

Chad: Joint Bank-Fund Debt Sustainability Analysis

1. **This document reflects discussions with the authorities during a mission to conclude the 2006 Article IV consultations from October 26 to November 15.**¹ It presents an update on developments since the issuance of the staff report (SM/06/298, 09/01/2006) and provides a description and analysis of the medium-term macroeconomic framework, the budget for 2007, and an updated Debt Sustainability Analysis (Country Report No. 05/74), for which adequate data were not available at the time the staff report was issued. The staff appraisal has been updated in light of these discussions and recent developments.

I. RECENT DEVELOPMENTS

2. **Chad's political and security situation is precarious.** The armed opposition escalated attacks after the end of the rainy season in August, prompting the government to declare a State of Emergency and the UN to declare security phase IV for Eastern Chad and Phase III for N'Djamena. The conflict is also becoming more regional in character; the Darfur war is spilling over into eastern Chad, causing many casualties and additional refugee flows, while rebel activity in the north-east of the Central African Republic reportedly includes Chadian groups.

3. **The growth outlook for 2006 is better than anticipated at the time of the staff report, but inflation remains a concern.** The higher real GDP growth in 2006 (1.3 percent) reflects higher non-oil growth offsetting a somewhat larger fall in oil production than envisaged earlier. The main cause of the high inflation (15 percent during October 2005–06) was a 67 percent rise in meat prices over the same period, which was attributed to higher meat exports to neighboring countries following avian flu concerns and a shift from imports to domestic supply by oil-sector workers. Excluding meat, inflation amounted to 4.4 percent in the 12 months to October.

4. **The settlement of an income tax dispute with two of the three companies in the consortium producing Chad's oil resulted in additional revenue equivalent to 8 percent of non-oil GDP** (most of which was paid in October).² The extra revenue coupled with the release of funds from the World Bank controlled escrow account allowed a further expansion in most categories of expenditure, raising the non-oil primary deficit to 16.6 percent of GDP in 2006, compared with a target of 11.2 percent of GDP. The general wage increase was extended retroactively to the first half of the year (contributing to an expected excess in the wage bill compared with the end-2006 target of 0.3 percent of GDP). New exceptional security expenditure is estimated at 2.5 percent of GDP, bringing the annual total to

¹ The mission consisted of Mr. Snoek (Head), Mr. Camard (Resident Representative), Mr. Melhado, Ms. Lacoche (all AFR), and Mr. Buissé (FAD). The mission worked closely with a concurrent World Bank mission.

² Unless otherwise stated, all ratios to GDP are to non-oil GDP.

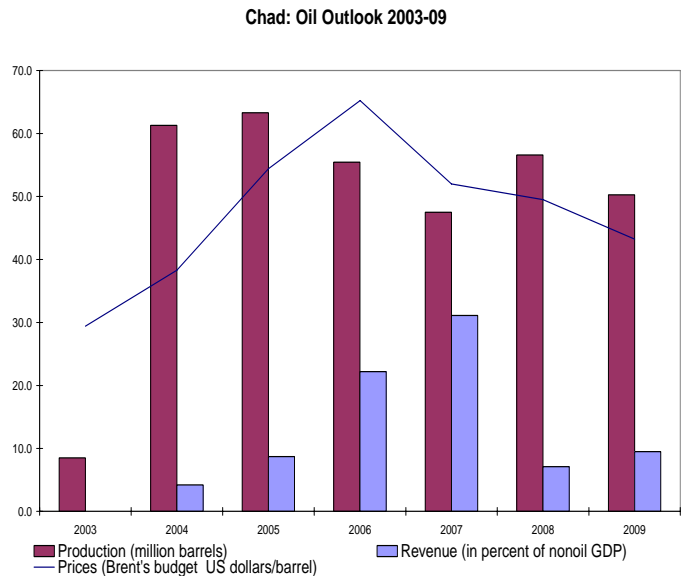
4.3 percent of GDP. Spending on other transfers and goods and services was also increased. Some allocations for capital spending that were cut in the June 2006 revised budget were restored; and domestically-financed capital spending increased by 1.3 percent of GDP. Despite these increases in spending, the authorities expect to repay the 2005 exceptional advances from the central bank (BEAC) and some other domestic debt. A second revised budget for 2006, reflecting the above changes would result in an end-year surplus in the oil revenue account of about 1.7 percent of GDP. On the structural side, steps are being taken to close the 2006 budget year promptly to avoid excessive expenditure carry-overs; to improve monitoring of the utility costs; to enhance coordination with the procurement office; and to strengthen the Ministry's oversight role. However, the move towards a Treasury Single Account is slow. Chad has also not maintained a balance in its SDR account equivalent to at least three months of Chad's financial obligations falling due to the Fund.

5. **The authorities intend to establish an oil-revenue stabilization mechanism before end-2006.** The mechanism is consistent with the medium-term expenditure needs of Chad, which are frontloaded. It would be lodged at the central bank (BEAC) and would include an oil account that is fully integrated in the budget process. Annual transfers from the oil account, which would be made progressively during the year, would be limited to amounts approved in the budget and could only be changed after parliamentary approval of a revised budget.³ Initially, the arrangement agreed with the staffs of the World Bank and the IMF would continue to provide for a separation of tax and royalty flows to reflect the current petroleum revenue management law and facilitate the oversight body's (college) monitoring the use of oil royalties. The arrangement could be reviewed and simplified following discussions on a new oil revenue management program—including a revised role of the college—in the context of the preparation of an updated poverty reduction strategy paper during 2007.

³ The annual planned withdrawals will determine the maximum amount of oil revenue that may be transferred to the treasury to finance programs that have been included in the relevant budget law.

II. THE MEDIUM-TERM MACROECONOMIC FRAMEWORK

6. **The discussions on the medium-term macroeconomic framework focused on the sustainable use of the expected oil revenue.** Based on prudent oil price projections and expectations of a gradual decline in oil production, the government's oil revenues are expected to rise to 31 percent of GDP in 2007 before falling to about 8.5 percent of GDP on average in the following two years (Figure).⁴ The staff recommended that the bulk of the 2007 oil revenue be saved—and thus not transferred to the budget—



for gradual use over the long term. This approach would promote long-term fiscal sustainability by allowing time to raise low non-oil revenues, to improve public financial management to better manage higher expenditure, and to help ensure that spending is in line with absorptive capacity. While agreeing with these broad principles, the authorities argued that the country's immense development needs, and the population's expectations of immediate benefits from the oil revenue, called for resources to be used more quickly to address urgent legitimate needs, especially in building the country's infrastructure, which would promote higher growth in the future. Based on these discussions, the medium-term framework allows for a further small increase in the non-oil primary deficit (excluding exceptional security expenditure) in 2007, that would be followed by subsequent adjustments in 2008-09, notably in current spending. External grants and concessional project assistance are expected to decline further from 7.6 percent of GDP in 2006 to 6.3 percent in 2007 and 5.1 percent in 2009, but would still remain an important component to finance the spending program.

7. **Real non-oil growth is projected to be robust over the medium term, in part reflecting the higher level of government expenditure.** Specifically, non-oil growth is expected to rise to about 6 percent by 2007, and then stabilize around 4.5 percent in subsequent years. Government savings, driven by the oil windfall, would substantially increase in 2007, but decrease sharply in subsequent years mirroring the decline in oil

⁴ The lower projection for 2007 compared with Box 4 of the staff report (over 40 percent of GDP) reflects lower projections for prices and production based on recent developments and the large advances on 2006 income taxes paid by the oil companies following the resolution of the recent tax dispute.

revenues. Government investment would increase over the medium term in line with the medium-term expenditure framework. The external current account would register a small surplus in 2007, but it is expected to deteriorate over the medium term as oil revenues decrease and imports, fueled by the expansion of economic activity, increase. The framework is based on a decline in inflation to the CEMAC target by end-2007.

8. **The authorities' medium-term fiscal policies aim at a substantial medium-term adjustment and subsequent continued fiscal consolidation.** The framework would be fully financed through 2009, assuming the projected aid inflows which remain sizable. During this period, the savings from the exceptional oil revenue in 2007 would be gradually used up; additional oil revenues above the present estimates would be saved. This would be supported by policies to strengthen non-oil revenue, which is projected to increase from 7.9 percent of GDP in 2006 to 8.5 percent in 2009, and, on the expenditure side, civil service and military reform and structural reform in the cotton and electricity sectors to gradually eliminate large subsidies (amounting to 2 percent of GDP in 2007). The medium-term fiscal framework also includes a gradual repayment of domestic debt (a settlement plan will be prepared following the completion of an European Union-financed external audit).

9. **A joint Bank-Fund Debt Sustainability Analysis (DSA) shows that even though Chad's debt situation has improved considerably in recent years, the outlook remains fragile and Chad faces a high risk of debt distress.** While the baseline scenario appears sustainable, it entails significant risks, including further delays in Chad's receipt of full debt relief associated with the Highly Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative. In particular, the debt sustainability outlook would deteriorate significantly if export values were to drop through a sharper-than-expected decline in oil prices, or if fiscal discipline were not to prevail in the near to medium term.

10. **The 2007 budget was formulated in line with this medium-term framework.**⁵ The authorities' initial budget proposal for 2007 entailed significantly higher spending, but they agreed on the need to plan expenditures in line with the principles laid out above. Current expenditures in 2007, excluding exceptional security outlays, would exceed the 2006 expected outturn by about 1 percent of non-oil GDP. This rise reflects subsidies to CotonTchad and the electricity company,⁶ higher outlays for education and health considered appropriate by the World Bank, as well as an overall increase in goods and services (especially utilities) and transfers, which were under funded in the past. Given the security outlook, the budget includes a contingency for exceptional security expenditure of 1.1 percent of GDP (compared with an expected level of 4.3 percent of GDP in 2006), which would result in a non-oil primary deficit of about 14.5 percent of GDP. Overall

⁵ It also allocates at least 70 percent of budgetary resources to priority sectors, in line with the Memorandum of Understanding between Chad and the World Bank of July 2006.

⁶ Partly to pay CotonTchad's previous debt and to support the operations of a new energy station at Farcha.

investment expenditure would decline by about 0.7 percent of GDP compared with 2006, as an increase in domestically-financed capital spending would be more than offset by a fall in foreign-financed investment. The non-oil deficit would allow the accumulation of an amount equivalent to 15 percent of non-oil GDP in the oil revenue account.

11. **Absorptive capacity and the maintenance of macroeconomic stability were key considerations in the development of the budget for 2007.** Half of the domestically-financed capital spending concerns road infrastructure (of which much is co-financed by donors), where donors' sector specialists feel that macroeconomic and technical absorption capacity constraints are less acute, stemming from the high import content of the spending and the proven government's capacity to execute road projects. Preservation of macroeconomic stability is also supported by the containment of current spending, notably the wage bill, and the nature of projects aimed at raising the quality of public spending.

III. STAFF APPRAISAL

12. **The regrettable resurgence of conflict has again underlined the daunting challenges to Chad's effective use of oil revenues.** Large expenditure overruns in 2006, which in part reflected higher security expenditures, are a cause for concern. The authorities' agreement on a mechanism to save future excess oil revenues is welcome, but political stability will be essential to allow this oil wealth to be channeled to the priority sectors.

13. **The 2007 budget and the medium-term fiscal framework are fully-financed, but the fiscal outlook is subject to several risks.** Specifically, risks arise from frontloading public spending, particularly when the assessment of absorptive capacity is hampered by the limited availability of data. The current unsettled environment also poses risks to the 2007 budget. While the staff understands the urgent needs and high expectations, the government's strategy of high up-front expenditure will require vigilance to ensure spending does not exceed absorptive capacity constraints, as well as tight controls on new medium-term investment projects to ensure fiscal sustainability. The medium-term framework will need to be reassessed in case new security expenditure exceeds the budgeted amounts.

14. **Strengthening public financial management remains crucial to ensure the quality and control of expenditures.** The staff urges the authorities to make rapid progress with implementing the action plan in this area, in close cooperation with the World Bank and other donors. In addition to improvements in all areas of fiscal administration, a key element will also have to be the strengthening of the capacity to prepare comprehensive medium-term fiscal frameworks to ensure fiscal sustainability. As the size and number of multi-year investment projects increases, close control over long-term commitments, including for counterpart funds, will be necessary.

15. **Chad's debt situation has improved, but remains fragile and the country still faces a high risk of debt distress.** To strengthen Chad's debt outlook it is important to attain the HIPC completion point and maintain macroeconomic discipline. The outlook would

deteriorate substantially in the event of large drop in oil prices affecting export values or if fiscal discipline were not to prevail.

16. Provided the 2007 budget is approved as agreed and security stabilizes, discussions on the first and second reviews under the PRGF arrangement could resume in early 2007.

Table 1. Chad: Selected Economic and Financial Indicators, 2005-09

| | 2005 | 2006 | | 2007 | 2008 | 2009 |
|--|---|--------------|---------|-------|-------|-------|
| | Prel. | Staff report | Revised | Proj. | Proj. | Proj. |
| | (Annual percentage change, unless otherwise specified) | | | | | |
| National income | | | | | | |
| GDP at constant prices | 8.6 | 0.1 | 1.3 | -1.2 | 7.4 | 0.8 |
| Oil GDP | 2.1 | -8.2 | -7.7 | -20.1 | 17.5 | -11.1 |
| Non-oil GDP | 11.6 | 3.5 | 5.1 | 5.9 | 4.5 | 4.6 |
| Consumer price index (average) | 7.9 | 7.9 | 8.8 | 4.0 | 3.0 | 3.0 |
| Real per capita GDP | 5.9 | -2.4 | -1.2 | -3.6 | 4.8 | -1.3 |
| Real non-oil per capita GDP | 8.9 | 0.9 | 2.6 | 3.3 | 2.0 | 2.0 |
| External sector (valued in CFA francs) | | | | | | |
| Exports, f.o.b. | 43.5 | 17.4 | 18.7 | -10.2 | -21.6 | -16.5 |
| Imports, f.o.b. | -11.4 | 2.0 | 2.6 | 0.6 | 3.9 | 4.0 |
| Export volume | 4.9 | -11.4 | -15.3 | 5.6 | 7.4 | -7.9 |
| Import volume | -18.3 | -2.1 | -1.4 | -1.8 | 0.4 | 0.4 |
| Terms of trade | 29.6 | 23.7 | 28.8 | -17.7 | -22.2 | -11.8 |
| Real effective exchange rate | 6.2 | ... | ... | ... | ... | ... |
| | (In percent of GDP, unless otherwise specified) | | | | | |
| Investment and Saving | | | | | | |
| Gross investment | 20.2 | 20.5 | 21.5 | 21.1 | 17.7 | 18.3 |
| Government | 7.0 | 7.1 | 7.7 | 9.1 | 9.1 | 9.3 |
| Private sector | 13.2 | 13.4 | 13.8 | 12.1 | 8.6 | 9.1 |
| Of which: oil sector | 8.7 | 8.7 | 9.0 | 6.5 | 3.0 | 3.1 |
| Gross national savings | 21.3 | 19.5 | 23.4 | 23.5 | 12.3 | 10.2 |
| Government | 4.0 | 5.4 | 7.7 | 16.0 | 2.6 | 5.3 |
| Private sector | 17.3 | 14.1 | 15.7 | 7.5 | 9.7 | 4.9 |
| Current account balance, incl. official current transfers | 1.1 | -1.0 | 1.8 | 2.4 | -5.5 | -8.2 |
| | (In percent of non-oil GDP, unless otherwise specified) | | | | | |
| Government finance | | | | | | |
| Revenue | 17.5 | 23.1 | 30.7 | 39.8 | 16.0 | 18.7 |
| of which: non-oil revenue | 8.8 | 9.2 | 8.5 | 8.7 | 8.9 | 9.2 |
| Total expenditure | 24.5 | 29.8 | 34.2 | 31.3 | 28.8 | 26.9 |
| Current expenditure | 11.3 | 16.2 | 19.6 | 17.3 | 15.2 | 14.4 |
| Capital expenditure | 13.2 | 13.6 | 14.6 | 13.9 | 13.5 | 12.5 |
| Non-oil primary balance (commitment basis, excl. grants) 1/ | -6.0 | -11.2 | -16.6 | -14.5 | -12.6 | -11.3 |
| Overall fiscal deficit (commitment basis, excl. grants) | -7.0 | -6.7 | -3.6 | 8.5 | -12.8 | -8.2 |
| | (In percent of GDP, unless otherwise specified) | | | | | |
| External sector | | | | | | |
| Current account balance | | | | | | |
| Excluding official current transfers | -0.9 | -2.2 | 0.6 | 0.2 | -7.5 | -10.2 |
| Excluding oil-related operations and official current transfers (in percent of non-oil GDP) | -12.6 | -15.2 | -14.0 | -11.8 | -12.1 | -11.8 |
| | (In billions of CFA francs, unless otherwise specified) | | | | | |
| Nominal GDP | 3,104 | 3,503 | 3,420 | 3,060 | 3,178 | 3,108 |
| Nominal non-oil GDP | 1,653 | 1,824 | 1,804 | 1,990 | 2,135 | 2,301 |
| Nominal GDP (in millions U.S. dollars) | 5,896 | 6,707 | 6,519 | 5,963 | 6,225 | 6,111 |

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

1/ Defined as the total revenue excluding grants and oil revenue, minus total expenditure excluding interest payments and foreign-financed investment.

Table 2. Chad: Consolidated Fiscal Operations, 2005-09
(in billions of CFA francs)

| | 2005 | 2006 | | 2007 | 2008 | 2009 |
|--|--------|-----------------|--------|------------------|--------|--------|
| | Est. | Budget. Jun. | Est. | Budget Nov 1/ | Proj. | Proj. |
| Revenue | 289.7 | 421.9 | 553.4 | 792.1 | 341.9 | 430.4 |
| Oil revenue 2/ | 144.0 | 253.5 | 400.1 | 619.1 | 151.0 | 219.0 |
| Non-oil Tax revenue | 138.9 | 141.9 | 142.6 | 157.0 | 174.7 | 195.8 |
| Non Tax revenue 3/ | 6.8 | 26.6 | 10.7 | 16.0 | 16.2 | 15.6 |
| Expenditure | 404.9 | 543.3 | 617.5 | 622.6 | 614.4 | 619.5 |
| Current expenditure | 187.3 | 295.5 | 353.8 | 345.2 | 325.4 | 330.7 |
| Wages and salaries | 101.2 | 117.7 | 123.7 | 134.9 | 141.8 | 147.5 |
| Civil service | 73.3 | 85.1 | 89.0 | 100.2 | 105.7 | 110.0 |
| Military | 27.9 | 32.5 | 34.7 | 34.7 | 36.1 | 37.5 |
| Goods and services | 34.2 | 49.5 | 58.3 | 63.2 | 65.0 | 66.8 |
| Transfers | 41.5 | 102.3 | 156.9 | 132.1 | 104.0 | 103.3 |
| Of which: Exceptional defense spending and contingency | ... | 34.1 | 77.5 | 21.9 | 10.7 | 11.5 |
| Interest | 10.4 | 14.9 | 14.9 | 15.0 | 14.6 | 13.2 |
| Domestic | 3.2 | 5.0 | 5.0 | 5.0 | 5.0 | 3.9 |
| External | 7.2 | 9.9 | 9.9 | 10.0 | 9.6 | 9.3 |
| Investment expenditure | 217.7 | 247.8 | 263.7 | 277.4 | 289.0 | 288.7 |
| Domestically financed | 68.5 | 91.6 | 113.3 | 131.8 | 148.2 | 152.9 |
| Foreign financed | 149.1 | 156.2 | 150.5 | 145.6 | 140.8 | 135.8 |
| Non-oil primary balance (excl. grants, commitment basis) 3/ 4/ | -99.8 | -203.7 | -298.8 | -288.9 | -268.1 | -259.1 |
| Overall balance (excl. grants, commitments) | -115.3 | -121.4 | -64.2 | 169.5 | -272.5 | -189.1 |
| Arrears | 4.2 | -51.2 | -34.6 | 0.0 | 0.0 | 0.0 |
| Overall balance (excl. grants, cash) | -134.0 | -172.6 | -98.8 | 169.5 | -272.5 | -189.1 |
| Financing | 134.0 | 172.6 | 98.8 | -169.5 | 272.5 | 189.1 |
| Domestic financing | -23.5 | 20.3 | -38.3 | -295.5 | 145.6 | 72.5 |
| Central Bank (BEAC) | 2.7 | 31.1 | -5.7 | -276.7 | 167.5 | 88.4 |
| Commercial banks | -6.7 | -0.9 | -12.9 | 0.0 | 0.0 | 0.0 |
| Non-bank financing 5/ | -19.5 | -9.9 | -19.7 | -21.6 | -21.9 | -15.8 |
| Foreign financing | 157.5 | 152.3 | 137.0 | 126.1 | 126.9 | 116.6 |
| Grants | 104.2 | 95.4 | 83.5 | 80.5 | 75.0 | 75.0 |
| Budget support grants | 13.1 | 13.8 | 7.6 | 5.7 | 0.0 | 0.0 |
| Project grants | 91.1 | 81.6 | 75.9 | 74.8 | 75.0 | 75.0 |
| Loans (net) | 53.3 | 56.9 | 53.5 | 45.6 | 51.9 | 41.6 |
| Disbursements | 58.1 | 74.6 | 74.6 | 70.8 | 65.8 | 60.8 |
| Amortization | -11.5 | -21.5 | -21.5 | -25.2 | -26.5 | -29.6 |
| External arrears (principal) | -1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Debt relief | 8.7 | 0.5 | 0.5 | 0.0 | 12.6 | 10.4 |

Sources: Chadian authorities; and IMF staff estimates.

1/ 2007 budget proposal as agreed by the end of the mission (Nov).

2/ Oil export price based on World Bank Petroleum Revenue forecast. Comprising royalties, dividends, income tax, share premium and revenue from oil permits exploration or exploitation (before debt service on pipeline related loan).

3/ Revenue from oil exploration permit and share premiums from the oil pipeline companies are included in oil revenue.

4/ Defined as the total revenue excluding grants and oil revenue, minus total expenditure excluding interest payments and foreign-financed investment.

5/ Include restructured debt as specified in the TMU under the PRGF-supported program (excluding BEAC (Bank of Central African States) and CBT (Commercial Bank of Chad)), as well as payment on new domestic debt conventions.

Table 2. Continued. Chad: Consolidated Fiscal Operations, 2005-09
(In percent of non-oil GDP, unless otherwise indicated)

| | 2005 | 2006 | | 2007 | 2008 | 2009 |
|--|--------|-----------------|--------|------------------|--------|--------|
| | Est. | Budget. Jun. | Est. | Budget Nov 1/ | Proj. | Proj. |
| Revenue | 17.5 | 23.1 | 30.7 | 39.8 | 16.0 | 18.7 |
| Oil revenue 2/ | 8.7 | 13.9 | 22.2 | 31.1 | 7.1 | 9.5 |
| Non-oil Tax revenue | 8.4 | 7.8 | 7.9 | 7.9 | 8.2 | 8.5 |
| Non Tax revenue 3/ | 0.4 | 1.5 | 0.6 | 0.8 | 0.8 | 0.7 |
| Expenditure | 24.5 | 29.8 | 34.2 | 31.3 | 28.8 | 26.9 |
| Current expenditure | 11.3 | 16.2 | 19.6 | 17.3 | 15.2 | 14.4 |
| Wages and salaries | 6.1 | 6.5 | 6.9 | 6.8 | 6.6 | 6.4 |
| Civil service | 4.4 | 4.7 | 4.9 | 5.0 | 5.0 | 4.8 |
| Military | 1.7 | 1.8 | 1.9 | 1.7 | 1.7 | 1.6 |
| Goods and services | 2.1 | 2.7 | 3.2 | 3.2 | 3.0 | 2.9 |
| Transfers | 2.5 | 5.6 | 8.7 | 6.6 | 4.9 | 4.5 |
| Of which: Exceptional defense spending and contingency | ... | 1.9 | 4.3 | 1.1 | 0.5 | 0.5 |
| Interest | 0.6 | 0.8 | 0.8 | 0.8 | 0.7 | 0.6 |
| Investment expenditure | 13.2 | 13.6 | 14.6 | 13.9 | 13.5 | 12.5 |
| Domestically financed | 4.1 | 5.1 | 6.3 | 6.6 | 6.9 | 6.6 |
| Foreign financed | 9.0 | 8.6 | 8.3 | 7.3 | 6.6 | 5.9 |
| Non-oil primary balance (excl. grants, commitment basis) 3/ 4/ | -6.0 | -11.2 | -16.6 | -14.5 | -12.6 | -11.3 |
| Non-oil primary balance (excl. grants, exceptional defense and contingency, on a commitment basis) 3/ 4/ | ... | -9.3 | -12.3 | -13.4 | -12.1 | -10.8 |
| Overall balance (excl. grants, commitments) | -7.0 | -6.7 | -3.6 | 8.5 | -12.8 | -8.2 |
| Arrears | 0.3 | -2.8 | -1.9 | 0.0 | 0.0 | 0.0 |
| Overall balance (excl. grants, cash) | -8.1 | -9.5 | -5.5 | 8.5 | -12.8 | -8.2 |
| Financing | 8.1 | 9.5 | 5.5 | -8.5 | 12.8 | 8.2 |
| Domestic financing | -1.4 | 1.1 | -2.1 | -14.9 | 6.8 | 3.2 |
| Central Bank (BEAC) | 0.2 | 1.7 | -0.3 | -13.9 | 7.8 | 3.8 |
| Commercial banks | -0.4 | -0.1 | -0.7 | 0.0 | 0.0 | 0.0 |
| Non-bank financing 5/ | -1.2 | -0.5 | -1.1 | -1.1 | -1.0 | -0.7 |
| Foreign financing | 9.5 | 8.4 | 7.6 | 6.3 | 5.9 | 5.1 |
| Grants | 6.3 | 5.2 | 4.6 | 4.0 | 3.5 | 3.3 |
| Budget support grants | 0.8 | 0.8 | 0.4 | 0.3 | 0.0 | 0.0 |
| Project grants | 5.5 | 4.5 | 4.2 | 3.8 | 3.5 | 3.3 |
| Loans (net) | 3.2 | 3.1 | 3.0 | 2.3 | 2.4 | 1.8 |
| Disbursements | 3.5 | 4.1 | 4.1 | 3.6 | 3.1 | 2.6 |
| Amortization | -0.7 | -1.2 | -1.2 | -1.3 | -1.2 | -1.3 |
| External arrears (principal) | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Debt relief | 0.5 | 0.0 | 0.0 | 0.0 | 0.6 | 0.5 |
| Memorandum items: | | | | | | |
| Balance of oil revenue account | ... | ... | 1.7 | 15.0 | 5.8 | 1.2 |
| Non-oil GDP (in billions of CFA francs) | 1652.5 | 1823.9 | 1804.2 | 1989.9 | 2135.1 | 2300.9 |

Sources: Chadian authorities; and IMF staff estimates.

1/ 2007 budget proposal received at the beginning of the mission (Oct) and as agreed by the end of the mission (Nov).

2/ Oil export price based on World Bank Petroleum Revenue forecast. Comprising royalties, dividends, income tax, share prem and revenue from oil permits exploration or exploitation (before debt service on pipeline related loan).

3/ Revenue from oil exploration permit and share premiums from the oil pipeline companies are included in oil revenue.

4/ Defined as the total revenue excluding grants and oil revenue, minus total expenditure excluding interest payments and foreign-financed investment.

5/ Include restructured debt as specified in the TMU under the PRGF-supported program (excluding BEAC and Commercial Bank of Chad), as well as payment on new domestic debt conventions.

CHAD: ASSESSING EXTERNAL AND PUBLIC SECTOR DEBT SUSTAINABILITY

1. This assessment presents a joint IMF-World Bank debt sustainability analysis using the standard debt dynamics templates for low-income countries (LICs) to analyze, on the basis of available data, the sustainability of Chad's external and public sector debt.

Debt sustainability assessment

2. Even though Chad's debt situation has improved appreciably in recent years, the outlook remains fragile and Chad faces a high risk of debt distress. While the baseline scenario appears sustainable, it entails significant risks, including the possibility of further delays in Chad's receipt of full debt relief under the Highly Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative. Moreover, the alternative scenarios and bound tests indicate that in the event of adverse shocks Chad's debt burden indicators would deteriorate substantially. In particular, the debt sustainability outlook would deteriorate significantly if export values were to drop through a sharper than expected decline in oil prices, or if fiscal discipline were not to prevail in the near to medium-term.

Recent debt developments

3. Chad is eligible for the Highly Indebted Poor Countries (HIPC) Initiative. It reached the HIPC Decision Point in 2001, at which time creditors agreed to a common reduction factor of 30 percent, resulting in HIPC debt relief of \$170 million in NPV terms. While the full relief will only be delivered at the HIPC Completion Point, Chad became eligible for interim HIPC relief, from the Paris Club creditors and the IMF, IDA, and the AfDB Group. But as the Completion Point is delayed, Chad's may reach the ceilings on the provision of interim HIPC relief for some creditors. Nonetheless, Chad's debt situation has improved considerable over the past few years, thanks to the strong growth in overall GDP stemming from the oil sector and the reduced reliance by the government on external financial support. At end-2005, its external public and publicly guaranteed (PPG) debt stood at CFA 880 billion (\$1.6 billion) or 27 percent of GDP, which compares with CFA 732 billion but 53 percent of GDP at end-2002. In NPV terms, the debt was only two thirds this amount since it is largely concessional: 90 percent is due to multilateral institutions and the remainder to bilateral creditors (see Staff Report Table 8).

Baseline assumptions

4. The economic baseline scenarios informing the DSAs are much influenced by the expected evolution of Chad's oil production. This is expected to peak in 2007, followed by a gradual decline to one fifth that level by 2030, based on current proven oil reserves. At the same time, oil prices are expected to decline. That, together with investment cost recovery by companies, results in a sharp decline in oil revenues for the government (see Box 1). Other key assumptions are shown in Tables 1a and 1b. The baseline assumes a steady increase in non-oil GDP growth as oil production declines. The main source of growth is the agricultural sector which will benefit from the infrastructure investments financed from oil revenue. With the help of envisaged measures, non-oil revenues will grow as a percent of GDP, and

compensate for the decline in oil revenues so that the non-oil primary balance can cover debt service. In sum, the baseline includes a substantial medium-term adjustment and subsequent continued consolidation. As for debt service, the baseline assumes that Chad will reach the HIPC Completion Point at end-2007.⁷ The baseline scenario shows relatively large residuals in 2006 and 2007, which are the result of the assumption that much of the oil revenue will be used to accumulate reserves. In subsequent years, as these reserves are drawn down, the residual declines and turns negative.

| | 2006 | 2007 | 2008 | 2009 | Averages | | |
|--|-------|-------|-------|-------|-----------|-----------|-----------|
| | | | | | 2006-2013 | 2014-2026 | 2006-2026 |
| Real GDP growth (%) | 1.3 | -1.2 | 7.4 | 0.8 | 2.5 | 4.5 | 3.7 |
| Non-oil real GDP growth (%) | 5.1 | 5.9 | 4.5 | 4.6 | 5.0 | 5.6 | 5.3 |
| Nominal GDP growth (%) | 10.2 | -10.5 | 3.9 | -2.2 | 2.7 | 6.9 | 5.3 |
| Nominal GDP level (billions of CFAF) | 3,420 | 3,060 | 3,178 | 3,108 | 3,357 | 5,953 | 4,964 |
| Oil production (millions of barrels) | 55.4 | 47.5 | 56.6 | 50.3 | 48.1 | 20.1 | 30.8 |
| Oil prices (Brent, \$ per barrel) | 65.2 | 52.0 | 49.5 | 43.2 | 47.3 | 56.4 | 52.9 |
| Oil revenues (CFAF billions) | 400 | 619 | 151 | 219 | 292 | 219 | 247 |
| Oil revenues (% of GDP) | 11.7 | 20.2 | 4.8 | 7.0 | 8.8 | 4.2 | 5.9 |
| Non-oil revenues (CFAF billions) | 153 | 173 | 191 | 211 | 231 | 735 | 543 |
| Non-oil revenues (% of GDP) | 4.5 | 5.7 | 6.0 | 6.8 | 6.8 | 11.9 | 10.0 |
| Non-oil primary balance (% of non-oil GDP) (Excluding grants and security spending) | -12.3 | -13.4 | -12.1 | -10.8 | -9.1 | -3.6 | -5.7 |

Sources: Chadian authorities and Fund staff estimates.

External public and publicly guaranteed debt DSA

6. For external public debt, the baseline scenario assumes that the large fiscal surpluses in 2007 and 2008 when oil revenue peaks are saved and drawn down in subsequent years in line with the economy's absorptive capacity. Throughout the forecast period, Chad continues to roll over maturing debt to help finance investment needs for poverty reduction identified in the PRSP, but borrows only on concessional terms. Moreover, Chad's anti-poverty policies would attract a steady flow of grants from external donors. The result is that the NPV of debt remains in a range of 15-20 percent of GDP, based on an average rate of growth of real GDP of about 4 percent for the period (see Tables 1a and 2a). Likewise, in terms of exports, the NPV value of debt behaves moderately, staying within a range of 50-100 percent.

7. The external debt sustainability analysis includes a comparison with two alternative scenarios, one where key variables are kept at their historical averages (calculated only over 2000-2005 due to data availability), and another where new public sector loans are contracted on less favorable terms. The NPV-of-debt ratios increase under these scenarios but not disconcertingly so (Table 1b). Under the first one, A1, the current account deficit continues at the high level of 35 percent level which it achieved in the past on average thanks to the

⁷ If Chad were to receive MDRI in 2008, the amount would be on the order \$1.2 billion which translates into \$574 million in NPV terms which is 9 percent of GDP and 18 percent of exports.

build up of the oil sector. Even though direct investment inflows and real GDP growth are commensurately higher, a gradual build up of debt occurs. Scenario A2 assumes that the interest on new borrowing is 2 percentage points higher than in the baseline, and the result is a higher NPV value of the debt stock.

8. In addition to the alternative scenarios, the baseline projections for external public debt were subjected to six standard bound tests (Figure 1 and Table 1b). Not surprisingly, Chad's debt position is most sensitive to the external shock consisting of a one-standard deviation drop in exports proceeds in 2007 and 2008, as could result from a roughly 20 percent drop in oil prices (Test B2). The GDP drop—one standard deviation below the high historical average (Test B1)—does not show much change from the baseline, the reason being that real GDP growth in the baseline in 2007 and 2008 is already at that level.

Public debt DSA

9. In addition to its external public debt, Chad has only limited domestic public debt, equivalent to about 6 percent of GDP at end-2005, and the baseline expects the share of domestic debt in total to remain roughly the same (Table 2a). On that assumption, an analysis of the sustainability of total public debt confirms broadly the conclusions of the previous analysis, namely that Chad's debt situation remains fragile. If the assumptions of the baseline materialize, debt appears sustainable, with the NPV of debt remaining in the 20–30 percent range (Table 2b and Figure 2). The standard “no reform” alternative scenario would be “primary balance unchanged from 2006”. However, given the very large and temporary surplus in that year, staff opted for a “no reform” scenario that shows primary expenditures remaining at their high 2007 level despite the subsequent decline in oil revenue (shown as “no reform” in Figure 2 and as A2 in Table 2b). The most extreme stress test turns out to be the scenario of “permanently lower GDP growth” (A3) which causes NPV of debt to GDP and to revenues to rise sharply.

Threshold comparison

10. A standard component of a LIC DSA is to assess the external debt burden indicators in relation to policy-dependent thresholds reflecting the key empirical finding that a LIC with better policies and institutions can sustain a higher level of external debt. The LIC DSA framework therefore classifies countries into three performance categories—strong, medium, poor—as assessed by the World Bank's Country Policy and Institutional Assessment (CPIA). Corresponding to these categories, the framework establishes three indicative thresholds for each debt burden indicator. Chad's CPIA score in 2005 was 2.9 which is in the bottom quintile and therefore characterizes Chad as a poor reformer with correspondingly low threshold values (Box 2).⁸ As noted above, under the baseline scenarios most indicators remain below these thresholds. However, several alternative scenarios and bound tests

⁸ Using the 2003-05 average of the CPIA would not change Chad's performance category in terms of policies and institutions. Information on the CPIA 2005 is now publicly available on the World Bank website at <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/IDA/0,,contentMDK:20933600~menuPK:2626968~pagePK:51236175~piPK:437394~theSitePK:73154,00.html>

produce ratios that breach those thresholds (see Figures 1 and 2). In addition serious risks attach to the baseline scenario, especially whether Chad will proceed as rapidly to the HIPC Completion Point as envisaged, and whether fiscal discipline will prevail in the near term. On balance, therefore, Chad appears to face a high risk of debt distress.

Box 2. Chad: Summary of Baseline Debt Sustainability Indicators 1/

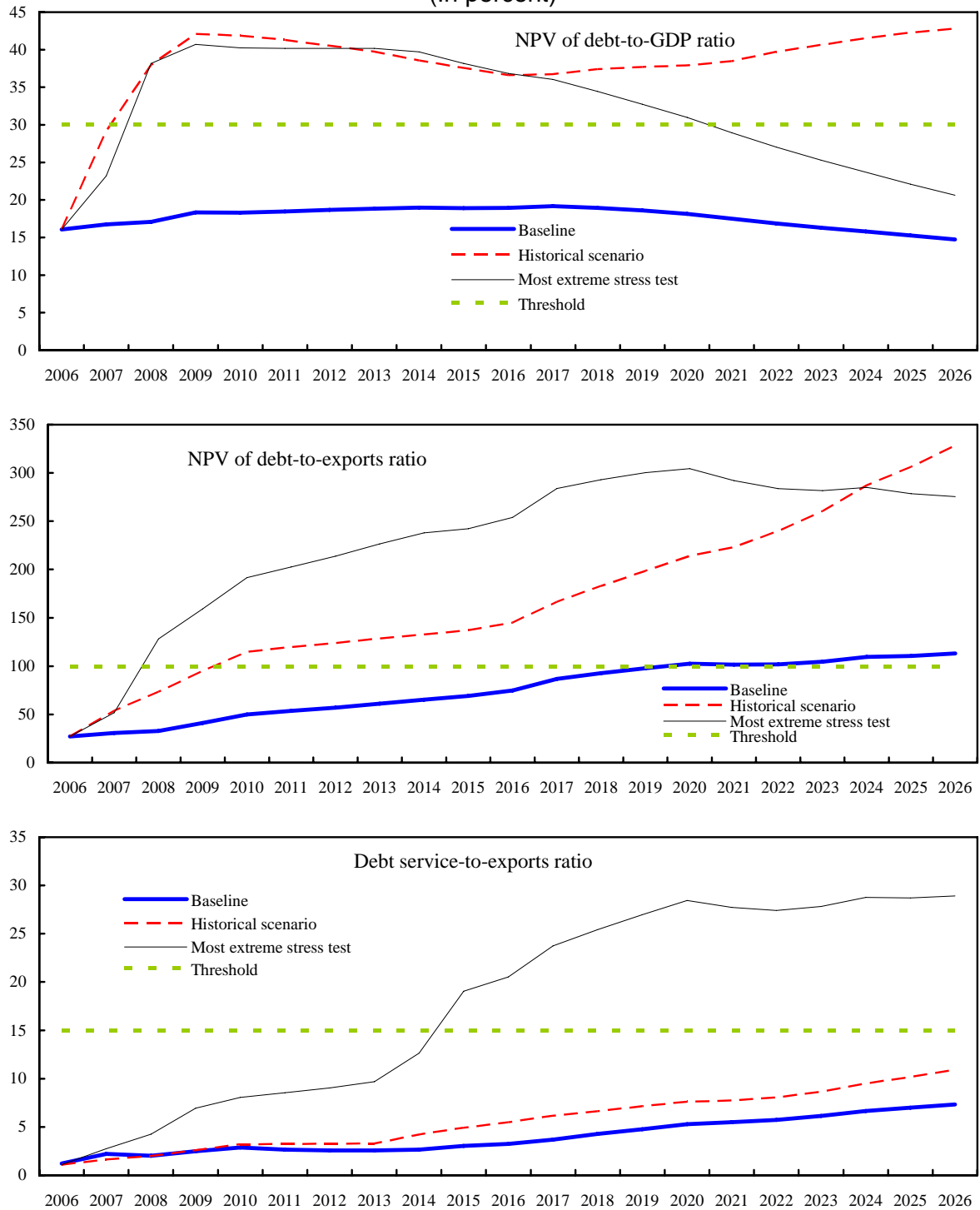
| | Indicative Threshold 2/ | 2006 | 2016 | 2026 | Average 2006-26 |
|-------------------------|----------------------------|------|------|------|--------------------|
| NPV of debt to GDP | 30 | 16 | 19 | 15 | 18 |
| NPV of debt to exports | 100 | 27 | 75 | 113 | 75 |
| NPV of debt to revenue | 200 | 59 | 68 | 69 | 75 |
| Debt service to exports | 15 | 1 | 3 | 7 | 4 |
| Debt service to revenue | 25 | 4 | 3 | 5 | 5 |

1./ The thresholds used for Chad indicate the level of debt indicators at which countries with a similar evaluation of policies and institutions would have at least a 25 percent chance of having a prolonged incident of debt distress in the coming year. Chad lies with the bottom quintile of countries ranked by the World Bank's Country Policy and Institutional Assessment Index (CPIA).

Conclusions

11. Chad's debt situation has improved in recent years but remains fragile and the country still faces a high risk of debt distress. To further solidify the debt situation, it is of utmost importance that Chad reaches soon the HIPC Completion Point. This will require maintaining macroeconomic stability in the face of sharply fluctuating oil revenues in the near to medium term. It also requires speedy progress with the structural reform agenda reflected in the HIPC Completion Point Triggers. Such policies would permit the gradual diversification of the economy that is essential to ensure growth over the long term.

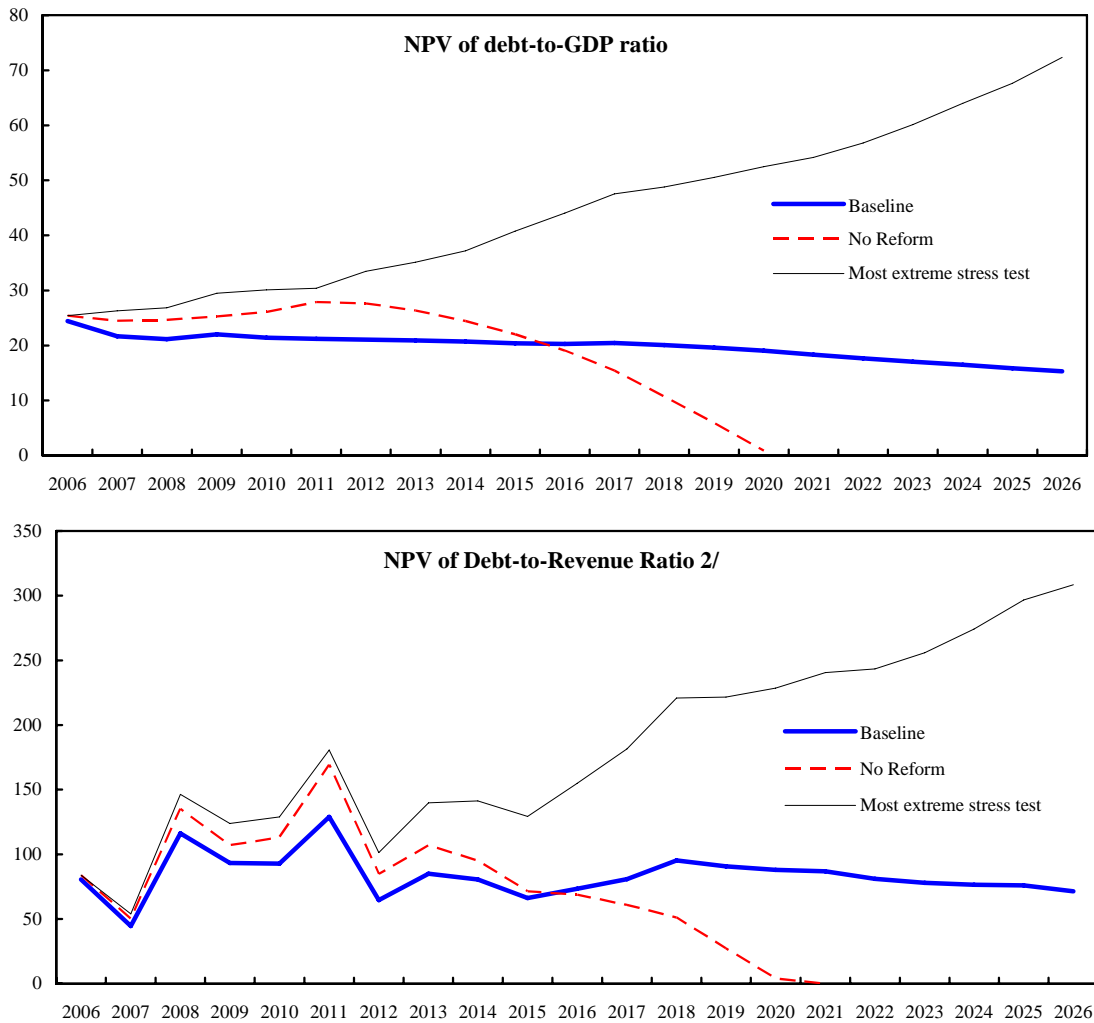
Figure 1. Chad: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2006-26 (In percent)



Source: Staff projections and simulations.

1./ Most extreme stress test is test that yields highest ratio in 2016 (B2 in all three cases).

Figure 2.Chad: Indicators of Public Debt Under Alternative Scenarios, 2006-2026 1/



Source: Staff projections and simulations.

1/ Most extreme stress test is test that yields highest ratio in 2016 (A3, A3 and B3 respectively).

2/ Revenue including grants.

Table 1a. Chad: External Debt Sustainability Framework, Baseline Scenario, 2006-2026 1/
(In percent of GDP, unless otherwise indicated)

| | Actual | | | Historical Average 6/ | Standard Deviation 6/ | Projections | | | | | | | | | | |
|---|--------|--------------|--------------|--------------------------|--------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------|-------------|--------------------|
| | # | 2003 | 2004 | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2006-11 Average | 2016 | 2026 | 2012-26 Average |
| External debt (nominal) 1/ | ... | 50.2 | 35.0 | 27.0 | | | | | | | | | | | | |
| o/w public and publicly guaranteed (PPG) | ... | 50.2 | 35.0 | 27.0 | | | | | | | | | | | | |
| Change in external debt | ... | -6.8 | -15.2 | -8.0 | | | | | | | | | | | | |
| Identified net debt-creating flows | ... | 8.6 | -22.2 | -18.2 | | | | | | | | | | | | |
| Non-interest current account deficit | ... | 49.5 | 7.5 | 0.7 | 35.2 | 33.5 | -0.9 | -3.5 | 2.7 | 6.3 | 11.2 | 11.3 | 4.5 | 9.7 | 3.5 | 6.8 |
| Deficit in balance of goods and services | ... | -9.3 | -35.8 | -45.9 | | | -50.1 | -44.6 | -41.8 | -33.6 | -25.8 | -23.6 | | -14.4 | -3.4 | |
| Exports | ... | 24.8 | 51.0 | 54.9 | | | 58.9 | 54.4 | 51.8 | 44.5 | 36.6 | 34.5 | | 25.3 | 13.0 | |
| Imports | ... | 15.4 | 15.2 | 9.1 | | | 8.8 | 9.9 | 10.0 | 10.8 | 10.8 | 10.9 | | 10.9 | 9.6 | |
| Net current transfers (negative = inflow) | ... | -3.6 | -4.9 | -3.1 | -3.6 | 2.0 | -2.1 | -3.1 | -3.0 | -3.0 | -2.8 | -2.7 | -2.8 | -2.0 | -4.0 | -3.4 |
| Other current account flows (negative = net inflow) | ... | 62.5 | 48.2 | 49.6 | | | 51.3 | 44.1 | 47.4 | 42.9 | 39.8 | 37.6 | | 26.0 | 10.9 | |
| Net FDI (negative = inflow) | ... | -26.2 | -10.8 | -10.4 | -21.3 | 14.6 | -9.5 | -7.8 | -8.9 | -8.1 | -7.3 | -6.6 | -8.0 | -3.5 | -0.7 | -2.5 |
| Endogenous debt dynamics 2/ | ... | -14.7 | -18.9 | -8.5 | | | 0.0 | 0.6 | -1.4 | 0.2 | -0.3 | -0.4 | | -0.5 | -1.1 | |
| Contribution from nominal interest rate | ... | 0.6 | 0.4 | 0.2 | | | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | | 0.4 | 0.3 | |
| Contribution from real GDP growth | ... | -6.1 | -10.4 | -2.3 | | | -0.3 | 0.3 | -1.7 | -0.2 | -0.7 | -0.7 | | -0.8 | -1.4 | |
| Contribution from price and exchange rate changes | ... | -9.2 | -8.8 | -6.5 | | | ... | ... | ... | ... | ... | ... | | ... | ... | |
| Residual (3-4) 3/ | ... | -15.4 | 6.9 | 10.3 | | | 3.9 | 14.3 | 7.9 | 3.2 | -3.8 | -4.1 | | -5.2 | -2.0 | |
| 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 | |
| NPV of external debt 4/ | ... | ... | ... | 17.9 | | | 16.1 | 16.7 | 17.1 | 18.4 | 18.3 | 18.5 | | 18.9 | 14.8 | |
| In percent of exports | ... | ... | ... | 32.5 | | | 27.3 | 30.7 | 33.0 | 41.2 | 50.1 | 53.5 | | 74.9 | 113.2 | |
| NPV of PPG external debt | ... | ... | ... | 17.9 | | | 16.1 | 16.7 | 17.1 | 18.4 | 18.3 | 18.5 | | 18.9 | 14.8 | |
| In percent of exports | ... | ... | ... | 32.5 | | | 27.3 | 30.7 | 33.0 | 41.2 | 50.1 | 53.5 | | 74.9 | 113.2 | |
| Debt service-to-exports ratio (in percent) | ... | 5.8 | 1.7 | 1.5 | | | 1.2 | 2.2 | 2.0 | 2.5 | 2.9 | 2.6 | | 3.2 | 7.3 | |
| PPG debt service-to-exports ratio (in percent) | ... | 5.8 | 1.7 | 1.5 | | | 1.2 | 2.2 | 2.0 | 2.5 | 2.9 | 2.6 | | 3.2 | 7.3 | |
| Total gross financing need (billions of U.S. dollars) | ... | 0.7 | -0.1 | -0.5 | | | -0.6 | -0.6 | -0.3 | 0.0 | 0.3 | 0.4 | | 0.6 | 1.6 | |
| Non-interest current account deficit that stabilizes debt ratio | ... | 56.3 | 22.7 | 8.7 | | | 5.6 | -7.1 | 2.3 | 4.7 | 11.5 | 11.1 | | 9.2 | 3.8 | |
| Key macroeconomic assumptions | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | ... | 14.7 | 33.6 | 8.6 | 12.7 | 11.5 | 1.3 | -1.2 | 7.4 | 0.8 | 2.7 | 2.7 | 2.3 | 3.2 | 5.7 | 4.3 |
| GDP deflator in US dollar terms (change in percent) | ... | 19.2 | 21.3 | 22.8 | 12.0 | 11.9 | 9.1 | -7.4 | -2.8 | -2.6 | 3.4 | 2.3 | 0.3 | 2.0 | 2.9 | 2.3 |
| Effective interest rate (percent) 5/ | ... | 1.4 | 1.2 | 0.8 | 1.3 | 0.3 | 1.2 | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.4 | 1.4 | 1.2 | 1.3 |
| Growth of exports of G&S (US dollar terms, in percent) | ... | 166.9 | 233.9 | 43.6 | 72.6 | 103.1 | 18.5 | -15.4 | -0.7 | -15.7 | -12.7 | -0.8 | -4.5 | -2.9 | 2.8 | 0.0 |
| Growth of imports of G&S (US dollar terms, in percent) | ... | 48.1 | 59.4 | -20.3 | 24.0 | 33.7 | 7.0 | 3.0 | 6.1 | 6.1 | 5.4 | 6.0 | 5.6 | 5.5 | 6.5 | 5.8 |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | ... | ... | ... | 34.6 | 35.8 | 35.8 | 35.8 | 35.8 | 35.8 | 35.6 | 35.8 | 35.8 | 35.8 |
| <i>Memorandum item:</i> | | | | | | | | | | | | | | | | |
| Nominal GDP (billions of US dollars) | ... | 2.7 | 4.4 | 5.9 | | | 6.5 | 6.0 | 6.2 | 6.1 | 6.5 | 6.8 | | 8.8 | 18.0 | |

Source: Staff simulations.

1/ Includes both public and private sector external debt.

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

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

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

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

6/ Historical averages and standard deviations are derived over the period 2000-2005 due to data availability.

Table 1b. Chad: Sensitivity Analyses for Key Indicators of Public and Publicly Guaranteed External Debt, 2006-26
(In percent)

| | Projections | | | | | | | 2026 |
|--|-------------|------|------|------|------|------|------------|------|
| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2016 | |
| NPV of debt-to-GDP ratio | | | | | | | | |
| Baseline | 16 | 17 | 17 | 18 | 18 | 18 | 19 | 15 |
| A. Alternative Scenarios | | | | | | | | |
| A1. Key variables at their historical averages in 2007-26 1/ | 16 | 29 | 38 | 42 | 42 | 41 | 37 | 43 |
| A2. New public sector loans on less favorable terms in 2007-26 2/ | 16 | 17 | 18 | 20 | 20 | 21 | 24 | -6 |
| B. Bound Tests | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2007-08 | 16 | 16 | 18 | 19 | 19 | 19 | 20 | 15 |
| B2. Export value growth at historical average minus one standard deviation in 2007-08 3/ | 16 | 23 | 38 | 41 | 40 | 40 | 37 | 21 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2007-08 | 16 | 15 | 15 | 16 | 16 | 17 | 17 | 13 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2007-08 4/ | 16 | 18 | 20 | 21 | 21 | 21 | 21 | 15 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 16 | 0 | -19 | -20 | -19 | -19 | -13 | 2 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2007 5/ | 16 | 25 | 25 | 27 | 27 | 27 | 28 | 22 |
| NPV of debt-to-exports ratio | | | | | | | | |
| Baseline | 27 | 31 | 33 | 41 | 50 | 54 | 75 | 113 |
| A. Alternative Scenarios | | | | | | | | |
| A1. Key variables at their historical averages in 2007-26 1/ | 27 | 54 | 73 | 95 | 115 | 120 | 145 | 328 |
| A2. New public sector loans on less favorable terms in 2007-26 2/ | 27 | 32 | 35 | 45 | 56 | 61 | 95 | -49 |
| B. Bound Tests | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2007-08 | 27 | 31 | 33 | 41 | 50 | 54 | 75 | 113 |
| B2. Export value growth at historical average minus one standard deviation in 2007-08 3/ | 27 | 52 | 128 | 159 | 191 | 203 | 254 | 275 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2007-08 | 27 | 31 | 33 | 41 | 50 | 54 | 75 | 113 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2007-08 4/ | 27 | 32 | 38 | 47 | 57 | 61 | 83 | 118 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 27 | 1 | -28 | -35 | -41 | -42 | -39 | 13 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2007 5/ | 27 | 31 | 33 | 41 | 50 | 54 | 75 | 113 |
| Ratio of debt service to exports | | | | | | | | |
| Baseline | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 7 |
| A. Alternative Scenarios | | | | | | | | |
| A1. Key variables at their historical averages in 2007-26 1/ | 1 | 2 | 2 | 3 | 3 | 3 | 5 | 11 |
| A2. New public sector loans on less favorable terms in 2007-26 2/ | 1 | 2 | 2 | 3 | 3 | 3 | 6 | 4 |
| B. Bound Tests | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2007-08 | 1 | 2 | 2 | 3 | 3 | 3 | 6 | 10 |
| B2. Export value growth at historical average minus one standard deviation in 2007-08 3/ | 1 | 3 | 4 | 7 | 8 | 9 | 21 | 29 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2007-08 | 1 | 2 | 2 | 3 | 3 | 3 | 6 | 10 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2007-08 4/ | 1 | 2 | 2 | 3 | 3 | 3 | 6 | 11 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 1 | 2 | 1 | 0 | 0 | 0 | -4 | -1 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2007 5/ | 1 | 2 | 2 | 3 | 3 | 3 | 6 | 10 |
| <i>Memorandum item:</i> | | | | | | | | |
| Grant element assumed on residual financing (i.e., financing required above baseline) 6/ | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |

Source: Staff projections and simulations.

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

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

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock implicitly assuming an offsetting adjustment in import levels).

4/ Includes official and private transfers and FDI.

5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.

6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 2a.Chad: Public Sector Debt Sustainability Framework, Baseline Scenario, 2003-2026
(In percent of GDP, unless otherwise indicated)

| | Actual | | | Historical Average ^{1/} | Standard Deviation ^{1/} | Estimate | | | | | Projections | | | | |
|--|--------|-------|-------|-------------------------------------|-------------------------------------|----------|-------|-------|------|-------|-------------|--------------------|------|------|--------------------|
| | 2003 | 2004 | 2005 | | | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Average 2006-11 | 2016 | 2026 | Average 2012-26 |
| Public sector debt ^{2/} | 48.2 | 41.9 | 36.0 | | | 26.6 | 29.1 | 28.5 | 29.7 | 28.9 | 28.7 | | 29.0 | 27.7 | |
| o/w foreign-currency denominated | 46.2 | 32.4 | 28.4 | | | 20.2 | 24.1 | 24.4 | 26.0 | 25.7 | 25.9 | | 27.5 | 27.1 | |
| Change in public sector debt | -6.3 | -6.2 | -6.0 | | | -9.4 | 2.4 | -0.5 | 1.2 | -0.8 | -0.1 | | 0.3 | -0.4 | |
| Identified debt-creating flows | -9.6 | -18.5 | -12.0 | | | -17.4 | -25.8 | -0.5 | -3.5 | -7.8 | -1.8 | | -9.2 | -2.2 | |
| Primary deficit | 5.3 | -0.5 | -4.9 | 2.4 | 4.2 | -12.7 | -28.9 | 0.7 | -4.1 | -6.2 | -0.6 | -8.6 | -8.1 | -0.3 | |
| Revenue and grants | 16.1 | 14.5 | 17.6 | | | 30.3 | 48.7 | 18.2 | 23.6 | 23.0 | 16.5 | | 27.6 | 21.4 | |
| of which : grants | 8.3 | 3.2 | 3.6 | | | 2.5 | 2.6 | 2.7 | 2.7 | 2.7 | 2.8 | | 2.8 | 3.1 | |
| Primary (noninterest) expenditure | 21.4 | 14.0 | 12.7 | | | 17.6 | 19.9 | 18.9 | 19.5 | 16.9 | 15.9 | | 19.6 | 21.1 | |
| Automatic debt dynamics | -14.2 | -17.7 | -6.9 | | | -4.7 | 3.5 | -0.7 | 1.0 | -1.3 | -1.0 | | -1.0 | -2.0 | |
| Contribution from interest rate/growth differential | -7.3 | -12.6 | -4.9 | | | -1.0 | 1.2 | -1.8 | -0.2 | -1.0 | -0.9 | | -1.0 | -1.2 | |
| of which : contribution from average real interest rate | -0.4 | -0.5 | -1.6 | | | -0.6 | 0.9 | 0.2 | 0.0 | -0.2 | -0.1 | | -0.1 | 0.3 | |
| of which : contribution from real GDP growth | -7.0 | -12.1 | -3.3 | | | -0.5 | 0.3 | -2.0 | -0.2 | -0.8 | -0.8 | | -0.9 | -1.5 | |
| Contribution from real exchange rate depreciation | -6.9 | -5.1 | -2.0 | | | -3.7 | 2.3 | 1.0 | 1.1 | -0.3 | -0.1 | | ... | ... | |
| Other identified debt-creating flows | -0.6 | -0.3 | -0.3 | | | 0.0 | -0.4 | -0.4 | -0.3 | -0.3 | -0.3 | | 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) | -0.6 | -0.3 | -0.3 | | | 0.0 | -0.4 | -0.4 | -0.3 | -0.3 | -0.3 | | 0.0 | 0.0 | |
| Other (specify, e.g. bank recapitalization) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Residual, including asset changes | 3.3 | 12.2 | 6.0 | | | 8.1 | 28.3 | -0.1 | 4.6 | 7.0 | 1.7 | | 9.5 | 1.8 | |
| NPV of public sector debt | 22.6 | 30.9 | 29.0 | | | 24.5 | 21.7 | 21.2 | 22.0 | 21.4 | 21.2 | | 20.3 | 15.3 | |
| o/w foreign-currency denominated | 20.6 | 21.4 | 21.4 | | | 18.0 | 16.7 | 17.0 | 18.3 | 18.2 | 18.4 | | 18.9 | 14.7 | |
| o/w external | 20.6 | 21.4 | 21.4 | | | 18.0 | 16.7 | 17.0 | 18.3 | 18.2 | 18.4 | | 18.9 | 14.7 | |
| NPV of contingent liabilities (not included in public sector debt) | ... | ... | ... | | | ... | ... | ... | ... | ... | ... | | ... | ... | |
| Gross financing need ^{3/} | 15.3 | 6.6 | 4.7 | | | 2.7 | -4.0 | 10.0 | 7.3 | 4.6 | 6.5 | | 3.1 | 5.8 | |
| NPV of public sector debt-to-revenue ratio (in percent) ^{4/} | 139.8 | 212.6 | 165.0 | | | 80.6 | 44.5 | 116.1 | 93.3 | 92.9 | 128.8 | | 73.3 | 71.6 | |
| o/w external | 127.7 | 147.3 | 121.8 | | | 59.4 | 34.3 | 93.6 | 77.6 | 79.2 | 111.9 | | 68.2 | 68.7 | |
| Debt service-to-revenue ratio (in percent) ^{4/ 5/} | 10.8 | 7.3 | 7.6 | | | 4.2 | 4.2 | 10.2 | 7.1 | 6.4 | 7.7 | | 3.3 | 4.6 | |
| Primary deficit that stabilizes the debt-to-GDP ratio | 11.6 | 5.7 | 1.1 | | | -3.4 | -31.3 | 1.2 | -5.3 | -5.3 | -0.4 | | -8.4 | 0.1 | |
| Key macroeconomic and fiscal assumptions | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 14.7 | 33.6 | 8.6 | 12.7 | 11.5 | 1.3 | -1.2 | 7.4 | 0.8 | 2.7 | 2.7 | 2.3 | 3.2 | 5.7 | 4.3 |
| Average nominal interest rate on forex debt (in percent) | 1.2 | 1.1 | 1.0 | 1.4 | 0.4 | 1.1 | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.4 | 1.4 | 1.2 | 1.3 |
| Average real interest rate on domestic currency debt (in percent) | 4.8 | -3.6 | -17.2 | 0.8 | 0.8 | -6.1 | 12.8 | 5.9 | 4.6 | -0.2 | 1.9 | 3.2 | 1.5 | 0.5 | 1.2 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | -15.0 | -14.9 | -6.7 | -7.6 | 10.1 | -13.2 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Inflation rate (GDP deflator, in percent) | -0.4 | 10.3 | 22.6 | 8.9 | 8.5 | 8.8 | -9.4 | -3.3 | -3.0 | 2.9 | 1.5 | -0.4 | 2.0 | 2.9 | 2.3 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | 26.7 | -12.5 | -1.4 | 6.9 | 15.9 | 40.4 | 11.3 | 2.1 | 4.2 | -11.1 | -3.4 | 7.3 | 5.6 | 6.2 | 6.3 |
| Grant element of new external borrowing (in percent) | 0.6 | 0.6 | 0.6 | 0.6 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |

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

^{1/} Historical averages and standard deviations derived over the period 2000-2005 due to data availability.

^{2/} Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.

^{3/} 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.

^{4/} Revenues including grants.

^{5/} Debt service is defined as the sum of interest and amortization of medium and long-term debt.

Table 2b. Chad: Sensitivity Analysis for Key Indicators of Public Debt 2006-2026

| | Projections | | | | | | | |
|---|-------------|------|------|------|------|------|------------|------|
| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2016 | 2026 |
| .NPV of Debt-to-GDP Ratio | | | | | | | | |
| Baseline | 24 | 22 | 21 | 22 | 21 | 21 | 20 | 15 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 25 | 47 | 45 | 47 | 47 | 44 | 49 | 27 |
| A2. No change in primary expenditures from 2007 | 25 | 24 | 25 | 25 | 26 | 28 | 19 | -25 |
| A3. Permanently lower GDP growth 1/ | 25 | 26 | 27 | 29 | 30 | 30 | 44 | 72 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2007-2008 | 25 | 23 | 24 | 25 | 24 | 22 | 12 | -16 |
| B2. Primary balance is at historical average minus one standard deviations in 2007-2008 | 25 | 29 | 34 | 36 | 35 | 34 | 25 | -7 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 25 | 52 | 54 | 56 | 53 | 51 | 36 | 0 |
| B4. One-time 30 percent real depreciation in 2007 | 25 | 27 | 26 | 26 | 24 | 21 | 6 | -29 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2007 | 25 | 34 | 33 | 34 | 31 | 30 | 16 | -18 |
| NPV of Debt-to-Revenue Ratio 2/ | | | | | | | | |
| Baseline | 81 | 44 | 116 | 93 | 93 | 129 | 73 | 72 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 84 | 98 | 256 | 206 | 213 | 287 | 188 | 145 |
| A2. No change in primary expenditures from 2007 | 84 | 50 | 135 | 107 | 113 | 169 | 69 | -115 |
| A3. Permanently lower GDP growth 1/ | 84 | 54 | 146 | 124 | 129 | 181 | 155 | 309 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2007-2008 | 84 | 47 | 131 | 105 | 102 | 134 | 45 | -75 |
| B2. Primary balance is at historical average minus one standard deviations in 2007-2008 | 84 | 60 | 188 | 152 | 151 | 205 | 90 | -32 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 84 | 106 | 299 | 239 | 233 | 317 | 131 | 0 |
| B4. One-time 30 percent real depreciation in 2007 | 84 | 56 | 142 | 110 | 103 | 129 | 21 | -136 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2007 | 84 | 69 | 180 | 142 | 137 | 180 | 58 | -84 |

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

1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of 20 (i.e., the length of the projection period).

2/ Revenues are defined inclusive of grants.