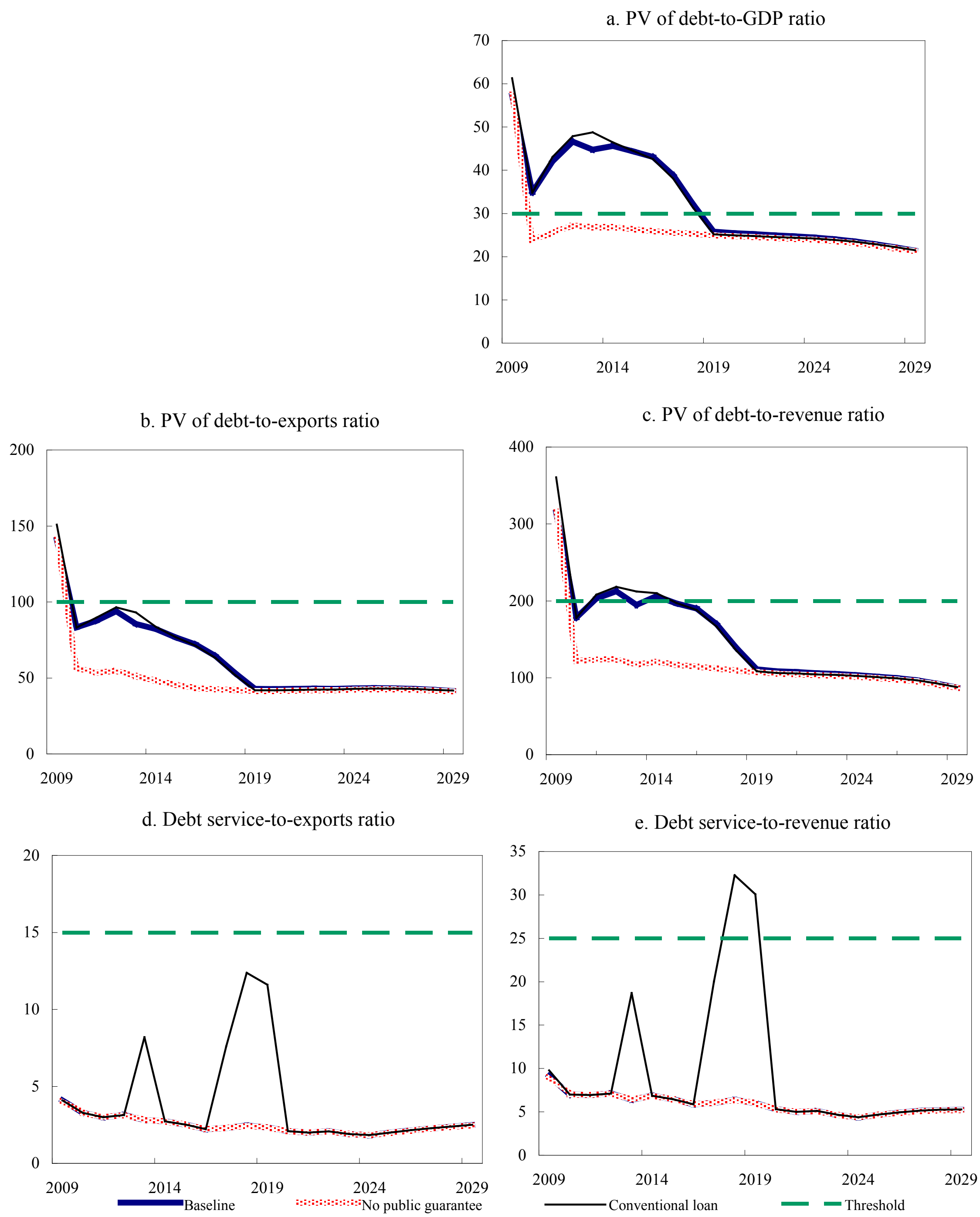
Figure 2. Democratic Republic of the Congo: Indicators of Public and Publicly Guaranteed External Debt - HIPC Completion Point Scenario, 2009–29



Source: IMF staff projections and simulations.

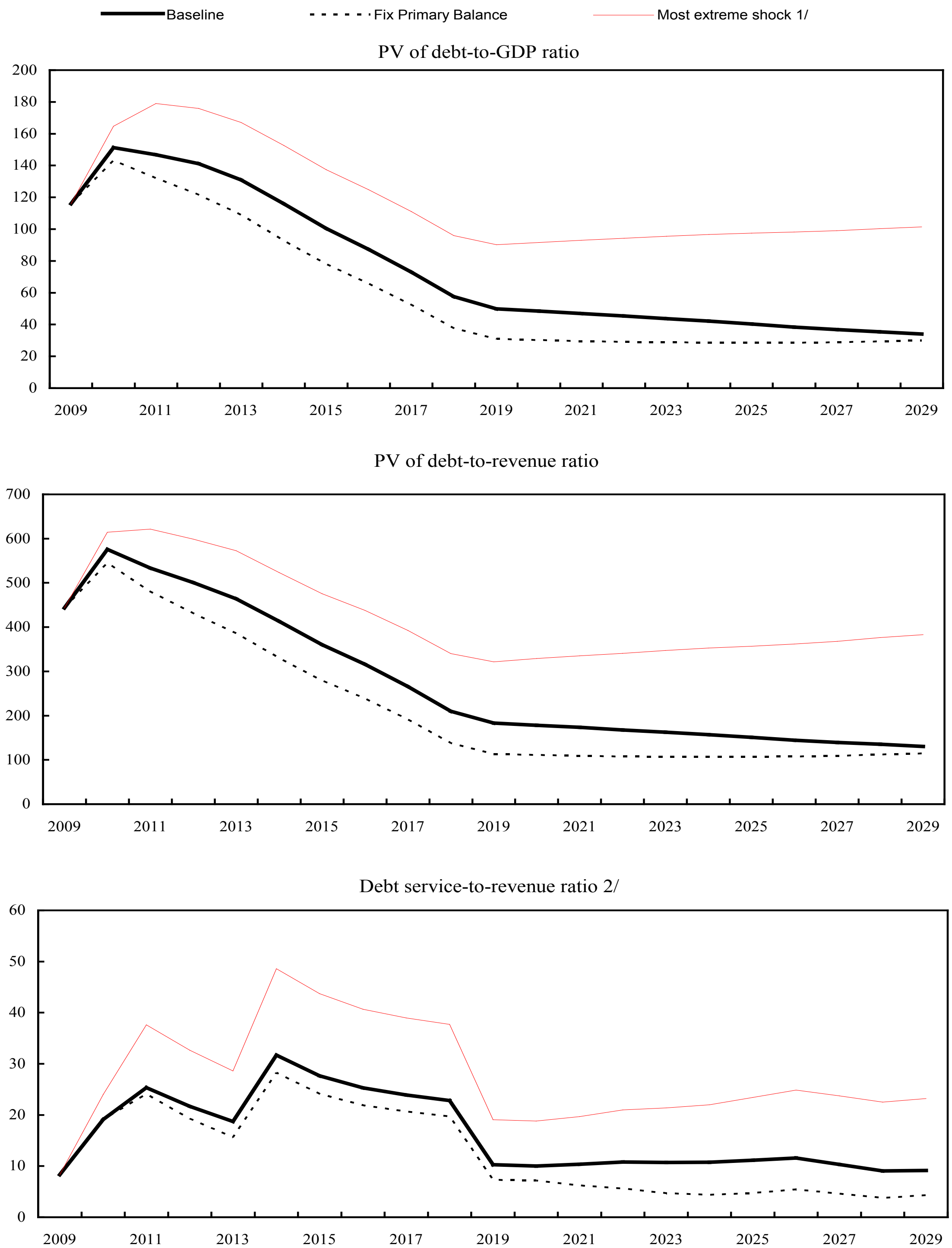
1/ The most extreme stress test is the test that yields the highest ratio in 2019, which is new public sector loans on less favorable terms in figures b to f.

Figure 3. Democratic Republic of the Congo: Indicators of Public and Publicly Guaranteed External Debt - HIPC Completion Point Scenario with Alternative Valuations of Public Guarantee, 2009–29



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

Figure 4. Democratic Republic of the Congo: Indicators of Public Debt without Debt Relief, 2009–29



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

1/ The most extreme stress test is the test that yields the highest ratio in 2019.
2/ Revenues are defined inclusive of grants.

Table 1. Democratic Republic of the Congo: External Debt Sustainability Framework, Baseline Scenario, 2008–29 1/
(In percent of GDP, unless otherwise indicated)

	Actual	Historical Average	Standard Deviation	Projections									
	2008			2009	2010	2011	2012	2013	2014	2009–14 Average	2019	2029	2015–29 Average
External debt (nominal) 1/	**128.4**			**138.7**	**154.2**	**165.8**	**170.2**	**164.7**	**157.5**		**77.7**	**54.0**	
o/w public and publicly guaranteed (PPG)	128.4			132.4	138.8	139.1	138.1	131.0	123.0		74.9	54.0	
Change in external debt	3.8			10.3	15.4	11.6	4.5	-5.6	-7.2		-12.8	-2.1	
Identified net debt-creating flows	-19.1			4.8	9.7	7.8	2.8	-2.6	-3.7		-6.0	2.3	
Non-interest current account deficit	**12.7**	**2.6**	**4.9**	**13.7**	**21.2**	**23.2**	**17.6**	**13.7**	**10.4**		**2.7**	**6.9**	5.6
Deficit in balance of goods and services	14.9			23.8	27.9	31.5	24.6	18.6	14.3		2.6	6.1	
Exports	61.6			40.6	41.8	48.0	49.7	52.4	55.6		60.2	51.7	
Imports	76.4			64.5	69.8	79.4	74.2	70.9	69.8		62.7	57.8	
Net current transfers (negative = inflow)	-10.6	-6.7	2.6	-13.9	-10.0	-9.5	-8.7	-7.1	-6.5		-5.1	-3.7	-4.7
o/w official	-8.8			-12.8	-9.4	-8.8	-8.0	-6.4	-5.7		-3.9	-2.2	
Other current account flows (negative = net inflow)	8.5			3.8	3.3	1.2	1.7	2.2	2.7		5.2	4.4	
Net FDI (negative = inflow)	**-14.8**	**-4.8**	**4.3**	**-5.7**	**-6.5**	**-8.4**	**-7.1**	**-6.1**	**-6.1**		**-5.7**	**-2.7**	-4.6
Endogenous debt dynamics 2/	**-17.0**			**-3.3**	**-5.0**	**-7.0**	**-7.6**	**-10.2**	**-8.0**		**-3.0**	**-1.8**	
Contribution from nominal interest rate	0.3			0.3	1.8	3.3	2.9	2.6	2.4		1.1	0.5	
Contribution from real GDP growth	-6.6			-3.6	-6.7	-10.2	-10.5	-12.8	-10.4		-4.1	-2.3	
Contribution from price and exchange rate changes	-10.7			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**22.9**			**5.6**	**5.7**	**3.8**	**1.6**	**-2.9**	**-3.4**		**-6.8**	**-4.4**	
o/w exceptional financing	-6.0			-7.3	-35.6	-4.3	-3.4	-2.7	2.0		-1.2	-0.4	
PV of external debt 4/	92.6			110.4	150.5	160.4	163.1	155.6	142.8		49.7	32.7	
In percent of exports	150.4			271.7	359.6	334.3	328.5	297.1	256.9		82.6	63.3	
PV of PPG external debt	**92.6**			**104.1**	**135.1**	**133.7**	**131.0**	**121.8**	**108.2**		**46.9**	**32.7**	
In percent of exports	**150.4**			**256.1**	**322.9**	**278.6**	**263.8**	**232.7**	**194.7**		**78.0**	**63.4**	
In percent of government revenues	**501.5**			**572.3**	**690.9**	**645.6**	**596.9**	**530.1**	**489.1**		**202.1**	**133.5**	
Debt service-to-exports ratio (in percent)	**3.6**			**4.1**	**11.3**	**13.5**	**11.4**	**12.8**	**19.4**		**12.4**	**4.6**	
PPG debt service-to-exports ratio (in percent)	**3.6**			**4.1**	**11.3**	**13.5**	**11.4**	**9.3**	**15.3**		**4.6**	**4.6**	
PPG debt service-to-revenue ratio (in percent)	**11.9**			**9.2**	**24.1**	**31.4**	**25.8**	**21.1**	**38.4**		**12.0**	**9.8**	
Total gross financing need (Billions of U.S. dollars)	0.0			1.1	2.4	2.8	2.3	2.3	2.6		1.1	3.2	
Non-interest current account deficit that stabilizes debt ratio	8.9			3.4	5.8	11.6	13.1	19.2	17.6		15.5	8.9	
Key macroeconomic assumptions													
Real GDP growth (in percent)	6.2	2.8	5.3	2.7	5.4	7.2	6.9	8.2	6.8	6.2	4.8	4.4	4.9
GDP deflator in US dollar terms (change in percent)	9.4	2.3	13.8	-7.3	4.8	1.5	1.5	1.6	1.6	0.6	2.2	2.2	2.1
Effective interest rate (percent) 5/	0.3	0.3	0.1	0.2	1.4	2.3	1.9	1.7	1.6	1.5	1.3	0.9	1.1
Growth of exports of G&S (US dollar terms, in percent)	8.7	22.0	31.7	-37.2	13.8	24.7	12.3	15.9	15.3	7.5	7.0	4.7	6.7
Growth of imports of G&S (US dollar terms, in percent)	28.8	25.2	31.8	-19.7	19.6	23.9	1.4	5.1	6.9	6.2	6.6	4.8	5.8
Grant element of new public sector borrowing (in percent)	…	…	…	21.6	28.4	27.5	32.6	34.2	37.6	30.3	42.9	41.2	42.5
Government revenues (excluding grants, in percent of GDP)	18.5			18.2	19.6	20.7	21.9	23.0	22.1		23.2	24.5	23.5
Aid flows (in Billions of US dollars) 6/	0.4			1.6	1.5	1.8	1.5	1.6	1.7		2.0	…	
o/w Grants	0.2			0.9	0.8	0.9	0.9	0.8	1.0		1.0	0.8	
o/w Concessional loans	0.1			0.8	0.7	0.9	0.6	0.7	0.7		1.0	…	
Grant-equivalent financing (in percent of GDP) 7/	…			9.4	20.5	11.1	10.6	8.5	9.1		6.3	3.1	5.5
Grant-equivalent financing (in percent of external financing) 7/	…			64.1	37.1	49.6	54.0	57.4	63.3		68.1	60.6	67.0
Memorandum items:													
Nominal GDP (Billions of US dollars)	11.6			11.0	12.2	13.3	14.4	15.8	17.2		25.1	48.3	
Nominal dollar GDP growth	16.1			-4.8	10.4	8.8	8.5	9.9	8.6	**6.9**	7.1	6.7	7.1
PV of PPG external debt (in Billions of US dollars)	10.7			11.5	16.5	17.7	18.8	19.3	18.6		11.8	15.8	
(PVt-PVt-1)/GDPt-1 (in percent)				**6.4**	**45.2**	**10.3**	**8.5**	2.9	-4.3	**11.5**	-3.8	0.9	-1.4

Source: IMF staff simulations.

1/ Includes both public and private sector external debt.
2/ Derived as [r - g - r(1+g)]/(1+g+r+gr) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = growth rate of GDP deflator in U.S. dollar terms.
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/ Defined as grants, concessional loans, and debt relief.
7/ 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 2. Democratic Republic of the Congo: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009–29
(In percent)

	Projections											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	**2019**	2029
PV of debt-to GDP ratio												
Baseline	104.1	135.1	133.7	131.0	121.8	108.2	94.4	82.1	68.7	54.0	**46.9**	32.7
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	104.1	129.0	119.2	111.0	99.8	83.6	72.6	64.9	54.7	40.8	**36.1**	3.5
A2. New public sector loans on less favorable terms in 2009-2029 2/	104.1	148.7	151.3	154.0	150.4	139.9	127.9	115.5	105.6	97.1	**94.8**	75.3
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	104.1	145.9	158.4	155.1	144.2	128.1	111.6	97.0	81.2	63.7	**55.3**	38.6
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	104.1	141.2	153.6	149.9	139.6	125.1	110.3	97.2	83.3	68.0	**60.2**	37.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	104.1	160.0	181.4	177.7	165.2	146.7	127.8	111.1	93.0	73.0	**63.3**	44.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	104.1	143.5	150.9	147.3	137.1	122.8	108.1	95.1	81.2	66.1	**58.2**	36.3
B5. Combination of B1-B4 using one-half standard deviation shocks	104.1	166.1	206.5	201.4	187.6	168.3	148.7	131.3	112.8	92.7	**82.2**	49.6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	104.1	189.3	187.0	183.2	170.3	151.2	131.8	114.6	95.8	75.2	**65.3**	45.6
PV of debt-to-exports ratio												
Baseline	256.1	322.9	278.6	263.8	232.7	194.7	163.0	137.4	114.2	89.7	**78.0**	63.4
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	256.1	308.3	248.4	223.5	190.5	150.4	125.4	108.5	90.8	67.7	**60.0**	6.8
A2. New public sector loans on less favorable terms in 2009-2029 2/	256.1	355.4	315.5	310.1	287.2	251.7	221.0	193.2	175.3	161.3	**157.7**	145.7
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	256.1	322.8	278.3	263.4	232.2	194.2	162.5	136.8	113.6	89.2	**77.5**	63.0
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	256.1	424.9	556.8	525.0	463.6	391.3	331.5	282.9	240.5	196.5	**174.1**	124.6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	256.1	322.8	278.3	263.4	232.2	194.2	162.5	136.8	113.6	89.2	**77.5**	63.0
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	256.1	342.9	314.5	296.7	261.9	220.9	186.8	159.2	134.9	109.8	**96.8**	70.4
B5. Combination of B1-B4 using one-half standard deviation shocks	256.1	368.2	412.1	388.3	343.0	289.9	246.0	210.4	179.4	147.4	**130.7**	92.0
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	256.1	322.8	278.3	263.4	232.2	194.2	162.5	136.8	113.6	89.2	**77.5**	63.0
PV of debt-to-revenue ratio												
Baseline	572.3	690.9	645.6	596.9	530.1	489.1	418.0	362.2	300.4	233.9	**202.1**	133.5
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	572.3	659.6	575.7	505.8	434.0	377.6	321.6	286.2	238.8	176.4	**155.4**	14.3
A2. New public sector loans on less favorable terms in 2009-2029 2/	572.3	760.4	731.0	701.6	654.2	632.1	566.6	509.6	461.3	420.2	**408.4**	307.0
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	572.3	745.8	765.1	706.9	627.5	578.7	494.2	428.1	354.7	275.7	**238.0**	157.4
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	572.3	721.7	742.0	683.1	607.3	565.2	488.7	429.0	363.8	294.5	**259.3**	151.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	572.3	818.3	876.2	809.6	718.7	662.8	566.0	490.3	406.2	315.8	**272.6**	180.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	572.3	733.6	728.8	671.3	596.6	554.7	478.9	419.8	355.0	286.1	**250.8**	148.2
B5. Combination of B1-B4 using one-half standard deviation shocks	572.3	849.4	997.4	917.8	816.1	760.6	658.8	579.4	492.9	401.1	**353.7**	202.5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	572.3	967.7	903.5	834.9	741.1	683.4	583.7	505.6	418.8	325.6	**281.1**	185.8
Debt service-to-exports ratio												
Baseline	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	4.1	11.8	14.1	11.7	9.4	16.9	15.0	13.6	13.1	12.8	**4.3**	3.4
A2. New public sector loans on less favorable terms in 2009-2029 2/	4.1	11.3	17.7	16.6	15.1	20.6	21.5	18.9	17.4	17.8	**16.4**	8.8
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	4.1	14.2	24.0	21.2	17.4	27.7	24.1	21.2	19.8	18.8	**9.5**	10.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	4.1	11.3	13.9	12.1	9.9	15.8	13.8	12.1	11.3	10.8	**5.5**	5.6
B5. Combination of B1-B4 using one-half standard deviation shocks	4.1	12.1	17.5	15.6	12.7	20.2	17.6	15.4	14.4	13.7	**7.2**	7.5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
Debt service-to-revenue ratio												
Baseline	9.2	24.1	31.4	25.8	21.1	38.4	34.2	30.8	28.7	27.0	**12.0**	9.8
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	9.2	25.3	32.7	26.4	21.5	42.4	38.5	35.8	34.4	33.4	**11.2**	7.1
A2. New public sector loans on less favorable terms in 2009-2029 2/	9.2	24.1	40.9	37.5	34.5	51.7	55.0	49.9	45.7	46.3	**42.4**	18.5
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	9.2	26.0	37.2	30.6	25.0	45.5	40.5	36.5	34.0	32.0	**14.2**	11.5
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	9.2	24.1	31.9	27.6	22.8	40.0	35.6	32.1	29.9	28.2	**14.1**	12.1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	9.2	28.6	42.6	35.0	28.7	52.1	46.4	41.8	38.9	36.7	**16.3**	13.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	9.2	24.1	32.2	27.4	22.5	39.7	35.4	31.9	29.7	28.0	**14.4**	11.8
B5. Combination of B1-B4 using one-half standard deviation shocks	9.2	27.8	42.4	36.8	30.3	52.9	47.1	42.5	39.6	37.3	**19.4**	16.4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	9.2	33.8	43.9	36.1	29.6	53.8	47.8	43.1	40.1	37.8	**16.8**	13.6
Memorandum item:												
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	30	30	30	30	30	30	30	30	30	30	**30**	30

Source: IMF staff projections and simulations.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.
of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment
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 3. Democratic Republic of the Congo: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008–29
(In percent of GDP, unless otherwise indicated)

	Actual			Estimate	Projections								
	2008	Average	Standard Deviation	2009	2010	2011	2012	2013	2014	2009-14 Average	2019	2029	2015-29 Average
Public sector debt 1/	141.0			142.0	146.7	145.9	143.9	135.9	127.3		77.0	54.8	
o/w foreign-currency denominated	128.4			132.4	138.8	139.1	138.1	131.0	123.0		74.9	54.0	
Change in public sector debt	15.8			1.0	4.7	-0.8	-1.9	-8.0	-8.6		-7.9	-2.1	
Identified debt-creating flows	0.1			-6.9	4.1	-0.3	-1.6	-4.3	-3.8		-2.8	-2.7	
Primary deficit	-1.0	2.0	1.0	2.4	11.5	10.2	8.7	6.0	4.8	7.3	2.1	0.5	1.5
Revenue and grants	20.6			26.2	26.3	27.5	28.2	28.2	28.1		27.3	26.2	
of which: grants	2.1			8.0	6.7	6.8	6.2	5.2	5.9		4.0	1.7	
Primary (noninterest) expenditure	19.6			28.6	37.8	37.8	36.9	34.2	32.9		29.3	26.7	
Automatic debt dynamics	1.1			-9.3	-7.4	-10.5	-10.2	-10.3	-8.6		-4.8	-3.1	
Contribution from interest rate/growth differential	-9.0			-7.2	-7.5	-8.6	-8.8	-10.8	-8.7		-4.5	-3.0	
of which: contribution from average real interest rate	-1.8			-3.6	-0.2	1.3	0.6	0.2	0.0		-0.6	-0.6	
of which: contribution from real GDP growth	-7.3			-3.7	-7.2	-9.9	-9.4	-11.0	-8.7		-3.9	-2.4	
Contribution from real exchange rate depreciation	10.1			-2.1	0.1	-1.9	-1.4	0.5	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	
Privatization receipts (negative)	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	
Debt relief (HIPC and other)	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	
Residual, including asset changes	15.8			8.0	0.6	-0.6	-0.4	-3.7	-4.9		-5.1	0.5	
				52.9	40.5	32.8	26.5	21.7	19.6				
Other Sustainability Indicators				9.6	7.9	6.8	5.8	5.0	4.3				
PV of public sector debt	117.7			115.9	151.3	146.8	141.2	130.9	116.0		49.9	34.1	
o/w foreign-currency denominated	105.2			106.3	143.4	140.0	135.4	125.9	111.6		47.9	33.4	
o/w external	105.2			106.3	143.4	140.0	135.4	125.9	111.6		47.9	33.4	
PV of contingent liabilities (not included in public sector debt)	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	2.2			5.0	17.0	17.5	15.2	11.7	14.1		4.9	2.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	572.4			443.1	575.7	533.3	500.9	464.1	413.2		183.0	130.3	
PV of public sector debt-to-revenue ratio (in percent)	637.5			637.5	773.4	709.1	643.5	569.7	524.1		214.9	139.1	
o/w external 3/	569.3			584.7	733.0	676.3	617.0	548.0	504.5		206.0	136.2	
Debt service-to-revenue and grants ratio (in percent) 4/	13.3			8.3	19.1	25.3	21.7	18.7	31.7		10.3	9.2	
Debt service-to-revenue ratio (in percent) 4/	14.8			12.0	25.7	33.7	27.8	23.0	40.2		12.0	9.8	
Primary deficit that stabilizes the debt-to-GDP ratio	-16.8			1.4	6.8	11.1	10.6	14.0	13.4		9.9	2.6	
				1.090	1.055	1.048	1.043	1.040	1.039		1.043	1.022	
Key macroeconomic and fiscal assumptions 5/													
Real GDP growth (in percent)	6.2	2.8	5.3	2.7	5.4	7.2	6.9	8.2	6.8	6.2	4.8	4.4	4.9
Average nominal interest rate on forex debt (in percent)	0.3	0.3	0.1	0.2	1.5	2.6	2.3	2.1	2.0	1.8	1.4	0.9	1.2
Real exchange rate depreciation (in percent, + indicates depreciation)	8.8	-3.1	25.6	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	19.4	51.5	113.1	29.1	14.0	13.0	10.0	8.7	8.5	13.9	6.5	6.3	6.6
Growth of real primary spending (deflated by GDP deflator, in percent)	0.4	0.2	0.4	0.5	0.4	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	21.6	28.4	27.5	32.6	34.2	37.6	30.3	42.9	41.2	...

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

1/ Gross general government debt.
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 4. Democratic Republic of the Congo: Sensitivity Analysis for Key Indicators of Public Debt 2009–29

	Projections							
	2009	2010	2011	2012	2013	2014	2019	2029
PV of Debt-to-GDP Ratio								
Baseline	115.9	151.3	146.8	141.2	130.9	116.0	49.9	34.1
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	115.9	145.4	138.4	130.8	121.5	105.0	25.9	9.4
A2. Primary balance is unchanged from 2009	115.9	143.2	132.1	121.6	109.0	92.7	30.9	30.0
A3. Permanently lower GDP growth 1/	115.9	153.1	150.6	147.1	138.8	125.5	67.5	91.2
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	115.9	164.7	179.0	175.9	167.1	152.6	90.1	101.5
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	115.9	143.7	133.1	128.2	118.4	103.9	39.6	26.1
B3. Combination of B1-B2 using one half standard deviation shocks	115.9	150.1	147.5	144.4	136.0	122.1	61.0	67.0
B4. One-time 30 percent real depreciation in 2010	115.9	219.0	208.5	197.8	183.7	163.3	81.3	62.2
B5. 10 percent of GDP increase in other debt-creating flows in 2010	115.9	160.2	155.3	149.4	138.7	123.5	56.4	39.1
PV of Debt-to-Revenue Ratio 2/								
Baseline	443.1	575.7	533.3	500.9	464.1	413.2	183.0	130.3
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	443.1	549.9	494.4	452.8	417.5	357.7	89.8	34.5
A2. Primary balance is unchanged from 2009	443.1	544.9	479.9	431.2	386.2	330.2	113.4	114.7
A3. Permanently lower GDP growth 1/	443.1	581.1	544.2	518.0	487.9	442.1	243.3	343.0
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	443.1	614.3	621.7	599.0	572.5	523.1	321.7	383.0
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	443.1	546.9	483.6	454.5	419.8	370.3	145.1	99.7
B3. Combination of B1-B2 using one half standard deviation shocks	443.1	563.7	519.6	498.4	471.3	423.7	219.8	253.9
B4. One-time 30 percent real depreciation in 2010	443.1	833.3	757.7	701.6	651.0	581.7	298.2	237.5
B5. 10 percent of GDP increase in other debt-creating flows in 2010	443.1	609.5	564.2	529.8	491.7	440.0	206.7	149.3
Debt Service-to-Revenue Ratio 2/								
Baseline	8.3	19.1	25.3	21.7	18.7	31.7	10.3	9.2
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	8.3	19.5	25.1	20.4	17.0	31.9	7.3	-2.6
A2. Primary balance is unchanged from 2009	8.3	19.1	24.1	19.2	15.6	28.3	7.3	4.3
A3. Permanently lower GDP growth 1/	8.3	19.3	25.8	22.3	19.6	33.4	12.8	20.4
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	8.3	20.2	28.9	25.4	22.7	38.0	16.1	25.5
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	8.3	19.1	24.1	19.4	16.6	29.8	8.7	5.7
B3. Combination of B1-B2 using one half standard deviation shocks	8.3	19.8	26.2	20.9	18.3	33.2	11.8	14.9
B4. One-time 30 percent real depreciation in 2010	8.3	24.0	37.6	32.6	28.6	48.6	19.1	23.2
B5. 10 percent of GDP increase in other debt-creating flows in 2010	8.3	19.1	26.7	23.2	19.9	32.9	11.2	11.3
Debt Service-to-GDP Ratio								
Baseline	2.2	5.0	7.0	6.1	5.3	8.9	2.8	2.4
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	2.2	5.1	7.0	5.9	5.0	9.4	2.1	-0.7
A2. Primary balance is unchanged from 2006	2.2	5.0	6.6	5.4	4.4	7.9	2.0	1.1
A3. Permanently lower GDP growth 1/	2.2	5.1	7.1	6.3	5.6	9.5	3.5	5.4
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2008-2009	2.2	5.4	8.3	7.5	6.6	11.1	4.5	6.7
B2. Primary balance is at historical average minus one standard deviations in 2008-2009	2.2	5.0	6.6	5.5	4.7	8.4	2.4	1.5
B3. Combination of B1-B2 using one half standard deviation shocks	2.2	5.3	7.4	6.0	5.3	9.6	3.3	3.9
B4. One-time 30 percent real depreciation in 2008	2.2	6.3	10.4	9.2	8.1	13.6	5.2	6.1
B5. 10 percent of GDP increase in other debt-creating flows in 2008	2.2	5.0	7.4	6.5	5.6	9.2	3.1	3.0

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

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

INTERNATIONAL MONETARY FUND AND

INTERNATIONAL DEVELOPMENT ASSOCIATION

DEMOCRATIC REPUBLIC OF CONGO

Joint IMF/World Bank Debt Sustainability Analysis 2009

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

Approved by Mark Plant and Dominique Desruelle (IMF) and
Carlos Alberto Braga and Sudhir Shetty (IDA)

November 30, 2009

This note provides an updated debt sustainability analysis (DSA) for the Democratic Republic of the Congo (DRC) using the joint Bank-Fund Debt Sustainability Framework (DSF) for Low Income Countries. The results indicate that the DRC remains in debt distress, as was the case in the most recent DSA conducted in August 2007. In the absence of debt relief provided under the enhanced Heavily Indebted Poor Country (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI), external debt burden indicators are projected to remain above policy-dependent thresholds over prolonged periods. Even after HIPC/MDRI debt relief, the external debt outlook would be vulnerable to adverse shocks. External borrowing to finance public infrastructure projects under the Sino-Congolese Cooperation Agreement (SCCA) are projected to increase significantly the country's external debt burden indicators over the medium term, but related risks to debt sustainability appear manageable.

35. **The Democratic Republic of the Congo (DRC) remains in debt distress**. At end 2008 the present value of public and publicly guaranteed (PPG) external debt is estimated at 93 percent of GDP, 150 percent of exports and 501 percent of government revenue (excluding grants), well above policy-dependent threshold levels.[17] Moreover, all debt burden indicators are projected to worsen significantly in 2009 due to marked declines in GDP, exports and government revenue in the wake of the global economic slowdown and accompanying sharp decline in world commodity prices.

[17] With an average CPIA rating of 2.80 in 2006–08, the DRC is classified having a weak policy framework.

IX. Background

36. **The DRC continues to accumulate external arrears mainly on debt owed to bilateral creditors**. The DRC reached the decision point of the enhanced HIPC Initiative in July 2003, qualifying for interim debt relief.[18] The IMF discontinued interim assistance in June 2006 when the PRGF program went off track. The Paris Club agreed to reschedule DRC's debt under Cologne flow terms in November 2003, which was also suspended in June 2006 when the PRGF program went off track. The International Development Agency's (IDA) interim HIPC assistance expired in October 2009. The African Development Bank/Fund will deliver interim assistance in 2010. The nominal value of PPG external debt (including arrears) is estimated at US$13.1 billion at end-2008, US$7.1 billion of which is owed to bilateral creditors, US$4.4 billion to multilateral institutions, and US$1.5 billion to commercial creditors. Arrears are estimated at US$3.3 billion at end-2008, of which US$1.5 billion is owed to Paris Club creditors.

X. External Debt Sustainability Analysis

37. **The baseline scenario in this DSA assumes a strong recovery in economic activity over the medium term, supported by large investments in mining and public infrastructure projects**. In particular, it assumes that the security situation in the eastern provinces stabilizes and that the government adopts prudent macroeconomic policies and makes significant progress on key structural reforms, including strengthening tax collection, improving budget preparation and execution, and reforming the civil service. The near-term outlook is dominated by the impact of the global economic slowdown (Box 1), followed by a strong recovery over the medium term fueled by a US$3.2 billion investment in a mining project along with US$3 billion in investments in public infrastructure projects envisaged under the SCCA (Box 2).

38. **The baseline scenario assumes that a new three-year PRGF arrangement will be in place by the end of 2009**, which will allow the IMF and the DRC's Paris Club creditors to provide additional interim assistance under the enhanced HIPC Initiative.[19] It also assumes that arrears to bilateral creditors are rescheduled or deferred, the African Development Bank/Fund delivers interim HIPC assistance in 2010, and that IDA provided interim HIPC assistance up to October 2009.

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[18] "*Democratic Republic of the Congo—Decision Point Document for the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative*", and IDA/R2003–0059.

[19] The baseline scenario does not assume that the DRC reaches the HIPC completion point in accordance with current LIC DSA guidelines outlined in: *"Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries"*, April 2007and IDA/No. 39748. An alternative scenario assumes that the DRC reaches the HIPC completion point in mid-2010.

Box 1. Democratic Republic of the Congo: Macroeconomic Assumptions for the DSA

Although short-term economic conditions remain weak, the medium-term outlook is positive. The baseline projection scenario has the following key elements.

- **GDP growth** declines from 6.2 percent in 2008 to 2.7 percent in 2009 due to the slowdown in global growth and the sharp decline in world commodity prices from record levels reached in mid-2008. Growth rebounds strongly over the medium term, averaging 7.5 percent over the period 2010–16, spurred by large investment expenditures under the SCCA (Box 2), and a recovery in mining activity. The mining project financed by the SCCA is projected to increase real GDP growth by 0.3 percentage points on average during the construction phase 2009–12 and by 0.6 percentage points on average during the production phase in 2013–16. The public infrastructure projects financed by SCCA are projected to increase real GDP growth by 0.7 percentage points on average during the construction phase 2009–12, declining to 0.2 percentage points in the long run (Box 3).

- **Inflation** declines to 48.7 percent by end-2009 and to single digits over the medium term, supported by prudent fiscal and monetary policies.

- The **overall fiscal deficit** (including grants) widens substantially in the short run, reaching 12 percent in 2010, before narrowing gradually to around 2 percent of GDP in the long run as ongoing reforms expand the tax base and noninterest expenditures decline slowly as a percent of GDP. Grants decline from 8.7 percent of GDP in 2009 to under 4 percent in 2018.

- **The current account deficit** widens from 15 percent of GDP in 2008 to 32 percent in 2011 mainly due to a large increase in imported factors used in the mining and public infrastructure projects. The deficit narrows thereafter as mining exports expand and investment-related imports diminish, stabilizing at around 6 percent of GDP over the long run.

- **External financing** over the medium term is dominated by loans disbursed to fund public infrastructure projects under the SCCA, accounting for 22 percent of gross borrowing needs over the period 2009–14. The average grant element of new borrowing rises steadily from 20 percent in 2009 to 43 percent in 2015 and beyond.

- **Net foreign direct investment** declines slightly from an average level of 6.3 percent of GDP in 2004–08 to 5.8 percent in 2009 in the wake of the global economic downturn, recovering to an average level of 7.2 percent of GDP by 2010–12 led by foreign investment in mining projects.

Box 2. Democratic Republic of the Congo: The Sino-Congolese Cooperation Agreement (SCCA)

In April 2008, the DRC signed a cooperation agreement between a Congolese parastatal mining enterprise (GECAMINES) and a consortium of Chinese enterprises, forming a joint venture company (SICOMINES). The net operating income from the joint venture is to be distributed by equity shares with 32 percent going to GECAMINES and 68 percent to the consortium of Chinese enterprises.

The original agreement (signed in April 2008) included a US$3.2 billion mining project, along with US$6 billion in public infrastructure projects to be implemented in two phases over the period 2009–17. The agreement was amended in October 2009 to exclude the second phase of public infrastructure projects totaling US$3 billion that was to be implemented over the period 2014–17, leaving just the first phase of public infrastructure projects totaling US$3 billion to be implemented over the period 2009–13.

Under the original agreement, the Congolese government provided a public guarantee on the loans for the mining and public infrastructure projects. However, the public guarantee on the mining loan was removed in the amended agreement. The public guarantee requires that the Congolese government repay any principal outstanding on the public infrastructure loans at end 2034 (25 years after the formation of the joint venture SICOMINES) with capitalized interest.

The US$3.2 billion mining investment is to be financed by a US$1.1 billion interest-free loan along with a US$2.1 billion loan with an interest rate of 6.1 percent. The US$3 billion investment in public infrastructure is to be financed by a series of loans to be disbursed for the individual projects, each with a fixed interest rate of 4.4 percent (LIBOR plus 100 basis points as of April 22, 2008). All loans are denominated in US dollars.

The consortium of Chinese enterprises provides the DRC government with a US$250 million signing bonus ("pas de porte"), half of which was disbursed in March 2009. The remaining balance will be disbursed upon the transfer of the mining concession title to SICOMINES. GECAMINES receives a US$100 million signing bonus, also disbursed in two tranches.

The mining project is expected to generate operating profits beginning in 2013, which will be used to repay the mining and public infrastructure loans in three stages. In the first stage, all profits from the mine will go to repay principal and capitalized interest on US$375 million in "urgent" public infrastructure loans. In the second stage, 85 percent of operating profits will be used to repay the mining loans. In the third stage, 85 percent of operating profits will be used to repay the remaining public infrastructure loans. In the second and third stages, 15 percent of operating profits will be paid to the shareholders of the joint venture SICOMINES.

Box 3. The Democratic Republic of the Congo: The Economic Impact of Public Infrastructure Projects

A two-stage approach was used to analyze the long-run growth impact of the US$3 billion in public infrastructure projects to be undertaken under the SCCA.[1] In the first stage, the analysis identified the location and size of current economic activities (e.g., agriculture, forestry, and mining) and the location-specific economic potential. Location-specific transport costs take the distance to relevant markets into account using a "cost-distance" algorithm. Sector-specific responses to changes in transport costs were estimated and used to simulate the long-term impact of transport investments on production location levels. Long-term elasticities based on cross-sectional reduced-form regressions were used to estimate the response of local production to a change in transportation costs. In a second stage, a multiplier approach was used to gauge the demand side effects of public infrastructure projects during the implementation phase. The analysis indicates that the public infrastructure projects would raise real GDP growth by 0.7 percentage points on average during the construction phase 2009–13 mainly through the impact of the higher investment on domestic demand. The growth impact declines to 0.2 percentage points upon completion of the projects reflecting gains in total factor productivity associated with the improved public infrastructure.

[1] See World Bank (2009, forthcoming), "Prioritizing Infrastructure Investments: A Spatial Approach".

39. **Under the baseline scenario, external debt burden indicators breach policy-dependent thresholds over prolonged periods** (Figure 1). The present value of PPG external debt exceeds the 30 percent of GDP threshold over most of the 20-year projection period (Figure 1b), notwithstanding the strong recovery projected over the medium term. The debt-to-export and debt-to-revenue ratio indicators decline somewhat faster over the projection period, falling below their thresholds in 2018 and 2019, respectively (Figures 1c and 1d). This reflects higher export revenues resulting from the large mining projects and higher tax revenue ensuing from reforms undertaken to broaden the tax base.

40. **The baseline projections are subject to significant downside risks**. Given the DRC's high dependence on mining exports, the external account and overall economic outlook remains highly vulnerable to adverse terms of trade shocks. Moreover, poor governance, unresolved security issues, weak implementation capacity and lower than envisaged donor support could also worsen the external debt outlook significantly.

41. **All debt burden indicators worsen substantially under standard stress tests**. The debt profile is most vulnerable to a shock that entails public sector debt financed under less favorable terms than assumed in the baseline (Figure 1).[20] The external debt burden indicators decline somewhat more rapidly under the historical scenario. This reflects the fact

[20] The average grant element on net borrowing is only 30 percent in the period 2009–13, well below the 35 percent grant element required to qualify as concessional. The large difference reflects two main factors. First, the concessionality calculation is based on a much higher discount rate than that used in the DSA. Second, the DSA includes refinancing of arrears to bilateral creditors on non-concessional terms.

that the country had no access to external financing during the conflict period which restricted the noninterest current account deficit.

42. **The external debt burden indicators are projected to breach their thresholds even if the country were to receive debt relief under the enhanced HIPC Initiative and the MDRI**. If the DRC were to reach the completion point in mid-2010, all three external debt burden indicators breach their thresholds (Figure 2). The external debt-to-GDP ratio breaches the 30 percent threshold over the period 2010–18 reaching a high of 45 percent in 2012 (Figure 2b). The external debt-to-revenue ratio breaches the 200 percent threshold slightly in just two years (2012 and 2014). New purchases under the proposed PRGF arrangement would account for 6.5 percent of the PV of external PPG debt in 2012 (2.9 percent of GDP), declining to 2.7 percent in 2019 (0.7 percent of GDP). The external debt profiles are robust to lower long-run growth projections. Reducing real GDP growth by half of a percentage point after 2017 (which roughly offsets the assumed benefit from the public infrastructure projects) raises the PV of the PPG external debt-to-GDP ratio by only 1.3 percentage points in 2029. The debt profiles are vulnerable to adverse shocks, however. In particular, two of the three external debt burden indicators breach their respective thresholds over the entire projection period under the most extreme stress test (Figures 2b and 2d).

43. **The public guarantee on the infrastructure financing under the SCCA raises the external debt burden indicators over the medium term but does not have a major impact on debt sustainability over the long term**. Removing the public guarantee on the loans for the public infrastructure projects would reduce the external debt-to-GDP ratio by 8.6 percentage points on average over the period 2011–16, but would have no impact after 2019 when the loans are projected to be fully repaid (Figure 3).[21] The present-value calculations underlying the DSA take into account that the public guarantee can only be invoked after 25 years.[22] If the public guarantee were based on a conventional loan agreement with a fixed repayment schedule equal to the projected payments from the net operating income of SICOMINES,[23] the external debt burden indicators would be just slightly higher over medium term, but with no impact beyond 2019 (Figure 3).

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[21] The DSA includes the public guarantee on the infrastructure financing made under the SCCA as external PPG debt, but does not include the debt service payments made by the net operating profit from the joint venture SICOMINES.

[22] To illustrate, consider the following example. In 2009, the Chinese consortium is projected to disburse a total of $375 million in loans for public infrastructure projects. The legal obligation of the government under the terms of the agreement is to repay any outstanding balance (principal and compounded interest) in 2034. In keeping with the conventional for valuing public guarantees, we assume the worst outcome—zero operating income over the entire 25-year period. This implies a legal obligation of $375 million in principal and $725 million in compounded interest in 2034, which has a present value of $397 million in 2009 (based on a discount rate of 4 percent used in DSAs for low-income countries).

[23] For example, the $375 million in loans to be disbursed in 2009 is projected to be fully repaid (principal and capitalized interest) in 2013. This would raise the present value of external debt by $426 million in the case of a

(continued)

XI. Public Debt Sustainability Analysis

44. **The DRC's domestic debt is relatively low and as a result, the above external debt sustainability analysis broadly applies to total public debt, albeit with slightly higher debt burden indicators** (Figure 4). Although information on domestic debt is poor, the authorities recently provided updated estimates on claims of about US$1.3 billion at end-2008 (11 percent of GDP). These claims are mainly from suppliers, public enterprises and public sector employees dating back to the period of conflict in the 1990s. The authorities are in the process of developing a strategy—to be finalized in mid 2010—to address with these claims.

XII. Conclusion

45. **The DRC would remain in debt distress in the absence of substantial debt relief**. The external debt indicators would breach policy-dependent thresholds over prolonged periods even with a strong economic recovery over the medium term (assumed under the baseline scenario). Even if the DRC were to reach the HIPC completion point in mid-2010 and benefit from HIPC/MDRI debt relief, the external debt outlook remain vulnerable to adverse shocks. The public guarantee on the SCCA financing increases the external debt-to-GDP ratio significantly above the policy-dependent threshold level for a prolonged period. However, these calculations substantially overstate the risk of debt distress because they assume that the mining project will not generate any net operating profits over the entire 25-year projection period. Calculations based on a model of income generated by the mining project developed by the DRC authorities predict that the net operating profits from the mining project would fully repay the public infrastructure loans by 2018, 16 years before the public guarantee would be invoked. Net operating income would have to decline by 65 percent of the amount projected in the baseline scenario in order for the public guarantee to be invoked. These calculations indicate that the risk for debt sustainability is manageable.

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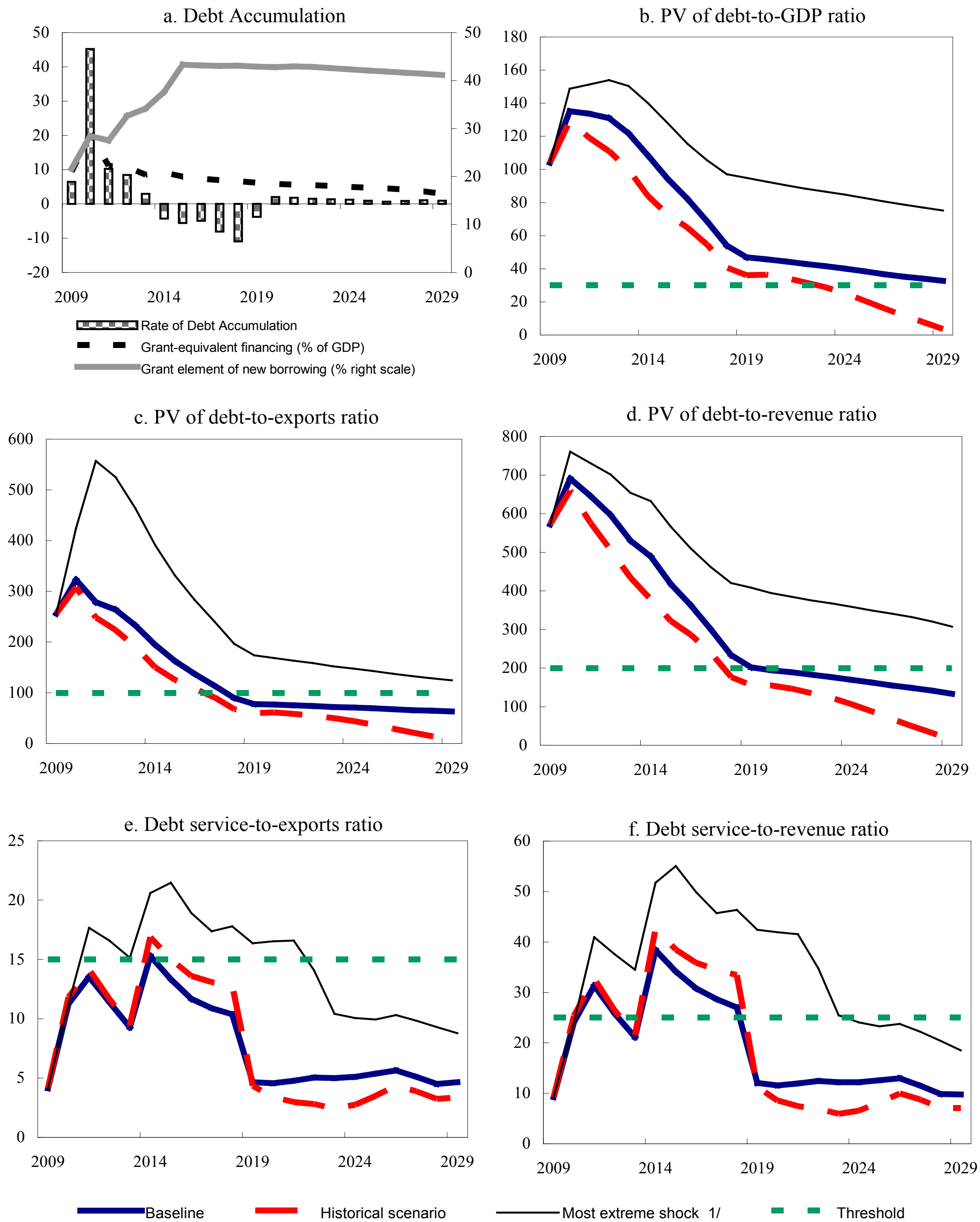
conventional loan with a fixed repayment schedule, compared to only $267 million in the case where the public guarantee can only be invoked after 25 years.

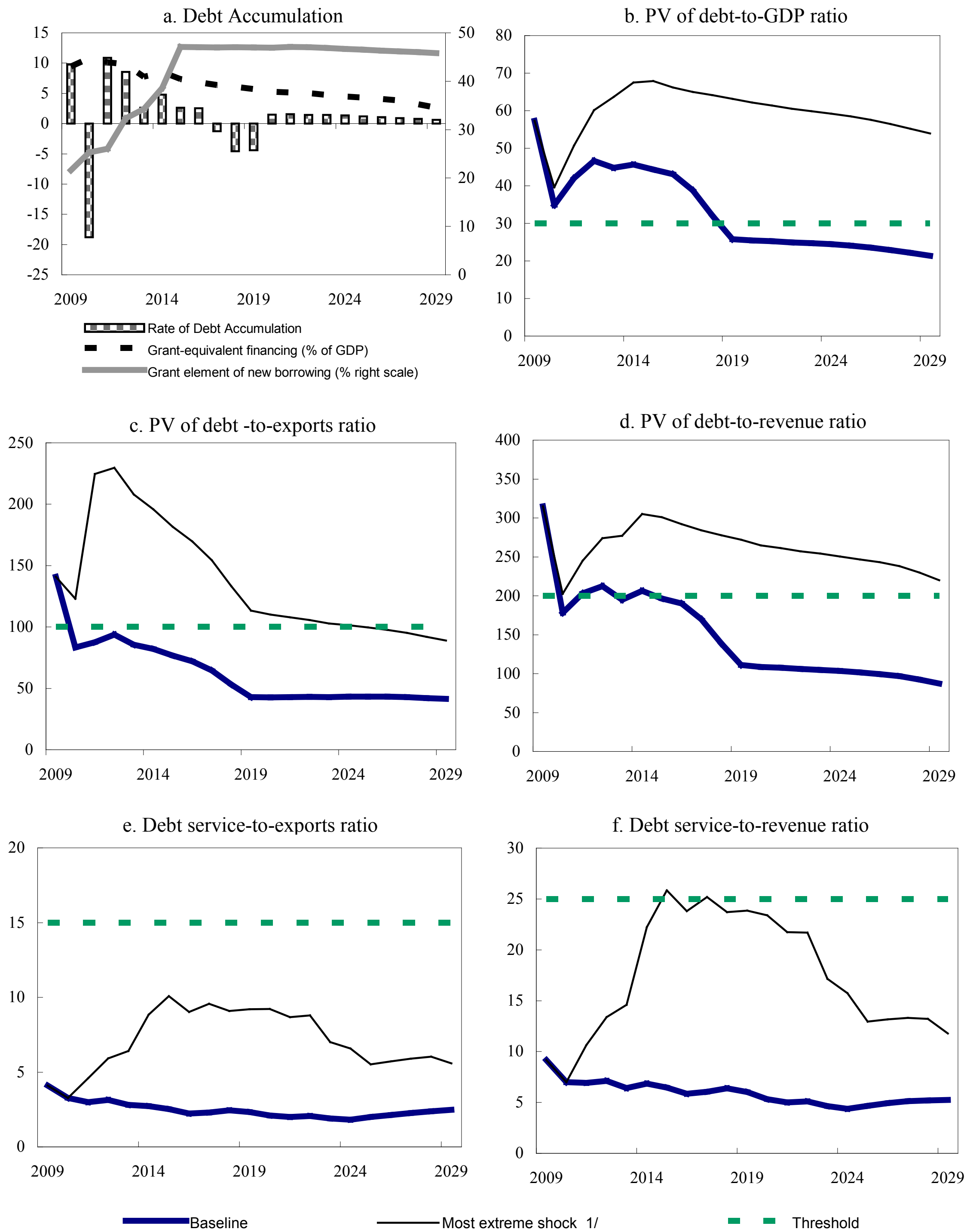
Figure 1. Democratic Republic of the Congo: Indicators of Public and Publicly Guaranteed External Debt without Debt Relief, 2009–29



Source: IMF staff projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2019, which is new public sector loans on less favorable terms in figures b, d and f and lower exports in figures c and e.

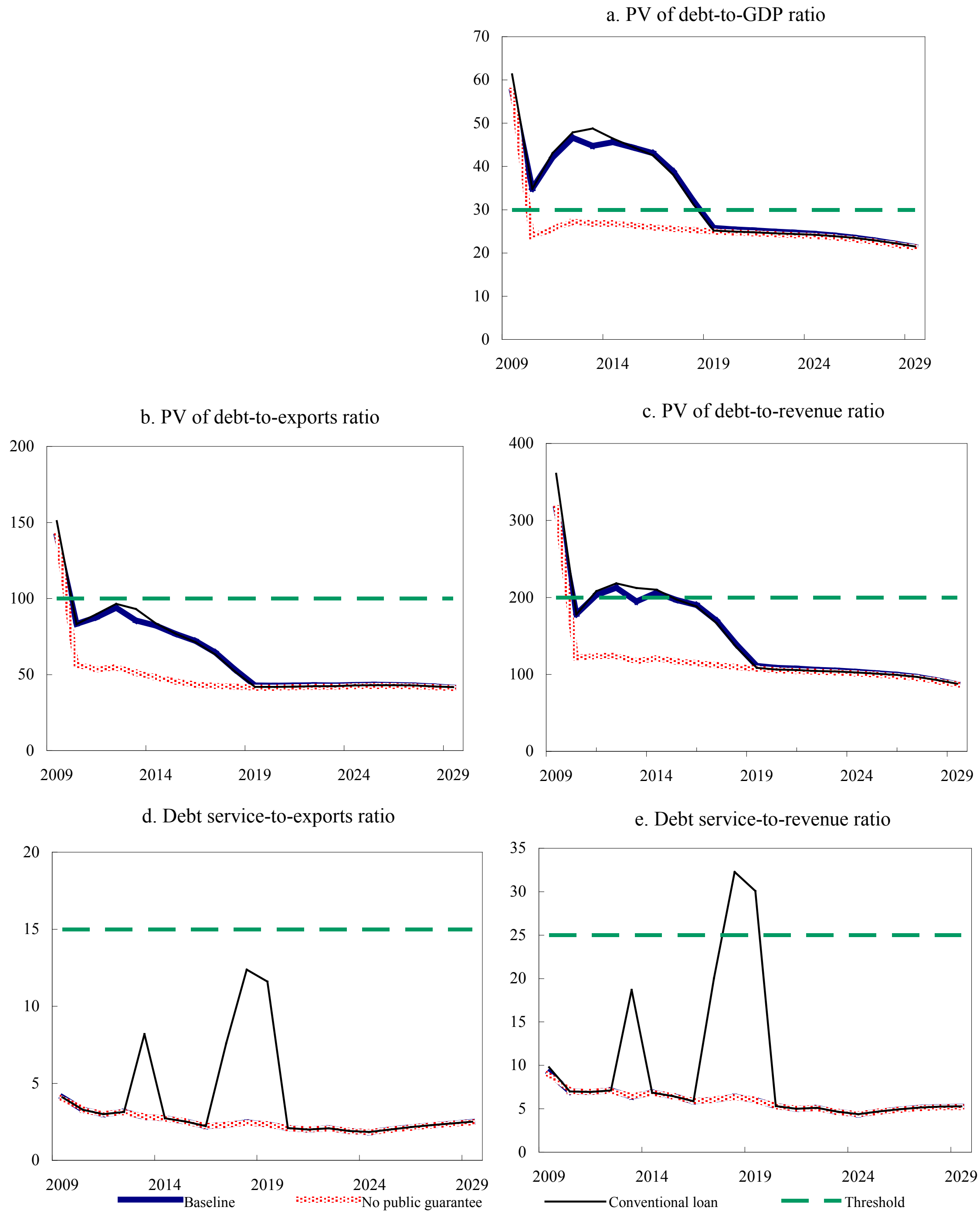
Figure 2. Democratic Republic of the Congo: Indicators of Public and Publicly Guaranteed External Debt - HIPC Completion Point Scenario, 2009–29



Source: IMF staff projections and simulations.

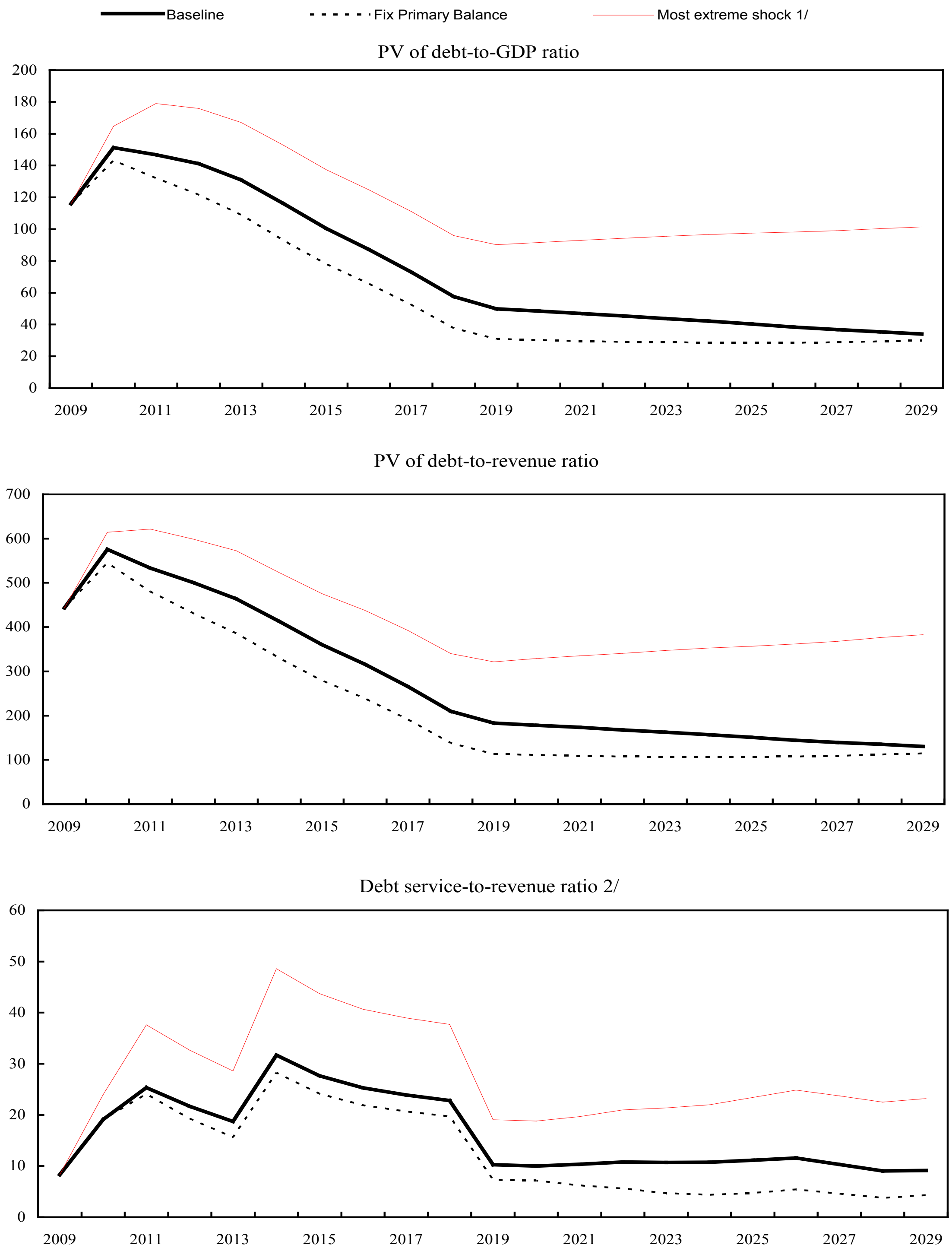
1/ The most extreme stress test is the test that yields the highest ratio in 2019, which is new public sector loans on less favorable terms in figures b to f.

Figure 3. Democratic Republic of the Congo: Indicators of Public and Publicly Guaranteed External Debt - HIPC Completion Point Scenario with Alternative Valuations of Public Guarantee, 2009–29



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

Figure 4. Democratic Republic of the Congo: Indicators of Public Debt without Debt Relief, 2009–29



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

1/ The most extreme stress test is the test that yields the highest ratio in 2019.
2/ Revenues are defined inclusive of grants.

Table 1. Democratic Republic of the Congo: External Debt Sustainability Framework, Baseline Scenario, 2008–29 1/
(In percent of GDP, unless otherwise indicated)

	Actual	Historical Average	Standard Deviation	Projections									
	2008			2009	2010	2011	2012	2013	2014	2009–14 Average	2019	2029	2015–29 Average
External debt (nominal) 1/	**128.4**			**138.7**	**154.2**	**165.8**	**170.2**	**164.7**	**157.5**		**77.7**	**54.0**	
o/w public and publicly guaranteed (PPG)	128.4			132.4	138.8	139.1	138.1	131.0	123.0		74.9	54.0	
Change in external debt	3.8			10.3	15.4	11.6	4.5	-5.6	-7.2		-12.8	-2.1	
Identified net debt-creating flows	-19.1			4.8	9.7	7.8	2.8	-2.6	-3.7		-6.0	2.3	
Non-interest current account deficit	**12.7**	**2.6**	**4.9**	**13.7**	**21.2**	**23.2**	**17.6**	**13.7**	**10.4**		**2.7**	**6.9**	5.6
Deficit in balance of goods and services	14.9			23.8	27.9	31.5	24.6	18.6	14.3		2.6	6.1	
Exports	61.6			40.6	41.8	48.0	49.7	52.4	55.6		60.2	51.7	
Imports	76.4			64.5	69.8	79.4	74.2	70.9	69.8		62.7	57.8	
Net current transfers (negative = inflow)	-10.6	-6.7	2.6	-13.9	-10.0	-9.5	-8.7	-7.1	-6.5		-5.1	-3.7	-4.7
o/w official	-8.8			-12.8	-9.4	-8.8	-8.0	-6.4	-5.7		-3.9	-2.2	
Other current account flows (negative = net inflow)	8.5			3.8	3.3	1.2	1.7	2.2	2.7		5.2	4.4	
Net FDI (negative = inflow)	**-14.8**	**-4.8**	**4.3**	**-5.7**	**-6.5**	**-8.4**	**-7.1**	**-6.1**	**-6.1**		**-5.7**	**-2.7**	-4.6
Endogenous debt dynamics 2/	**-17.0**			**-3.3**	**-5.0**	**-7.0**	**-7.6**	**-10.2**	**-8.0**		**-3.0**	**-1.8**	
Contribution from nominal interest rate	0.3			0.3	1.8	3.3	2.9	2.6	2.4		1.1	0.5	
Contribution from real GDP growth	-6.6			-3.6	-6.7	-10.2	-10.5	-12.8	-10.4		-4.1	-2.3	
Contribution from price and exchange rate changes	-10.7			…	…	…	…	…	…		…	…	
Residual (3-4) 3/	**22.9**			**5.6**	**5.7**	**3.8**	**1.6**	**-2.9**	**-3.4**		**-6.8**	**-4.4**	
o/w exceptional financing	-6.0			-7.3	-35.6	-4.3	-3.4	-2.7	2.0		-1.2	-0.4	
PV of external debt 4/	92.6			110.4	150.5	160.4	163.1	155.6	142.8		49.7	32.7	
In percent of exports	150.4			271.7	359.6	334.3	328.5	297.1	256.9		82.6	63.3	
PV of PPG external debt	**92.6**			**104.1**	**135.1**	**133.7**	**131.0**	**121.8**	**108.2**		**46.9**	**32.7**	
In percent of exports	**150.4**			**256.1**	**322.9**	**278.6**	**263.8**	**232.7**	**194.7**		**78.0**	**63.4**	
In percent of government revenues	**501.5**			**572.3**	**690.9**	**645.6**	**596.9**	**530.1**	**489.1**		**202.1**	**133.5**	
Debt service-to-exports ratio (in percent)	**3.6**			**4.1**	**11.3**	**13.5**	**11.4**	**12.8**	**19.4**		**12.4**	**4.6**	
PPG debt service-to-exports ratio (in percent)	**3.6**			**4.1**	**11.3**	**13.5**	**11.4**	**9.3**	**15.3**		**4.6**	**4.6**	
PPG debt service-to-revenue ratio (in percent)	**11.9**			**9.2**	**24.1**	**31.4**	**25.8**	**21.1**	**38.4**		**12.0**	**9.8**	
Total gross financing need (Billions of U.S. dollars)	0.0			1.1	2.4	2.8	2.3	2.3	2.6		1.1	3.2	
Non-interest current account deficit that stabilizes debt ratio	8.9			3.4	5.8	11.6	13.1	19.2	17.6		15.5	8.9	
Key macroeconomic assumptions													
Real GDP growth (in percent)	6.2	2.8	5.3	2.7	5.4	7.2	6.9	8.2	6.8	6.2	4.8	4.4	4.9
GDP deflator in US dollar terms (change in percent)	9.4	2.3	13.8	-7.3	4.8	1.5	1.5	1.6	1.6	0.6	2.2	2.2	2.1
Effective interest rate (percent) 5/	0.3	0.3	0.1	0.2	1.4	2.3	1.9	1.7	1.6	1.5	1.3	0.9	1.1
Growth of exports of G&S (US dollar terms, in percent)	8.7	22.0	31.7	-37.2	13.8	24.7	12.3	15.9	15.3	7.5	7.0	4.7	6.7
Growth of imports of G&S (US dollar terms, in percent)	28.8	25.2	31.8	-19.7	19.6	23.9	1.4	5.1	6.9	6.2	6.6	4.8	5.8
Grant element of new public sector borrowing (in percent)	...	...	...	21.6	28.4	27.5	32.6	34.2	37.6	30.3	42.9	41.2	42.5
Government revenues (excluding grants, in percent of GDP)	18.5			18.2	19.6	20.7	21.9	23.0	22.1		23.2	24.5	23.5
Aid flows (in Billions of US dollars) 6/	0.4			1.6	1.5	1.8	1.5	1.6	1.7		2.0	...	
o/w Grants	0.2			0.9	0.8	0.9	0.9	0.8	1.0		1.0	0.8	
o/w Concessional loans	0.1			0.8	0.7	0.9	0.6	0.7	0.7		1.0	...	
Grant-equivalent financing (in percent of GDP) 7/	...			9.4	20.5	11.1	10.6	8.5	9.1		6.3	3.1	5.5
Grant-equivalent financing (in percent of external financing) 7/	...			64.1	37.1	49.6	54.0	57.4	63.3		68.1	60.6	67.0
Memorandum items:													
Nominal GDP (Billions of US dollars)	11.6			11.0	12.2	13.3	14.4	15.8	17.2		25.1	48.3	
Nominal dollar GDP growth	16.1			-4.8	10.4	8.8	8.5	9.9	8.6	**6.9**	7.1	6.7	7.1
PV of PPG external debt (in Billions of US dollars)	10.7			11.5	16.5	17.7	18.8	19.3	18.6		11.8	15.8	
(PVt-PVt-1)/GDPt-1 (in percent)				**6.4**	**45.2**	**10.3**	**8.5**	2.9	-4.3	**11.5**	-3.8	0.9	-1.4

Source: IMF staff simulations.

1/ Includes both public and private sector external debt.
2/ Derived as [r - g - r(1+g)]/(1+g+r+gr) times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = growth rate of GDP deflator in U.S. dollar terms.
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/ Defined as grants, concessional loans, and debt relief.
7/ 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 2. Democratic Republic of the Congo: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2009–29
(In percent)

	Projections											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	**2019**	2029
PV of debt-to GDP ratio												
Baseline	104.1	135.1	133.7	131.0	121.8	108.2	94.4	82.1	68.7	54.0	**46.9**	32.7
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	104.1	129.0	119.2	111.0	99.8	83.6	72.6	64.9	54.7	40.8	**36.1**	3.5
A2. New public sector loans on less favorable terms in 2009-2029 2/	104.1	148.7	151.3	154.0	150.4	139.9	127.9	115.5	105.6	97.1	**94.8**	75.3
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	104.1	145.9	158.4	155.1	144.2	128.1	111.6	97.0	81.2	63.7	**55.3**	38.6
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	104.1	141.2	153.6	149.9	139.6	125.1	110.3	97.2	83.3	68.0	**60.2**	37.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	104.1	160.0	181.4	177.7	165.2	146.7	127.8	111.1	93.0	73.0	**63.3**	44.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	104.1	143.5	150.9	147.3	137.1	122.8	108.1	95.1	81.2	66.1	**58.2**	36.3
B5. Combination of B1-B4 using one-half standard deviation shocks	104.1	166.1	206.5	201.4	187.6	168.3	148.7	131.3	112.8	92.7	**82.2**	49.6
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	104.1	189.3	187.0	183.2	170.3	151.2	131.8	114.6	95.8	75.2	**65.3**	45.6
PV of debt-to-exports ratio												
Baseline	256.1	322.9	278.6	263.8	232.7	194.7	163.0	137.4	114.2	89.7	**78.0**	63.4
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	256.1	308.3	248.4	223.5	190.5	150.4	125.4	108.5	90.8	67.7	**60.0**	6.8
A2. New public sector loans on less favorable terms in 2009-2029 2/	256.1	355.4	315.5	310.1	287.2	251.7	221.0	193.2	175.3	161.3	**157.7**	145.7
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	256.1	322.8	278.3	263.4	232.2	194.2	162.5	136.8	113.6	89.2	**77.5**	63.0
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	256.1	424.9	556.8	525.0	463.6	391.3	331.5	282.9	240.5	196.5	**174.1**	124.6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	256.1	322.8	278.3	263.4	232.2	194.2	162.5	136.8	113.6	89.2	**77.5**	63.0
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	256.1	342.9	314.5	296.7	261.9	220.9	186.8	159.2	134.9	109.8	**96.8**	70.4
B5. Combination of B1-B4 using one-half standard deviation shocks	256.1	368.2	412.1	388.3	343.0	289.9	246.0	210.4	179.4	147.4	**130.7**	92.0
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	256.1	322.8	278.3	263.4	232.2	194.2	162.5	136.8	113.6	89.2	**77.5**	63.0
PV of debt-to-revenue ratio												
Baseline	572.3	690.9	645.6	596.9	530.1	489.1	418.0	362.2	300.4	233.9	**202.1**	133.5
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	572.3	659.6	575.7	505.8	434.0	377.6	321.6	286.2	238.8	176.4	**155.4**	14.3
A2. New public sector loans on less favorable terms in 2009-2029 2/	572.3	760.4	731.0	701.6	654.2	632.1	566.6	509.6	461.3	420.2	**408.4**	307.0
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	572.3	745.8	765.1	706.9	627.5	578.7	494.2	428.1	354.7	275.7	**238.0**	157.4
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	572.3	721.7	742.0	683.1	607.3	565.2	488.7	429.0	363.8	294.5	**259.3**	151.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	572.3	818.3	876.2	809.6	718.7	662.8	566.0	490.3	406.2	315.8	**272.6**	180.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	572.3	733.6	728.8	671.3	596.6	554.7	478.9	419.8	355.0	286.1	**250.8**	148.2
B5. Combination of B1-B4 using one-half standard deviation shocks	572.3	849.4	997.4	917.8	816.1	760.6	658.8	579.4	492.9	401.1	**353.7**	202.5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	572.3	967.7	903.5	834.9	741.1	683.4	583.7	505.6	418.8	325.6	**281.1**	185.8
Debt service-to-exports ratio												
Baseline	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	4.1	11.8	14.1	11.7	9.4	16.9	15.0	13.6	13.1	12.8	**4.3**	3.4
A2. New public sector loans on less favorable terms in 2009-2029 2/	4.1	11.3	17.7	16.6	15.1	20.6	21.5	18.9	17.4	17.8	**16.4**	8.8
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	4.1	14.2	24.0	21.2	17.4	27.7	24.1	21.2	19.8	18.8	**9.5**	10.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	4.1	11.3	13.9	12.1	9.9	15.8	13.8	12.1	11.3	10.8	**5.5**	5.6
B5. Combination of B1-B4 using one-half standard deviation shocks	4.1	12.1	17.5	15.6	12.7	20.2	17.6	15.4	14.4	13.7	**7.2**	7.5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	4.1	11.3	13.5	11.4	9.3	15.3	13.3	11.7	10.9	10.4	**4.6**	4.6
Debt service-to-revenue ratio												
Baseline	9.2	24.1	31.4	25.8	21.1	38.4	34.2	30.8	28.7	27.0	**12.0**	9.8
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2009-2029 1/	9.2	25.3	32.7	26.4	21.5	42.4	38.5	35.8	34.4	33.4	**11.2**	7.1
A2. New public sector loans on less favorable terms in 2009-2029 2/	9.2	24.1	40.9	37.5	34.5	51.7	55.0	49.9	45.7	46.3	**42.4**	18.5
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2010-2011	9.2	26.0	37.2	30.6	25.0	45.5	40.5	36.5	34.0	32.0	**14.2**	11.5
B2. Export value growth at historical average minus one standard deviation in 2010-2011 3/	9.2	24.1	31.9	27.6	22.8	40.0	35.6	32.1	29.9	28.2	**14.1**	12.1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2010-2011	9.2	28.6	42.6	35.0	28.7	52.1	46.4	41.8	38.9	36.7	**16.3**	13.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2010-2011 4/	9.2	24.1	32.2	27.4	22.5	39.7	35.4	31.9	29.7	28.0	**14.4**	11.8
B5. Combination of B1-B4 using one-half standard deviation shocks	9.2	27.8	42.4	36.8	30.3	52.9	47.1	42.5	39.6	37.3	**19.4**	16.4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2010 5/	9.2	33.8	43.9	36.1	29.6	53.8	47.8	43.1	40.1	37.8	**16.8**	13.6
Memorandum item:												
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	30	30	30	30	30	30	30	30	30	30	**30**	30

Source: IMF staff projections and simulations.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.
of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment
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 3. Democratic Republic of the Congo: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008–29
(In percent of GDP, unless otherwise indicated)

	Actual			Estimate	Projections								
	2008	Average	Standard Deviation	2009	2010	2011	2012	2013	2014	2009-14 Average	2019	2029	2015-29 Average
Public sector debt 1/	141.0			142.0	146.7	145.9	143.9	135.9	127.3		77.0	54.8	
o/w foreign-currency denominated	128.4			132.4	138.8	139.1	138.1	131.0	123.0		74.9	54.0	
Change in public sector debt	15.8			1.0	4.7	-0.8	-1.9	-8.0	-8.6		-7.9	-2.1	
Identified debt-creating flows	0.1			-6.9	4.1	-0.3	-1.6	-4.3	-3.8		-2.8	-2.7	
Primary deficit	-1.0	2.0	1.0	2.4	11.5	10.2	8.7	6.0	4.8	7.3	2.1	0.5	1.5
Revenue and grants	20.6			26.2	26.3	27.5	28.2	28.2	28.1		27.3	26.2	
of which: grants	2.1			8.0	6.7	6.8	6.2	5.2	5.9		4.0	1.7	
Primary (noninterest) expenditure	19.6			28.6	37.8	37.8	36.9	34.2	32.9		29.3	26.7	
Automatic debt dynamics	1.1			-9.3	-7.4	-10.5	-10.2	-10.3	-8.6		-4.8	-3.1	
Contribution from interest rate/growth differential	-9.0			-7.2	-7.5	-8.6	-8.8	-10.8	-8.7		-4.5	-3.0	
of which: contribution from average real interest rate	-1.8			-3.6	-0.2	1.3	0.6	0.2	0.0		-0.6	-0.6	
of which: contribution from real GDP growth	-7.3			-3.7	-7.2	-9.9	-9.4	-11.0	-8.7		-3.9	-2.4	
Contribution from real exchange rate depreciation	10.1			-2.1	0.1	-1.9	-1.4	0.5	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	
Privatization receipts (negative)	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	
Debt relief (HIPC and other)	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	
Residual, including asset changes	15.8			8.0	0.6	-0.6	-0.4	-3.7	-4.9		-5.1	0.5	
				52.9	40.5	32.8	26.5	21.7	19.6				
Other Sustainability Indicators				9.6	7.9	6.8	5.8	5.0	4.3				
PV of public sector debt	117.7			115.9	151.3	146.8	141.2	130.9	116.0		49.9	34.1	
o/w foreign-currency denominated	105.2			106.3	143.4	140.0	135.4	125.9	111.6		47.9	33.4	
o/w external	105.2			106.3	143.4	140.0	135.4	125.9	111.6		47.9	33.4	
PV of contingent liabilities (not included in public sector debt)	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	2.2			5.0	17.0	17.5	15.2	11.7	14.1		4.9	2.9	
PV of public sector debt-to-revenue and grants ratio (in percent)	572.4			443.1	575.7	533.3	500.9	464.1	413.2		183.0	130.3	
PV of public sector debt-to-revenue ratio (in percent)	637.5			637.5	773.4	709.1	643.5	569.7	524.1		214.9	139.1	
o/w external 3/	569.3			584.7	733.0	676.3	617.0	548.0	504.5		206.0	136.2	
Debt service-to-revenue and grants ratio (in percent) 4/	13.3			8.3	19.1	25.3	21.7	18.7	31.7		10.3	9.2	
Debt service-to-revenue ratio (in percent) 4/	14.8			12.0	25.7	33.7	27.8	23.0	40.2		12.0	9.8	
Primary deficit that stabilizes the debt-to-GDP ratio	-16.8			1.4	6.8	11.1	10.6	14.0	13.4		9.9	2.6	
				1.090	1.055	1.048	1.043	1.040	1.039		1.043	1.022	
Key macroeconomic and fiscal assumptions 5/													
Real GDP growth (in percent)	6.2	2.8	5.3	2.7	5.4	7.2	6.9	8.2	6.8	6.2	4.8	4.4	4.9
Average nominal interest rate on forex debt (in percent)	0.3	0.3	0.1	0.2	1.5	2.6	2.3	2.1	2.0	1.8	1.4	0.9	1.2
Real exchange rate depreciation (in percent, + indicates depreciation)	8.8	-3.1	25.6	...	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	19.4	51.5	113.1	29.1	14.0	13.0	10.0	8.7	8.5	13.9	6.5	6.3	6.6
Growth of real primary spending (deflated by GDP deflator, in percent)	0.4	0.2	0.4	0.5	0.4	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	...	...	...	21.6	28.4	27.5	32.6	34.2	37.6	30.3	42.9	41.2	...

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

1/ Gross general government debt.
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 4. Democratic Republic of the Congo: Sensitivity Analysis for Key Indicators of Public Debt 2009–29

	Projections							
	2009	2010	2011	2012	2013	2014	2019	2029
PV of Debt-to-GDP Ratio								
Baseline	115.9	151.3	146.8	141.2	130.9	116.0	49.9	34.1
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	115.9	145.4	138.4	130.8	121.5	105.0	25.9	9.4
A2. Primary balance is unchanged from 2009	115.9	143.2	132.1	121.6	109.0	92.7	30.9	30.0
A3. Permanently lower GDP growth 1/	115.9	153.1	150.6	147.1	138.8	125.5	67.5	91.2
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	115.9	164.7	179.0	175.9	167.1	152.6	90.1	101.5
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	115.9	143.7	133.1	128.2	118.4	103.9	39.6	26.1
B3. Combination of B1-B2 using one half standard deviation shocks	115.9	150.1	147.5	144.4	136.0	122.1	61.0	67.0
B4. One-time 30 percent real depreciation in 2010	115.9	219.0	208.5	197.8	183.7	163.3	81.3	62.2
B5. 10 percent of GDP increase in other debt-creating flows in 2010	115.9	160.2	155.3	149.4	138.7	123.5	56.4	39.1
PV of Debt-to-Revenue Ratio 2/								
Baseline	443.1	575.7	533.3	500.9	464.1	413.2	183.0	130.3
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	443.1	549.9	494.4	452.8	417.5	357.7	89.8	34.5
A2. Primary balance is unchanged from 2009	443.1	544.9	479.9	431.2	386.2	330.2	113.4	114.7
A3. Permanently lower GDP growth 1/	443.1	581.1	544.2	518.0	487.9	442.1	243.3	343.0
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	443.1	614.3	621.7	599.0	572.5	523.1	321.7	383.0
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	443.1	546.9	483.6	454.5	419.8	370.3	145.1	99.7
B3. Combination of B1-B2 using one half standard deviation shocks	443.1	563.7	519.6	498.4	471.3	423.7	219.8	253.9
B4. One-time 30 percent real depreciation in 2010	443.1	833.3	757.7	701.6	651.0	581.7	298.2	237.5
B5. 10 percent of GDP increase in other debt-creating flows in 2010	443.1	609.5	564.2	529.8	491.7	440.0	206.7	149.3
Debt Service-to-Revenue Ratio 2/								
Baseline	8.3	19.1	25.3	21.7	18.7	31.7	10.3	9.2
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	8.3	19.5	25.1	20.4	17.0	31.9	7.3	-2.6
A2. Primary balance is unchanged from 2009	8.3	19.1	24.1	19.2	15.6	28.3	7.3	4.3
A3. Permanently lower GDP growth 1/	8.3	19.3	25.8	22.3	19.6	33.4	12.8	20.4
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2010-2011	8.3	20.2	28.9	25.4	22.7	38.0	16.1	25.5
B2. Primary balance is at historical average minus one standard deviations in 2010-2011	8.3	19.1	24.1	19.4	16.6	29.8	8.7	5.7
B3. Combination of B1-B2 using one half standard deviation shocks	8.3	19.8	26.2	20.9	18.3	33.2	11.8	14.9
B4. One-time 30 percent real depreciation in 2010	8.3	24.0	37.6	32.6	28.6	48.6	19.1	23.2
B5. 10 percent of GDP increase in other debt-creating flows in 2010	8.3	19.1	26.7	23.2	19.9	32.9	11.2	11.3
Debt Service-to-GDP Ratio								
Baseline	2.2	5.0	7.0	6.1	5.3	8.9	2.8	2.4
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	2.2	5.1	7.0	5.9	5.0	9.4	2.1	-0.7
A2. Primary balance is unchanged from 2006	2.2	5.0	6.6	5.4	4.4	7.9	2.0	1.1
A3. Permanently lower GDP growth 1/	2.2	5.1	7.1	6.3	5.6	9.5	3.5	5.4
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2008-2009	2.2	5.4	8.3	7.5	6.6	11.1	4.5	6.7
B2. Primary balance is at historical average minus one standard deviations in 2008-2009	2.2	5.0	6.6	5.5	4.7	8.4	2.4	1.5
B3. Combination of B1-B2 using one half standard deviation shocks	2.2	5.3	7.4	6.0	5.3	9.6	3.3	3.9
B4. One-time 30 percent real depreciation in 2008	2.2	6.3	10.4	9.2	8.1	13.6	5.2	6.1
B5. 10 percent of GDP increase in other debt-creating flows in 2008	2.2	5.0	7.4	6.5	5.6	9.2	3.1	3.0

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

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