

INTERNATIONAL MONETARY FUND AND
INTERNATIONAL DEVELOPMENT ASSOCIATION

CAMEROON

Joint Fund-Bank Debt Sustainability Analysis¹

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the International Development Association

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While Cameroon's risk of debt distress remains low, there are indications of vulnerability to external shocks. This joint IMF-World Bank low-income country debt sustainability analysis (LIC-DSA) follows up on the LIC-DSA prepared in 2010 and integrates the authorities' intentions to increase temporarily infrastructure investment through external borrowing, part of which is to be on nonconcessional terms. Total public debt indicators remain at comfortable levels, and all external debt ratios remain well below the policy-dependent indicative thresholds under the baseline scenario, as well as under three of the four stress tests. A breach in the threshold occurs in the case of an extreme export shock. In addition, there has been a fast pace of accumulation of nonconcessional borrowing commitments since early 2010. These new signs of debt vulnerability call for a cautious approach to nonconcessional borrowing, and stress the importance of strengthening debt management, enhancing nonoil revenue mobilization, and widening the export base in light of the anticipated long-run decline of oil revenues.

I. BACKGROUND

1. **This report follows up the debt sustainability analysis (DSA) prepared in 2010 (IMF Country Report No. 10/259).** The underlying macroeconomic framework reflects the latest IMF Article IV discussions with the authorities (March 2011). Since the 2010 DSA,

¹ Prepared by IMF and World Bank staffs in collaboration with the Cameroonian authorities. Debt data, sustainability issues, and the new debt limit policy were discussed with the authorities in the course of the 2011 Article IV consultation. This DSA follows the IMF and World Bank Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries, January 22, 2010 (available at <http://www.imf.org/external/pp/longres.aspx?id=4419> and <http://go.worldbank.org/JBKAT4BH40>). The analysis revises the 2010 DSA (IMF Country Report for Cameroon 10/259, available at <http://www.imf.org/external/pubs/cat/longres.aspx?sk=24126.0>). This DSA is conservatively undertaken on gross (as opposed to net) basis as no data on Cameroon's claims are available.

Cameroon has been slowly recovering from the adverse effects of the global crisis. After declining in 2009, due to the drop in commodity prices and volumes, Cameroonian exports rebounded in 2010. The recovery of nonoil sectors contributed to the increase in the real GDP growth to 3.2 percent in 2010, from 2 percent in 2009.

2. **The DSA is based on end-2010 data provided by the Cameroonian authorities.** The debt data currently cover central government external debt and an estimate of domestic debt. Despite efforts to improve debt statistics, the coverage of liabilities of public enterprises and municipalities, contingent liabilities of financial institutions, and government obligations to parastatal entities remains uneven.²

Text Table 1. Cameroon: Stock of Public Debt, 2005-10

	In billions of CFAF				In percent of total				In percent of GDP			
	2005	2008	2009	2010	2005	2008	2009	2010	2005	2008	2009	2010
Total	4,534.4	1,014.6	1,115.2	1,346.4	100.0	100.0	100.0	100.0	51.8	9.5	10.6	12.1
External	3,293.5	577.8	575.1	723.0	72.6	56.9	51.6	53.7	37.6	5.4	5.5	6.5
Domestic	1,240.9	436.9	540.1	623.4	27.4	43.1	48.4	46.3	14.2	4.1	5.2	5.6

Sources: Cameroonian authorities; and Bank-Fund staffs estimates.

3. **Cameroon's debt situation has improved in the last five years.** The public debt-to-GDP ratio declined from about 52 percent in 2005 to 10 percent in 2008, thanks to HIPC and MDRI relief in 2006 and prudent borrowing policies since then (Text Table 1). In recent years, the maintenance of low levels of external debt reflects (i) a reduction in external borrowing by public enterprises; (ii) the settlement of most outstanding debt to commercial creditors; and (iii) limited disbursements from commitments owing to low execution rates of public investment.

4. **The authorities' medium-term strategy includes stepping up public investment.** Limited infrastructure is perceived as a major bottleneck to achieving the faster economic growth rates needed to reduce poverty sustainably. Infrastructure spending, especially in transportation and power generation, can play a critical role in stimulating sectors vital to growth in Cameroon.³ Financing for the additional public spending is expected to come from

² A few Cameroonian banks are currently in weak financial condition. Recapitalization needs have been estimated at CFAF 60 billion (0.5 percent of GDP) for one distressed bank and are still uncertain in the case of two weak smaller banks. The authorities are in the process of recovering nonperforming loans and attracting private investors to the weak banks in order to minimize the government's contribution to the banks' recapitalization. Staff has included a tentative government contribution of 0.2 percent of GDP in the fiscal projections for 2011 and factored it into the DSA.

³ Calderon (2009) suggests for instance that annual real GDP growth in Cameroon could increase by 4 ½ percentage points if the level of its infrastructure were to be upgraded to that of Mauritius (the country having the best infrastructure in sub-Saharan Africa). See Calderón, C. 2009, "Infrastructure and Growth in Africa," Policy Research Working Paper 4914, World Bank, Washington, D.C.

a combination of domestic and external borrowings. While the authorities will continue to seek concessional borrowing, these resources will be insufficient and authorities will be under pressure to turn to nonconcessional sources of financing.

5. **The debt stock has been on an upward trend since 2008.** The rise in external debt has been generated by some increase in external borrowing by the central government and public enterprises. Domestic debt has been boosted by the outcome of the audits completed in 2009 and 2010, and by the issuance of a CFAF 200 billion government bond, of which CFAF 158 billion were subscribed by residents (Figure 1).⁴

6. **Debt indicators are nevertheless lower than projected in the 2010 DSA.** The ratio of total public debt to GDP at end-2010 (12 percent) was lower than envisaged in the 2010 DSA (13.4 percent). The lower ratio is explained by higher-than-projected nominal GDP, and lower than previously anticipated level of new domestic and external borrowing (Text Table 2). The lower new borrowing is mostly due to the fact that the previously projected financing gap was not met with new loans, but was resolved by a compression of public investment spending and by the accumulation of payment obligations, notably to the oil refinery SONARA.

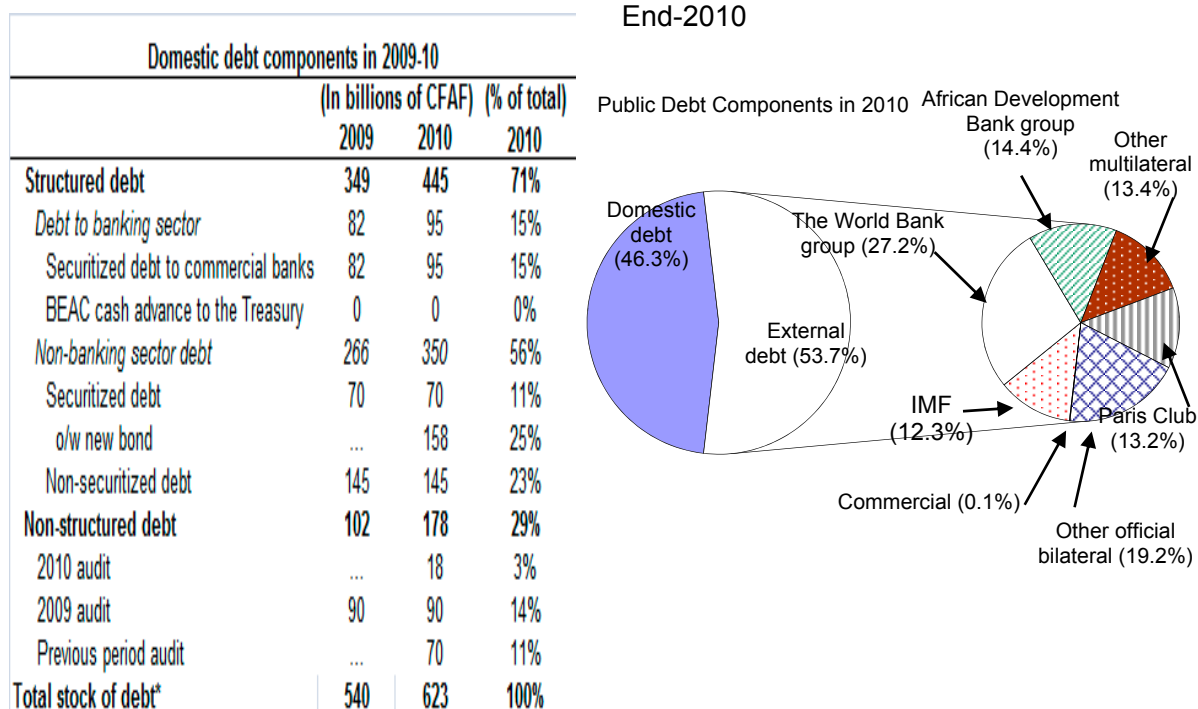
Text Table 2. Public Debt Data, 2009-10 (In billions of CFAF)

DSA 2011	2009	2010
Total public debt	1,115	1,346
<i>In percent of GDP</i>	11	12
Stock external	575	723
<i>Of which: new external borrowing</i>	...	119
Stock domestic	540	623
<i>Of which: new domestic borrowing</i>	...	158
GDP	10,474	11,134
DSA 2010	2009	2010
Total public debt	1,010	1,490
<i>In percent of GDP</i>	9.6	13.4
Stock external	511	733
<i>Of which: new external borrowing</i>	...	233
Stock domestic	498	757
<i>Of which: new domestic borrowing</i>	...	304
GDP	10,474	11,091

Sources: Cameroonian authorities; and Bank-Fund staffs estimates.

⁴ Domestic debt does not include unsettled payment obligations (notably to the oil refinery). These are in fact not recognized as part of domestic debt by the authorities and would increase its level by 3.6 percent of GDP.

Figure 1. Cameroon: Public- and Publicly-Guaranteed Debt Structure, End-2010



Sources: Cameroonian authorities; and Bank-Fund staffs estimates.

7. **The composition of external public debt is skewed toward multilateral debt.** Following HIPC/MDRI debt relief in 2006, the share of bilateral debt became predominant.⁵ However, reflecting the impact of the crisis, the share of multilateral lenders has increased more recently with the provision of Fund assistance under the RAC-ESF facility in 2009 and increased disbursements from IDA and the AfDB in 2010 (Figure 1).⁶

II. THE DSA BASELINE SCENARIO

8. **Relative to the 2010 DSA, the baseline macroeconomic framework incorporates a gradual recovery from the crisis, more optimistic assumptions on the oil price, and higher external nonconcessional borrowing.** Medium-term projections of real GDP growth, fiscal revenue, and exports have been revised upward, on account of an expected

⁵ The share of bilateral debt dropped from 53 percent of the total in 2006 to 32.4 percent in 2010.

⁶ IDA and AfDB disbursements increased by about CFAF 46 billion and CFAF 32 billion in 2010, relative to 2009.

pick up in oil production. Long-term projections, however, are broadly unchanged (Text Table 3).⁷

9. **Overall outstanding debt is projected to be lower than in the previous DSA for the medium term, while higher in the long term.** A lower level of debt in the medium term reflects that, in contrast to the 2010 DSA, no financing gap is assumed for 2012–16; conversely, higher debt in the longer term is associated with a gradual increase of new external borrowing (including on nonconcessional terms) to help finance infrastructure investments, in line with the authorities' stated intentions. The authorities have developed a list of priority high-return infrastructure projects in key sectors. Growth-enhancing investment projects are also expected to be partly financed through foreign direct investment and other private capital flows financing public-private partnerships (PPPs).

Text Table 3. Cameroon: Key Macroeconomic Assumptions, 2010–31 (DSA 2011 vs. DSA 2010)¹

	2010-11	2012-16	2017-31
Real GDP growth (percent)			
DSA 2011	3.5	4.6	4.6
DSA 2010	2.7	4.4	4.6
Total revenue (percent of GDP) ²			
DSA 2011	17.1	18.6	16.2
DSA 2010	16.8	18.5	16.4
Exports of goods and services (percent of GDP)			
DSA 2011	26.5	29.1	24.0
DSA 2010	25.6	28.3	24.0
Oil price (U.S. dollars per barrel) ³			
DSA 2011	89.5	88.6	78.9
DSA 2010	68.9	74.2	75.3

Sources: Cameroonian authorities; and Bank-Fund staffs estimates.

¹ The 2010 DSA covers the period 2010-30.

² Total revenue, including grants.

³ WEO assumptions for 2011-16 and the 2007-16 average price for the period 2017-31, excluding a discount of US\$4 for 2011, US\$6 for 2012 and US\$10 for 2013-31 for the uncertainty on price projections (prudence factor) and US\$3 for the quality of Cameroon's oil.

10. **Projections of new external borrowing take into account outstanding commitments at the end of 2010 and new external commitments already signed and expected to be signed during 2011–12.**⁸ Based on information received from the authorities on new external commitments signed and under negotiation, staffs project new external

⁷ The temporary increase in oil production is projected by the National Hydrocarbon Company (SNH), reflecting the coming on-stream of ongoing investments, after successful exploration during the last three years.

⁸ During January 2010–April 2011, the authorities contracted 30 borrowing agreements, equivalent to almost 6 percent of 2010 GDP. At least 15 of these new loans were nonconcessional, with an average grant element of 21.3 percent. Future nonconcessional borrowings are assumed to have an average grant element of 20 percent.

commitments to reach CFAF 855 billion in 2011 (7 percent of GDP) and CFAF 994 billion (7.7 percent of GDP) in 2012 (Text Table 4). These commitments will be mostly aimed at alleviating infrastructure bottlenecks in energy, roads, ports, and water supply. Detailed information provided by the authorities indicates that 78 percent and 75 percent of the new commitments in 2011 and 2012, respectively, would be nonconcessional.⁹ Staffs assume that new borrowing commitments after 2012 will decline gradually to 3 percent of GDP by 2016. Concerning disbursements from outstanding commitments, a rate of 15 percent has been assumed for 2011, based on the average of previous years' ratios. For 2012–16, the disbursement rate is projected to be equal to 10 percent in light of the volume of contracts that are at stake, which may challenge absorption capacity, and of the projects involved, which have a long-term realization horizon. Taking into account the composition of outstanding and projected stocks of external commitments, the share of nonconcessional disbursements is projected to increase gradually from 20 percent in 2011 to 60 percent in 2014, and 80 percent in 2031 (Text Table 5).

Text Table 4. Projected External Commitments (In billions of CFAF)

	2010	2011		2012	2013	2014	2015	2016
		Jan-Apr	Jan-Dec						Proj.
Outstanding commitments at end 2010	757.6							
New external commitments	339	334	855	994	623	595	552	505
<i>In percent of GDP</i>	3.0%	2.8%	7.1%	7.7%	4.5%	4.0%	3.5%	3.0%
<i>Concessional (as % of total)</i>	61%	15%	22%	25%	30%	30%	30%	30%
<i>Concessional (as % of GDP)</i>	1.9%	0.4%	1.6%	1.9%	1.3%	1.2%	1.1%	0.9%
<i>Non-concessional (as % of total)</i>	39%	86%	78%	75%	70%	70%	70%	70%
<i>Non-concessional (as % of GDP)</i>	1.2%	2.4%	5.5%	5.8%	3.1%	2.8%	2.5%	2.1%

Sources : Cameroonian authorities (for outstanding commitments at end-2010 and end-April 2011); and Bank-Fund staffs estimates.

Text Table 5. New External Disbursements (in billions of CFAF)

	2011	2012	2013	2014	2015	2011-15	2016-31
New external disbursements, 2011 DSA	143	172	245	282	319	232	401
<i>In percent of GDP</i>	1.2%	1.3%	1.8%	1.9%	2.0%	1.7%	1.6%
Concessional	115	103	122	113	96	110	100
<i>In percent of total</i>	80%	60%	50%	40%	30%	52%	25%
Nonconcessional	29	69	122	169	223	122	302
<i>In percent of total</i>	20%	40%	50%	60%	70%	48%	75%
New external disbursements, 2010 DSA	293	299	266	273	300	286	398
<i>in percent of GDP</i>	2.5%	2.4%	2.0%	1.9%	1.9%	2.1%	1.5%
Concessional	238	244	210	205	217	223	272
<i>In percent of total</i>	81%	81%	79%	75%	72%	78%	68%
Nonconcessional	55	56	56	68	83	63	129
<i>In percent of total</i>	19%	19%	21%	25%	28%	22%	32%

Sources: Cameroonian authorities; and Bank-Fund staffs estimates.

⁹ Total nonconcessional new borrowing commitments in 2011-12 are projected at CFAF 1,406 billion. This DSA will provide input to World Bank staff in order for them to establish ceilings for nonconcessional borrowing (NCB) in 2011 and 2012, under the IDA's nonconcessional borrowing policies.

Box 1. Macroeconomic Assumptions for the Baseline Scenario¹

Higher projected oil prices and the expected rebound in nonoil exports have led to an upward revision of real GDP growth for 2011 to 3.8 percent. Growth is expected to increase gradually to 5 percent by 2014 on assumptions of a temporary rebound in oil output in the near-term and increased capital spending. Longer-term growth is expected to average 4.6 percent for 2016–31, as in the 2010 DSA, and would be driven by the expansion in nonoil sectors. Average consumer price-based inflation is expected to stabilize at about 2.5 percent over the medium-term, in line with recent historical trend and CEMAC convergence criteria.

Government revenues are projected to reflect the volatility of oil revenues, which are expected to pick up from 4.5 percent of GDP in 2010 to 6 percent of GDP in 2014 and to steadily decline to about 0.4 percent of GDP by the end of the projection period. Nonoil revenues are projected to rise from about 12.3 percent of nonoil GDP in 2010 to almost 16 percent by 2031, reflecting sustained implementation of measures to strengthen tax and custom administrations. The nonoil primary deficit is projected to stay in the range of 5 percent to 6 percent of nonoil GDP in 2011–16 and to gradually decline, reaching almost zero towards the end of the projected period. Net of public investment spending, the nonoil primary balance would improve from a deficit of 3.4 percent of nonoil GDP in 2010, turning into a surplus in 2021 and reaching 3 percent in 2031. This path is consistent with an expected higher control of current spending, increasing allocations for public infrastructure, and improvements in public financial management, including improving expenditure execution in priority areas.

The external current account deficit, including grants, is projected to remain in the range of 2-4 percent of GDP. The volume growth of nonoil exports is projected, as in the previous DSA, to increase from 4.6 percent in 2011 to an average of more than 9 percent for the rest of the period. The growth in import volume is projected to reflect the acceleration of real GDP growth in 2011-14, and also takes into account the increase in imports of equipment and intermediate goods for the implementation of infrastructure projects. The current account deficit is expected to be financed through foreign direct investment, external public borrowing, and other private capital inflows.

¹ The baseline scenario uses the latest IMF *World Economic Outlook* assumptions (May 2011).

III. EXTERNAL DEBT SUSTAINABILITY

Baseline Scenario

11. **The LIC debt sustainability framework is guided by country-specific indicative debt burden thresholds for external debt, based on the strength of a country's policies and institutions.** These thresholds reflect the empirical findings that sustainable debt levels for a low-income country increase with the quality of its policies and institutions. Such quality is measured by the Country Policy and Institutional Assessment (CPIA) index, compiled annually by the World Bank. Based on its three-year moving average CPIA score, despite being at the SSA average and above the CEMAC average, Cameroon ranks as a

‘weak performer’ under the joint IMF/World Bank debt sustainability framework (Text Table 6).¹⁰ The indicative external debt burden thresholds for countries in this category are a present value (PV) of debt-to-exports ratio of 100 percent, a PV of debt-to-revenue ratio of 200 percent, a PV of debt-to-GDP ratio of 30 percent, and debt service-to-exports and revenues ratios of 15 percent and 25 percent, respectively.¹¹

Text Table 6. Country Policy and Institutional Assessment Ratings, 2006-09

	2006	2007	2008	2009
Cameroon	3.22	3.23	3.21	3.21
CEMAC ¹	2.78	2.74	2.74	2.79
SSA ¹	3.15	3.17	3.15	3.17

¹ Poverty Reduction and Growth Trust (PRGT) eligible countries.

Sources: World Bank-World Development Indicators.

12. The DSA calculations indicate that Cameroon’s external debt is sustainable.

Under the baseline scenario, all debt indicators remain below their thresholds over the projection horizon (Text Table 7 and Figure 2).¹² The gradual rise in the PV of debt-to-exports ratio reflects the assumption that Cameroon will continue to borrow to finance infrastructure, and will also have gradually less access to new borrowing on concessional terms. Figure 2 also shows that debt-service ratios would increase after 2020 but that the debt situation would remain manageable.

¹⁰ The CPIA rating ranges from 1 (weak performer) to 6 (strong performer). Based on a three-year average of the CPIA rating, an average score at or above 3.75 corresponds to strong performance; an average score higher than 3.25 and less than 3.75 reflects medium performance; and an average score at or below 3.25 corresponds to poor policy performance. Cameroon's CPIA rating declined from 3.3 in 2005 to 3.2 in 2006, a rating corresponding to weak performance, and has remained at that level for the last three years. The downgrade was the result of deterioration in the following areas: business regulatory environment, policies and institutions for environmental sustainability, structural policy cluster, and efficiency of revenue mobilization.

¹¹ The 2011 LIC-DSA template gives the option to add remittances to exports of goods and services and show the present value of external debt to the total of exports of goods and services and remittances, with a threshold of 90 percent. Since for Cameroon the amount of remittances is far below the required 10 percent of GDP (it was estimated at 0.04 percent of GDP during 2007–09), the threshold of PV of external debt to exports of 100 is retained.

¹² The discount rate has been maintained at 4 percent, consistent with the latest LIC-DSA template.

Text Table 7. Cameroon: Baseline Debt Ratios, 2011–31

	Thres- hold	2011	Medium term 2012–15	Long run 2016–31
		External		
PV of debt-to GDP	30	5.2	7.2	12.4
PV of debt-to-exports	100	19.8	25.2	51.6
PV of debt-to-revenue	200	29.9	38.6	76.0
Debt service-to-exports	15	1.0	1.1	3.0
Debt service-to-revenue	25	1.5	1.7	4.3
Public				
PV of debt-to-GDP		13.1	13.0	13.9
PV of debt-to-revenue		72.1	68.4	98.0
Debt service-to-revenue		6.4	8.7	9.7

Sources: Bank-Fund staffs estimates.

Alternative Scenario and Stress Tests

13. **Alternative scenarios and bound tests show that debt indicators remain below their thresholds over the projection horizon, except for the large export shock scenario.** The historical scenario, which is associated with past current account surpluses, is unlikely to occur, as oil production is expected to taper off in the next 20 years. This scenario shows a more optimistic debt ratio trajectory relative to the baseline. Thus, in terms of the risk assessment, the historical scenario is not relevant and will not be considered in this analysis, as in the 2010 DSA.

14. **The alternative low-growth scenario indicates that Cameroon’s external debt dynamics is sensitive to the assumption on real GDP growth.** An alternative downside scenario assuming a growth rate of 2 percentage points below the baseline is considered for all the projection period (A3 in Table 2a). On a technical level, this scenario could reflect a situation in which the additional infrastructure investment does not produce any substantial impact on growth. This alternative scenario results in a PV of debt-to-GDP ratio of 17 percent by 2031, which is higher than the baseline scenario and highlights the need for institutions to support a sound debt management strategy and create conditions for strong returns on infrastructure investment.

15. **An export shock would be a source of increased debt vulnerability, resulting in a small and temporary breach of the threshold.** The export stress test suggested in the DSA template (exports growth in US\$ terms in 2012–13 at 1 standard deviation below the 10-year historical average) could be associated with a large drop in oil price or in external demand in the nonoil exports coming from a new global crisis. The stress test assumes a

drop of 6.7 percent in the value of exports in both 2012 and 2013 and a return to the growth rates assumed in the baseline scenario thereafter.¹³ Although the drop is less than in the previous DSA, the magnitude of the shock is much larger than before because of the stronger export performance projected in the baseline for 2012–13. Hence, the amount of new borrowing required to compensate for the effects of the shock is higher than in the 2010 DSA, leading to a breach in the threshold of less than 5 percent over 2020–25 (Figure 2).

IV. PUBLIC SECTOR DEBT SUSTAINABILITY

16. **The DSA baseline shows that public debt sustainability will continue to be preserved.** It is assumed that new domestic debt will be generated only by issuance of government securities and bank financing of half of the projected financing gap in 2011. New government securities issuance in the domestic market started in 2010 (consistent with authorities' plans), and amounted to CFAF 200 billion (1.7 percent of GDP), of which CFAF 158 billion were subscribed by non-residents. New bond issuances are projected to amount to up to CFAF 100 billion each year during 2012–14.¹⁴ In the baseline scenario, the public debt ratio rises gradually in the medium term to 17.8 percent of GDP by 2021, driven by both new domestic and external borrowings. The level of public debt would then gradually decline to near 14 percent in 2031. The PV of debt-to-GDP and of debt-to-revenue ratios are expected to rise until 2023 and start declining thereafter (Figure 3 and Table 1a).

17. **Alternative scenarios and bound tests indicate that all debt sustainability indicators remain broadly on stable paths and do not reveal particular vulnerabilities** (Table 2a). However, the bound test stressing growth at one standard deviation below its historical average shows the most sensitive debt dynamics relative to the baseline. Also, in the scenario of an unchanged primary balance from 2011, the PV of debt and the debt-service-to-revenue ratios deviate substantially from the baseline providing support for the envisaged fiscal adjustment over the medium term.

18. **Cameroon continues to strengthen its debt management framework, though more efforts are required going forward.** Following joint Bank-Fund technical assistance, the authorities are working to implement a new debt management strategy aligned with CEMAC guidelines. Since 2009, a quarterly report is published on the country's debt situation. The authorities have started producing a DSA and have formulated a medium-term debt management strategy for central government debt, which has been annexed to the 2011

¹³ The 2010 DSA had a drop of 8.2 percent, corresponding to the average growth rate of exports in 2000-09 minus 1 standard deviation below the 10 year historical average.

¹⁴ A new issuance of bonds for CFAF 150 billion and of Treasury bills for CFAF 50 billion has been budgeted for 2011. The macroeconomic framework underlying the DSA retained one-third of the amount for the bond issuance as prospects for issuing the total are still uncertain.

budget law. The National Debt Committee instituted in 2008 is now in place, although not yet operational. The last partial audit of domestic arrears was conducted in 2010. The authorities are also working on a reform plan that would strengthen the country's debt management capacity by improving the information system, cash management, and human resources. As next steps, the government would need to ensure that the mandate given the National Debt Committee, and the reform plan, are effectively implemented.

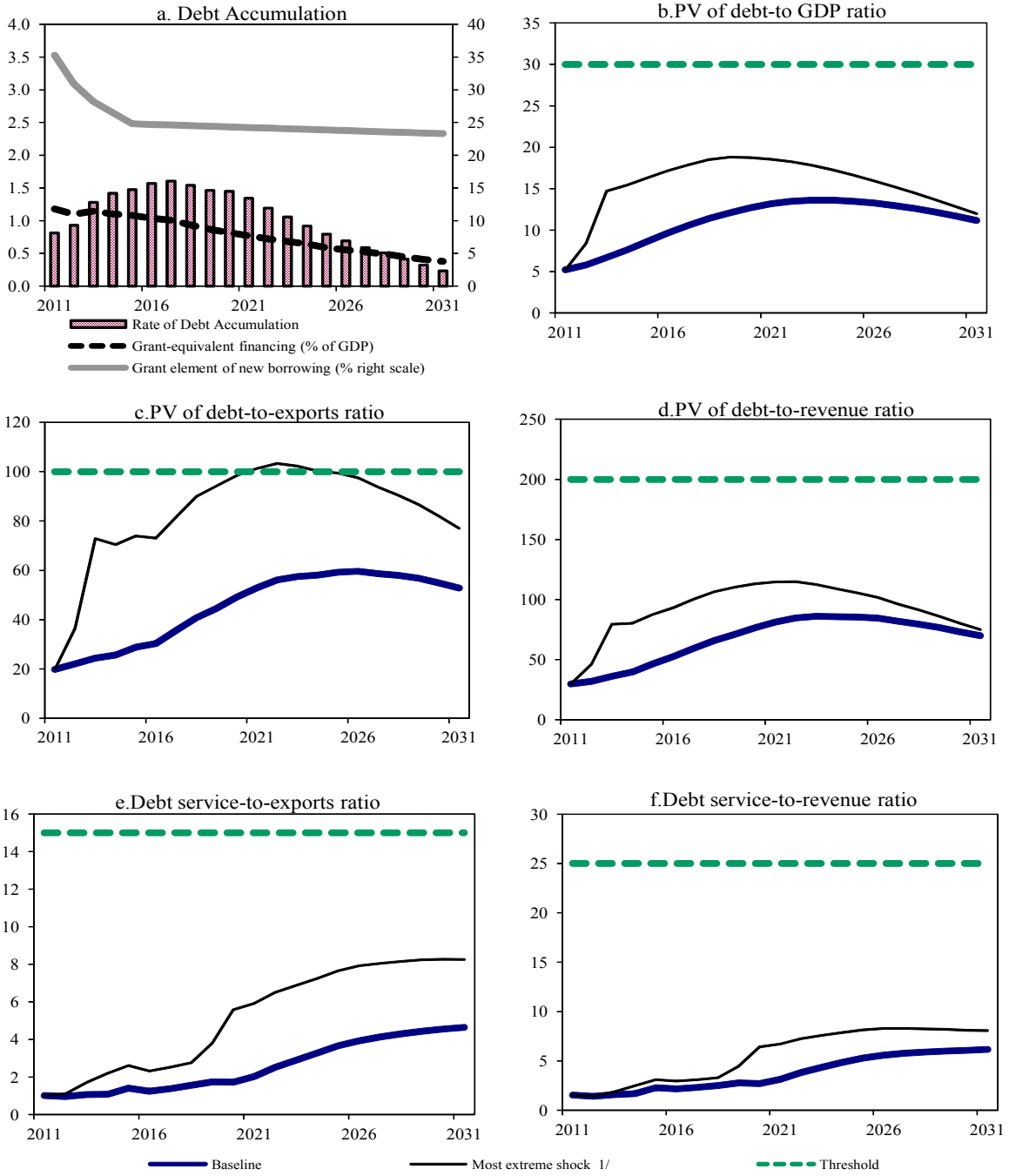
V. CONCLUSION

19. **Cameroon's risk of debt distress remains low, but there are signs of some greater vulnerability, compared to the 2010 DSA.** All debt ratios remain below the policy-dependent thresholds in the baseline. However, ongoing and projected new domestic and external borrowings will push debt indicators to levels higher than in the 2010 DSA. Debt indicators rise under alternative scenarios and bound tests; and in the extreme case of an export shock, external debt indicators slightly breach the country-specific debt burden threshold during 2020–25. In all other cases, debt indicators remain at a comfortable level. Moreover, while some uncertainty exists regarding the amounts and the terms, the quite rapid pace of accumulation of nonconcessional borrowing commitments in 2010–11 is a source of concern, as is the large stock of unsettled payment obligations. The associated risk needs to be managed carefully, including through an annual DSA exercise.

20. **The authorities broadly shared the risk assessment, while pointing to the scarcity of concessional financing available to realize the projects which are aimed at removing key infrastructure deficiencies.** The authorities see the current debt vulnerability level as providing some space for a reasonable increase in debt-financed investment and they are cognizant of the need to finance infrastructure projects with concessional financing to the extent possible. Thus, they envisage moderate use of nonconcessional borrowing for projects where concessional financing may not be available.

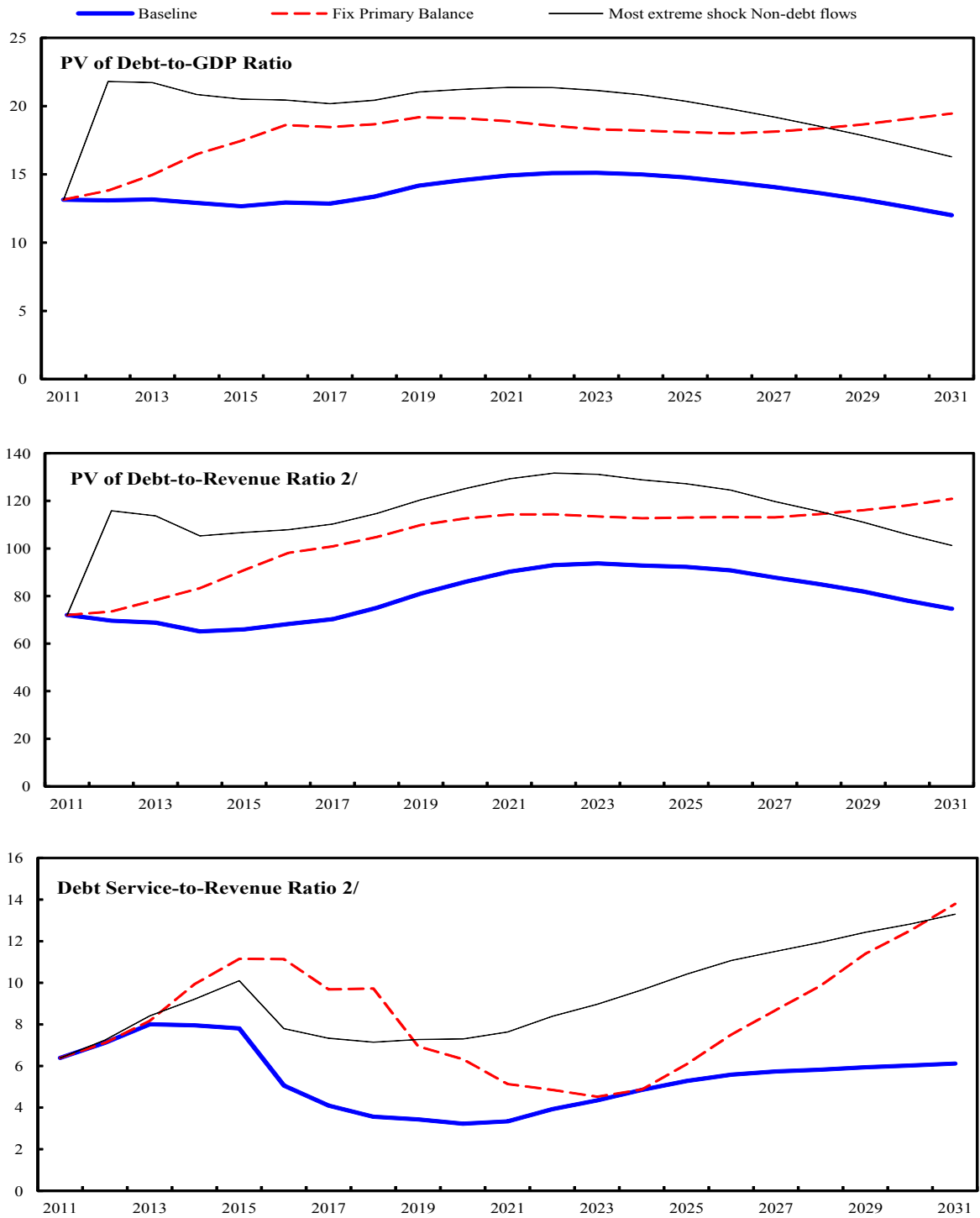
21. **However, persistent weakness in public financial management and insufficient data coverage suggest caution in assessing Cameroon's debt vulnerabilities.** These vulnerabilities include quasi-fiscal liabilities of state-owned enterprises and recurrent build-up of domestic arrears. The authorities' efforts to improve debt management could be reinforced by steps to ensure better coverage of public sector liabilities and by a new and more comprehensive audit of domestic unsettled payment obligations. Staffs remain of the view that continued efforts to improve nonoil revenue mobilization and to widen the export base would be advisable, given the expected long-run decline in oil revenues.

Figure 2. Cameroon: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2011-2031



1/ The most extreme stress test is the test that yields the highest ratio in 2021. This coincides with the export shock for all figures.

Figure 3. Cameroon: Indicators of Public Debt Under Alternative Scenarios, 2011-2031 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2021.

2/ Revenues are defined inclusive of grants.

Table 1a. Cameroon: Public Sector Debt Sustainability Framework, Baseline Scenario, 2008-2031
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate						Projections			
	2008	2009	2010			2011	2012	2013	2014	2015	2016	2011-16 Average	2021	2031	2017-31 Average
Public sector debt 1/	9.5	10.6	12.1			14.4	14.6	15.0	15.0	15.0	15.5		17.8	13.9	
o/w foreign-currency denominated	5.4	5.5	6.5			6.5	7.3	8.5	9.7	11.0	12.2		16.1	13.1	
Change in public sector debt	-2.4	1.1	1.4			2.3	0.2	0.4	0.0	0.0	0.5		0.3	-0.7	
Identified debt-creating flows	-3.2	0.0	0.8			2.6	-0.3	-0.8	-1.7	-0.9	-0.7		0.7	-1.0	
Primary deficit	-2.4	-0.1	1.0	-2.7	2.2	1.1	0.3	-0.1	-1.0	-0.4	-0.1	0.0	1.6	-0.3	0.8
Revenue and grants	20.8	18.4	17.4			18.2	18.8	19.1	19.8	19.2	19.0		16.5	16.1	
of which: grants	0.9	0.8	0.6			0.8	0.7	0.6	0.6	0.6	0.5		0.4	0.1	
Primary (noninterest) expenditure	18.4	18.3	18.4			19.4	19.1	19.0	18.8	18.8	18.9		18.1	15.8	
Automatic debt dynamics	-0.8	0.1	-0.2			-1.2	-0.6	-0.6	-0.7	-0.5	-0.6		-0.8	-0.7	
Contribution from interest rate/growth differential	-0.6	0.0	-0.4			-0.5	-0.6	-0.7	-0.7	-0.5	-0.6		-0.8	-0.7	
of which: contribution from average real interest rate	-0.3	0.2	0.0			-0.1	0.0	0.0	0.0	0.0	0.0		-0.1	-0.1	
of which: contribution from real GDP growth	-0.3	-0.2	-0.3			-0.4	-0.6	-0.7	-0.7	-0.6	-0.6		-0.8	-0.7	
Contribution from real exchange rate depreciation	-0.1	0.1	0.2			-0.6	0.0	0.0	0.1	0.0	0.0		...	...
Other identified debt-creating flows	0.0	0.0	0.0			2.7	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			2.7	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	0.8	1.1	0.6			-0.3	0.5	1.1	1.7	0.9	1.2		-0.4	0.3	
Other Sustainability Indicators															
PV of public sector debt	...	...	10.9			13.1	13.1	13.2	12.9	12.7	12.9		14.9	12.0
o/w foreign-currency denominated	...	...	5.3			5.2	5.8	6.7	7.6	8.7	9.7		13.2	11.2
o/w external	...	...	5.3			5.2	5.8	6.7	7.6	8.7	9.7		13.2	11.2
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...
Gross financing need 2/	-0.6	0.7	6.0			2.3	1.6	1.4	0.6	1.1	0.9		2.1	0.7	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	62.7			72.1	69.6	68.8	65.2	66.0	68.2		90.2	74.7
PV of public sector debt-to-revenue ratio (in percent)	...	...	65.1			75.2	72.2	71.2	67.2	68.0	70.2		92.2	75.3
o/w external 3/	...	...	31.7			29.9	32.1	36.2	39.7	46.5	52.5		81.5	70.0
Debt service-to-revenue and grants ratio (in percent) 4/	8.9	4.3	29.0			6.4	7.1	8.0	8.0	7.8	5.1		3.3	6.1	
Debt service-to-revenue ratio (in percent) 4/	9.2	4.5	30.1			6.7	7.4	8.3	8.2	8.0	5.2		3.4	6.2	
Primary deficit that stabilizes the debt-to-GDP ratio	-0.1	-1.2	-0.4			-1.2	0.1	-0.5	-1.0	-0.4	-0.6		1.3	0.4	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	2.6	2.0	3.2	3.3	0.8	3.8	4.5	4.8	5.0	4.0	4.5	4.4	4.6	4.7	4.6
Average nominal interest rate on forex debt (in percent)	1.4	1.6	1.5	2.3	1.5	1.2	1.3	1.3	1.4	1.4	1.5	1.3	1.6	1.7	1.6
Average real interest rate on domestic debt (in percent)	-4.8	4.3	-1.6	0.0	2.7	-1.4	0.1	0.6	0.5	0.4	-0.1	0.0	-1.0	...	-1.0
Real exchange rate depreciation (in percent, + indicates depreciation)	-2.5	1.5	3.9	-3.7	5.0	-10.4
Inflation rate (GDP deflator, in percent)	5.8	-3.3	3.0	1.7	2.5	4.0	2.2	2.1	2.1	2.0	2.0	2.4	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	0.3	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant element of new external borrowing (in percent)	35.3	30.9	28.2	26.5	24.8	24.7	28.4	24.2	23.3	...

Sources: Country authorities; and staff estimates and projections.

1/ Indicate general government gross 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.

Table 2a. Cameroon: Sensitivity Analysis for Key Indicators of Public Debt 2011-2031

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
PV of Debt-to-GDP Ratio								
Baseline	13	13	13	13	13	13	15	12
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	13	11	9	8	6	5	0	0
A2. Primary balance is unchanged from 2011	13	14	15	17	18	20	20	22
A3. Permanently lower GDP growth 1/	13	13	13	13	13	13	16	17
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	13	14	15	15	16	16	21	21
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	13	13	13	12	12	12	15	12
B3. Combination of B1-B2 using one half standard deviation shocks	13	12	11	12	12	13	17	18
B4. One-time 30 percent real depreciation in 2012	13	15	15	14	14	14	16	13
B5. 10 percent of GDP increase in other debt-creating flows in 2012	13	22	22	21	21	20	21	16
PV of Debt-to-Revenue Ratio 2/								
Baseline	72	70	69	65	66	68	90	75
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	72	58	48	40	32	0	0	0
A2. Primary balance is unchanged from 2011	72	75	81	87	95	104	120	138
A3. Permanently lower GDP growth 1/	72	70	69	66	68	71	100	103
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	72	73	77	76	81	87	127	132
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	72	67	66	63	63	66	88	73
B3. Combination of B1-B2 using one half standard deviation shocks	72	63	58	58	62	68	105	111
B4. One-time 30 percent real depreciation in 2012	72	81	78	73	73	75	95	82
B5. 10 percent of GDP increase in other debt-creating flows in 2012	72	116	114	105	107	108	129	101
Debt Service-to-Revenue Ratio 2/								
Baseline	6	7	8	8	8	5	3	6
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	6	7	8	2	2	0	0	0
A2. Primary balance is unchanged from 2011	6	7	8	11	12	12	6	16
A3. Permanently lower GDP growth 1/	6	7	8	8	8	5	4	10
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2012-2013	6	7	8	9	10	8	8	13
B2. Primary balance is at historical average minus one standard deviations in 2012-2013	6	7	8	7	7	5	3	6
B3. Combination of B1-B2 using one half standard deviation shocks	6	7	8	5	5	5	6	10
B4. One-time 30 percent real depreciation in 2012	6	7	9	9	9	6	6	12
B5. 10 percent of GDP increase in other debt-creating flows in 2012	6	7	10	29	10	15	5	11

Sources: Country authorities; and staff estimates and projections.

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

2/ Revenues are defined inclusive of grants.

Table 3a.: External Debt Sustainability Framework, Baseline Scenario, 2008-2031
(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average	Standard Deviation	Projections						2011-2016 Average	2021	2031	2017-2031 Average	
	2008	2009	2010			2011	2012	2013	2014	2015	2016					
External debt (nominal)	5.4	5.5	6.5			6.5	7.3	8.5	9.7	11.0	12.2		16.1	13.1		
o/w public and publicly guaranteed (PPG)	5.4	5.5	6.5			6.5	7.3	8.5	9.7	11.0	12.2		16.1	13.1		
Change in external debt	-0.3	0.1	1.0			0.0	0.8	1.2	1.2	1.3	1.2		0.5	-0.6		
Identified net debt-creating flows	-0.3	3.5	2.4			3.5	2.7	2.9	2.4	2.6	2.2		1.9	1.6		
Non-interest current account deficit	0.8	3.7	2.7	1.7	1.9	3.9	3.2	3.4	2.9	3.1	2.8		2.6	2.12	2.4	
Deficit in balance of goods and services	3.7	5.7	4.4			5.2	4.5	4.6	4.1	4.2	3.9		3.6	2.7		
Exports	31.1	24.0	26.7			26.3	26.3	27.4	29.8	30.0	32.0		24.9	21.2		
Imports	34.8	29.8	31.1			31.5	30.8	32.0	33.8	34.3	35.9		28.5	23.9		
Net current transfers (negative = inflow)	-2.6	-1.7	-1.4	-1.5	0.6	-1.0	-1.0	-0.9	-0.8	-0.8	-0.8		-0.6	-0.4	-0.5	
o/w official	-0.7	-0.6	-0.3			-0.2	-0.1	-0.1	-0.1	-0.1	0.0		0.0	0.0		
Other current account flows (negative = net inflow)	-0.3	-0.4	-0.4			-0.3	-0.3	-0.3	-0.3	-0.3	-0.3		-0.3	-0.3		
Net FDI (negative = inflow)	-0.4	-0.6	-0.3	-0.3	0.3	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3		-0.3	-0.2	-0.2	
Endogenous debt dynamics 1/	-0.7	0.5	0.0			-0.1	-0.2	-0.2	-0.3	-0.2	-0.3		-0.4	-0.4		
Contribution from nominal interest rate	0.1	0.1	0.1			0.1	0.1	0.1	0.1	0.1	0.2		0.2	0.2		
Contribution from real GDP growth	-0.1	-0.1	-0.2			-0.2	-0.3	-0.3	-0.4	-0.4	-0.5		-0.7	-0.6		
Contribution from price and exchange rate changes	-0.7	0.5	0.1			...	...	...	...	...	...		...	...
Residual (3-4) 2/	0.1	-3.5	-1.4			-3.5	-1.9	-1.7	-1.2	-1.3	-1.0		-1.4	-2.2		
o/w exceptional financing	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		
PV of external debt	...	...	5.3			5.2	5.8	6.7	7.6	8.7	9.7		13.2	11.2	
In percent of exports	...	...	20.0			19.8	22.1	24.4	25.6	28.8	30.3		52.9	52.8	
PV of PPG external debt	...	...	5.3			5.2	5.8	6.7	7.6	8.7	9.7		13.2	11.2	
In percent of exports	...	...	20.0			19.8	22.1	24.4	25.6	28.8	30.3		52.9	52.8	
In percent of government revenues	...	...	31.7			29.9	32.1	36.2	39.7	46.5	52.5		81.5	70.0	
Debt service-to-exports ratio (in percent)	0.8	1.3	0.9			1.0	1.0	1.1	1.1	1.4	1.2		2.0	4.7		
PPG debt service-to-exports ratio (in percent)	0.8	1.3	0.9			1.0	1.0	1.1	1.1	1.4	1.2		2.0	4.7		
PPG debt service-to-revenue ratio (in percent)	1.2	1.8	1.4			1.5	1.4	1.6	1.7	2.3	2.2		3.1	6.2		
Total gross financing need (Billions of U.S. dollars)	0.2	0.9	0.7			1.1	1.0	1.1	1.0	1.2	1.1		1.5	2.9		
Non-interest current account deficit that stabilizes debt ratio	1.0	3.6	1.7			3.9	2.4	2.2	1.7	1.9	1.6		2.1	2.8		
Key macroeconomic assumptions																
Real GDP growth (in percent)	2.6	2.0	3.2	3.3	0.8	3.8	4.5	4.8	5.0	4.0	4.5		4.4	4.6	4.7	4.6
GDP deflator in US dollar terms (change in percent)	13.2	-8.3	-1.6	6.2	8.1	11.7	2.5	1.2	1.2	1.1	1.1		3.2	2.0	2.0	2.0
Effective interest rate (percent) 3/	1.4	1.6	1.5	2.3	1.5	1.2	1.3	1.3	1.4	1.4	1.5		1.3	1.6	1.7	1.6
Growth of exports of G&S (US dollar terms, in percent)	16.3	-27.7	12.6	9.4	16.1	14.5	7.3	10.4	15.3	6.2	12.5		11.0	2.6	6.1	3.9
Growth of imports of G&S (US dollar terms, in percent)	25.0	-20.0	6.0	8.9	12.7	17.5	4.9	10.1	12.2	6.6	10.8		10.4	3.4	6.3	3.9
Grant element of new public sector borrowing (in percent)	35.3	30.9	28.2	26.5	24.8	24.7		28.4	24.2	23.3	24.0
Government revenues (excluding grants, in percent of GDP)	20.0	17.6	16.8			17.5	18.1	18.5	19.2	18.6	18.4		16.2	15.9	16.2	
Aid flows (in Billions of US dollars) 4/	0.2	0.2	0.3			0.4	0.4	0.5	0.4	0.4	0.4		0.4	0.3		
o/w Grants	0.2	0.2	0.1			0.2	0.2	0.2	0.2	0.2	0.2		0.2	0.1		
o/w Concessional loans	0.0	0.0	0.2			0.2	0.2	0.3	0.2	0.2	0.2		0.2	0.2		
Grant-equivalent financing (in percent of GDP) 5/			1.2	1.1	1.1	1.1	1.1	1.0		0.8	0.4	0.7	
Grant-equivalent financing (in percent of external financing) 5/			60.5	54.3	47.3	43.9	41.3	40.0		37.3	33.1	36.1	
Memorandum items:																
Nominal GDP (Billions of US dollars)	23.7	22.2	22.5			26.1	28.0	29.7	31.5	33.2	35.0		48.1	93.0		
Nominal dollar GDP growth	16.1	-6.5	1.5			16.0	7.1	6.0	6.2	5.2	5.7		7.7	6.6	6.8	6.7
PV of PPG external debt (in Billions of US dollars)	1.2			1.4	1.6	2.0	2.4	2.9	3.4		6.3	10.4		
(PVt-PVt-1)/GDPt-1 (in percent)			0.8	0.9	1.3	1.4	1.5	1.6		1.2	1.3	0.2	0.9
Gross workers' remittances (Billions of US dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		
PV of PPG external debt (in percent of GDP + remittances)	5.3			5.2	5.8	6.7	7.6	8.7	9.7		13.2	11.2		
PV of PPG external debt (in percent of exports + remittances)	19.9			19.8	22.0	24.3	25.6	28.8	30.2		52.8	52.7		
Debt service of PPG external debt (in percent of exports + remittances)	0.9			1.0	1.0	1.1	1.1	1.4	1.2		2.0	4.6		

Sources: Country authorities; and staff estimates and projections.

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

2/ 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.

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

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

5/ 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 3b. Cameroon: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-2031
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
PV of debt-to GDP ratio								
Baseline	5.2	5.8	6.7	7.6	8.7	9.7	13.2	11.2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	5.2	4.5	4.0	3.9	3.7	3.8	4.0	2.2
A2. New public sector loans on less favorable terms in 2011-2031 2/	5.2	5.8	6.8	7.9	9.1	10.2	14.2	12.6
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	5.2	5.9	6.9	7.9	9.0	10.1	13.7	11.6
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	5.2	8.4	14.7	15.4	16.3	17.2	18.6	12.0
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	5.2	6.0	7.2	8.2	9.3	10.4	14.1	12.0
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	5.2	6.0	7.1	8.0	9.0	10.0	13.4	11.2
B5. Combination of B1-B4 using one-half standard deviation shocks	5.2	6.9	10.6	11.5	12.5	13.4	16.0	11.9
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	5.2	8.2	9.4	10.7	12.2	13.6	18.6	15.7
PV of debt-to-exports ratio								
Baseline	19.8	22.1	24.4	25.6	28.8	30.3	52.9	52.8
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	19.8	17.1	14.4	13.0	12.2	11.8	16.2	10.4
A2. New public sector loans on less favorable terms in 2011-2031 2/	19.8	22.1	24.9	26.5	30.1	31.9	57.1	59.5
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	19.8	22.0	24.3	25.5	28.7	30.2	52.7	52.6
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	19.8	36.6	72.8	70.5	73.9	73.1	101.3	77.1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	19.8	22.0	24.3	25.5	28.7	30.2	52.7	52.6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	19.8	22.9	25.8	26.9	30.1	31.4	53.8	52.8
B5. Combination of B1-B4 using one-half standard deviation shocks	19.8	27.4	43.2	43.1	46.5	47.1	72.1	62.8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	19.8	22.0	24.3	25.5	28.7	30.2	52.7	52.6
PV of debt-to-revenue ratio								
Baseline	29.9	32.1	36.2	39.7	46.5	52.5	81.5	70.0
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	29.9	24.8	21.4	20.1	19.8	20.5	24.9	13.8
A2. New public sector loans on less favorable terms in 2011-2031 2/	29.9	32.1	36.9	41.1	48.6	55.4	87.9	78.9
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	29.9	32.6	37.6	41.3	48.3	54.6	84.6	72.7
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	29.9	46.2	79.6	80.3	87.7	93.2	114.7	75.2
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	29.9	33.4	38.9	42.7	49.9	56.4	87.5	75.2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	29.9	33.3	38.4	41.7	48.5	54.5	82.9	70.0
B5. Combination of B1-B4 using one-half standard deviation shocks	29.9	38.3	57.3	59.7	66.9	72.8	99.2	74.3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	29.9	45.1	51.0	56.0	65.5	74.0	114.7	98.6

Table 3b. Cameroon: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2011-2031 (continued)
(In percent)

	Projections							
	2011	2012	2013	2014	2015	2016	2021	2031
Debt service-to-exports ratio								
Baseline	1.0	1.0	1.1	1.1	1.4	1.2	2.0	4.7
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	1.0	0.9	0.9	0.8	1.0	0.8	0.5	1.0
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	1.0	1.0	1.1	1.1	1.4	1.2	2.0	4.6
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	1.0	1.1	1.7	2.2	2.6	2.3	5.9	8.3
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	1.0	1.0	1.1	1.1	1.4	1.2	2.0	4.6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	1.0	1.0	1.1	1.1	1.4	1.3	2.2	4.7
B5. Combination of B1-B4 using one-half standard deviation shocks	1.0	1.0	1.3	1.5	1.9	1.7	3.6	6.1
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	1.0	1.0	1.1	1.1	1.4	1.2	2.0	4.6
Debt service-to-revenue ratio								
Baseline	1.5	1.4	1.6	1.7	2.3	2.2	3.1	6.2
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2011-2031 1/	1.5	1.4	1.4	1.3	1.7	1.4	0.8	1.3
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2012-2013	1.5	1.4	1.7	1.8	2.4	2.3	3.3	6.4
B2. Export value growth at historical average minus one standard deviation in 2012-2013 3/	1.5	1.4	1.9	2.5	3.1	3.0	6.7	8.1
B3. US dollar GDP deflator at historical average minus one standard deviation in 2012-2013	1.5	1.5	1.7	1.8	2.5	2.3	3.4	6.6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2012-2013 4/	1.5	1.4	1.6	1.7	2.3	2.2	3.3	6.3
B5. Combination of B1-B4 using one-half standard deviation shocks	1.5	1.4	1.7	2.1	2.7	2.6	4.9	7.2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2012 5/	1.5	2.0	2.2	2.4	3.2	3.1	4.4	8.7
<i>Memorandum item:</i>								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	24.2	24.2	24.2	24.2	24.2	24.2	24.2	24.2

Sources: Country authorities; and staff estimates and projections.

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

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (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.