# CENTRAL AFRICAN REPUBLIC

June 8, 2016

## STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION AND REQUEST FOR A THREE-YEAR ARRANGEMENT UNDER THE EXTENDED CREDIT FACILITY—DEBT SUSTAINABILITY ANALYSIS

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*This debt sustainability analysis (DSA), conducted in the context of the joint IMF/IDA DSA debt sustainability framework for low-income countries, confirms that Central African Republic (C.A.R) continues to be assessed at high risk of external debt distress. Under the baseline scenarios, several external debt indicators at end-2015 breached the policy-related thresholds, mainly due to the slow recovery of exports and revenues resulting from continued insecurity. Large accumulation of domestic arrears has contributed to an increase in total public debt. The payment of domestic arrears will be informed by the ongoing audit of commercial, social, and cross-debt arrears. Public debt indicators under the baseline scenario have worsened compared with previous DSAs. The PV of debt-to-revenue ratio and the debt service to revenue ratio are projected to be much higher than the previous DSA*, essentially driven by a collapse in domestic revenue and GDP. *In addition, this analysis shows that C.A.R.'s overall risk of debt distress is high because of significant vulnerabilities related to domestic debt. The country also has significant vulnerabilities to adverse shocks to GDP growth, exports, exchange rate and FDI flow which could breach the policy-related thresholds for all external debt indicators. Against this background, it remains critical for C.A.R. to broaden its growth base by consolidating domestic security, pursuing prudent fiscal and debt policies, including only highly concessional debt financing, and implementing structural policies to improve budget execution and creating conditions for private investment.*

## BACKGROUND AND RECENT DEVELOPMENTS

1. **Following the 2012/2013 security and political conflict, the Central African Republic (C.A.R.) is confronted with lots of economic challenges.** With a significantly low level of domestic resource mobilization (6 percent of GDP, against 12 percent of GDP before the conflict), the economy is highly

dependent on external assistance and remains saddled with structural weaknesses that constrain an economic rebound which is crucial to tackle pervasive poverty and rebuild social cohesion.

2. **The exports recovery is slow.** In the first three quarters of 2015, economic recovery started gaining momentum due to the successful implementation of the economic emergency program by the transitional government and improved security. However, the renewed violence in late September 2015 put a halt on the recovery. Real GDP grew by 4.8 percent in 2015, against an initial target of 5.5 percent. The deterioration of security further squeezed C.A.R.'s main exports (diamond and timber). The Kimberley Process Certification Scheme (KPCS) still put an export ban on diamond exports, pending further progress in security and state control in that region. KCPS is conducting another mission to assess the situation and advise on the next steps in late 2016. Timber exports, are recovering slowly from a 38 percent decline in 2013, and remain far below their pre-crisis level.

3. **C.A.R is a weak policy performer for the purpose of determining the debt burden thresholds under the Debt Sustainability Framework.** C.A.R.'s average rating in the World Bank's Country Policy and Institutional Assessment (CPIA) during 2012-2014 is 2.55 on a scale of 1 to 6.

# STRUCTURE OF DEBT[17]

4. **In 2015, C.A.R.'s total public debt to GDP ratio declined slightly from 2014, driven by the increase in nominal GDP (11.3 percent) in 2015.** At end-2015, C.A.R.'s public and publicly-guaranteed debt (PPG) stood at CFAF 454.3 billion (48.5 percent of GDP). The PPG-to-GDP ratio declined by 2.6 percentage points from 51.1 percent at end-2014. External debt amounted to 14.5 percent of GDP.

5. **C.A.R.'s external public debt remained stable in 2015.** At end-2015, C.A.R.'s public and publicly-guaranteed external (PPGE) debt stood at CFAF 135.5 billion (Text Table 1).[18] About 62.3 percent of C.A.R.'s outstanding PPGE debt is debt owed to bilateral creditors, with multilateral creditors accounting for the remainder. External debt was 29.8 percent of total debt. The ratio of PPGE debt to GDP is mainly driven by changes in GDP, rising to 14.5 percent in 2015, from 9.7 percent in 2012.

6. **External public borrowing has been limited in recent years.** Most of the increases in external public borrowing represent concessional/emergency loans from multilateral creditors such as the World Bank and the African Development Bank. External bilateral debt in percent of GDP fell to 9 percent in 2015 from 10.5 percent in 2014.as C.A.R. was not able to borrow due to its large technical arrears with bilateral creditors. The technical arrears are all pre-HIPC and Non-Paris Club debt arrears, (except for a small commercial amount owed to French companies). Under the Paris Club agreements, C.A.R. has committed to negotiate the Non-Paris Club debt under the same conditions granted by the Paris Club (a 100 percent write off of any existing debt). The government has been negotiating those terms with the Non-Paris Club creditors but the political crisis delayed these discussions. Since 2014, the government signed only one

[17] The debt (both external and public) covers only gross central government debt. Debt to IMF is included in the government's domestic debt as C.A.R. is part of the currency union.

[18] The authorities revised up the debt stock debt from 2009 (the year of HIPC initiative) based on more complete debt data. Since 2011, the stock of debt began to increase gradually due to disbursements on new agreements signed after the initiative. The rapid increase in stock between 2013 and 2014 is due to the rise in domestic arrears.

bilateral loan agreement with Saudi Arabia for CFAF 45 billion (denominated in Saudi riyad) in December 2015 with an interest of 1 percent per year, a maturity of 30 years and a grace period of 10 years. The loan will finance infrastructure projects and rehabilitation of schools and health facility.

7. **Domestic debt increased significantly since 2014, mainly due to rising arrears.** Domestic debt accounts for 70 percent of the total debt in 2015, of which more than half is domestic payments arrears. The end-2015 stock of outstanding arrears stands at CFAF 172 billion, of which CFAF 39 billion to BEAC[19], CFAF 30.3 billion in commercial debts, CFAF 80 billion in social debts, and CFAF 22 billion in cross-debt and other debts. The settlement of the audited arrears will be part of the medium-term strategy to reduce domestic debt.

**Text Table 1. Central African Republic: Total Debt Stock, Central Government, 2012–15**

| | 2012 | 2013 | 2014 | 2015 | 2015 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|
| | (CFAF billions) | | | | (Percent of total) | (Percent of GDP) | | | |
| Total | 260.5 | 289.1 | 430.6 | 454.3 | 100.0 | 23.5 | 38.5 | 51.1 | 48.5 |
| External debt | 107.8 | 109.2 | 125.2 | 135.5 | 29.8 | 9.7 | 14.6 | 14.9 | 14.5 |
| Multilateral | 24.7 | 24.9 | 36.9 | 51.1 | 11.2 | 2.2 | 3.3 | 4.4 | 5.5 |
| Bilateral | 83.1 | 84.3 | 88.3 | 84.4 | 18.6 | 7.5 | 11.2 | 10.5 | 9.0 |
| Domestic debt [1] | 152.7 | 179.9 | 305.4 | 318.8 | 70.2 | 13.8 | 24.0 | 36.3 | 34.0 |
| Stock | 131.0 | 156.8 | 136.0 | 146.9 | 32.3 | 11.8 | 20.9 | 16.2 | 15.7 |
| Arrear | 21.7 | 23.0 | 169.4 | 171.8 | 37.8 | 2.0 | 3.1 | 20.1 | 18.3 |

Sources: C.A.R. authorities; IMF staff estimates.

# UNDERLYING DSA ASSUMPTIONS

8. **The baseline macroeconomic assumptions for this DSA have been updated based on developments in 2015, consistent with the macroeconomic framework underlying the proposed ECF arrangement.** In the short- to medium-term, the baseline scenario is anchored on two main assumptions, including improved political and security conditions and continued donor support. In this context, staff is projecting growth rates averaging 5.5 percent for the medium term as the rebound is expected to be progressive as the economic fabric has deteriorated over the years. Growth will be mainly driven by agriculture, trade, transportation and public investment. Nevertheless, this will only partly offset the sharp contraction in 2013. In the long run, growth rates are projected to remain around an average of 3.4 percent, about the same as in the previous DSA, reflecting the same assumptions on economic activities as previous DSA. In the fiscal area, the primary fiscal balance recorded a deficit of 3.4 percent of GDP in 2015, compared with a deficit of 3.0 percent of GDP projected in the 2015 DSA (Box 1). The main changes to the macroeconomic projections compared with the previous DSA in 2015 are an upward revision in the

[19] In 2016, the debt to BEAC was further consolidated to reach CFAF 55 bn.

external debt-to-GDP ratio, and a downward revision in both the primary fiscal deficit and overall fiscal balance. Also, the non-interest current account deficit is now lower than in the 2015 DSA (Text Table 2).

### Box 1. Central African Republic: Macroeconomic Assumptions for 2016–35

**Real GDP growth** is expected to average 5.5 percent during 2016–18, Growth will be mainly driven by a rebound in agriculture, livestock, construction, and trade as well as the gradual resumption of mining (following the re-certification by the Kimberley Process Certification Scheme) and forestry activities. The lack of a significant rebound in economic activity that could be expected from a low base is attributable to the gradual weakening of the country's economic structure and the lack of infrastructure and energy. Therefore, CAR is projected to partially catch up from the contraction recorded during the 2013 crisis. The long-term growth rates are kept at 3.5 percent, similar to the previous DSA.

**Average inflation** is expected to stabilize over the medium term, with convergence to 3 percent in the long run, in line with CEMAC convergence criteria.

**The primary fiscal balance** is expected to steadily improve to reach an average of around 2 percent of GDP in the medium term, and then shift to about 1 percent of GDP over the long run (2035). Government revenue (including grants) is projected to reach 20.8 percent of GDP in the long run, and primary expenditures are expected to reach 21.8 percent of GDP in 2036, mainly on account of higher domestically-financed capital spending.

**The non-interest current account deficit** is projected to decline to 10.6 percent of GDP in 2016, and to decline gradually in the medium to long term. Exports are expected to pick up, resulting from the planned recovery of mining and forestry activities, both boosted by improved security conditions and the expected full lifting of the diamond export ban in the medium term. Nevertheless, exports in percent of GDP will remain broadly unchanged from their pre-conflict level due to the narrow export base. The relatively higher non-interest current deficit (compared with before-crisis years) during 2016–19 is partly due to the increase of investment-related imports.

**External assistance:** Grant-equivalent financing is about 4.9 percent of GDP in 2016 and is assumed at about 3.9 percent of GDP in the long run.

**Text Table 2. Central African Republic: Changes in Macroeconomic Projections, 2015 and 2016 DSA**

| | May-16 | | Sep-15 | |
|---|---|---|---|---|
| | 2016 | Aver. 2017-20 | 2016 | Aver. 2017-20 |
| | *(Percent of GDP; unless otherwise indicated)* | | | |
| GDP growth (percent) | 5.2 | 5.7 | 5.7 | 5.3 |
| CPI (annual average) | 4.0 | 3.1 | 4.9 | 3.5 |
| CPI (end of period) | 4.0 | 3.1 | 2.5 | 3.4 |
| Non-interest current account balance | 10.1 | 9.0 | 9.6 | 7.0 |
| Overall fiscal balance (excl. grants) | -9.0 | -6.5 | -8.1 | -3.9 |
| Overall fiscal balance (incl. grants) | -4.1 | -2.3 | -3.4 | -1.5 |
| Primary deficit | 3.3 | 1.1 | 1.4 | 0.4 |
| External debt | 16.9 | 13.1 | 41.1 | 51.4 |

# EXTERNAL DEBT SUSTAINABILITY RESULTS

9. **Under the baseline scenario, several external debt indicators breach the threshold.** The present value (PV) of debt-to-exports ratio is projected to stay above the policy threshold from 2020. The debt service-to-export ratio and the debt service-to-revenue ratio breaches the threshold in 2015. As was the case in the 2015 DSA, these outcomes reflect essentially C.A.R.'s narrow export base and the slow recovery of exports and government revenues. In contrast, the PV of debt-to-GDP ratio lies below the threshold in 2015 and is expected to maintain this position throughout the projection period (Figure 1 and Text Table 3). These results are broadly similar to those of the 2015 DSA. However, considering C.A.R. as a post-HIPC debt relief country and in view of its current fragile post-conflict situation, this DSA assumes that the authorities will strengthen their debt management capacities and continue to seek highly concessional financing. This, together with improved macroeconomic management, will lead to improvements in the debt service-to-exports, debt-service-to-revenues, and PV of debt-to revenue ratios in the long run.

10. **The current DSA results reaffirm the findings of the 2015 DSA, namely that C.A.R.'s risk of external debt distress is high**. In the most extreme scenario, all indicators breach the threshold. In particular, the PV of debt-to-exports ratio remains above the policy threshold under the extreme scenario for a significant period. And the PV of debt-to-revenue ratio stays above the policy threshold under the extreme scenario till 2025.

11. **Alternative scenarios and stress tests highlight the vulnerabilities already contained in this DSA.** The historical scenario includes the crisis years and the 2009 HIPC debt relief that reduced C.A.R.'s external debt vulnerability. Therefore, the historical scenario could not adequately reflect the baseline prospects for C.A.R. in the near future and long run. Under a scenario of combined adverse shocks on GDP growth, exports, exchange rate and FDI flow, three indicators worsen compared with the baseline scenario: (i) the PV of debt-to-GDP ratio worsens and breaches the threshold starting in

2016; (ii) the PV of debt-to-exports ratio breaches the threshold until 2036; and (iii) the PV of debt-to-revenue will also deteriorate and breach the threshold in the medium term and only decline in the long run. These results underscore the need to: (i) foster a sound macroeconomic environment that would promote growth, domestic revenue mobilization, facilitate an export recovery, and enable FDI inflows; (ii) continue the reform agenda in order to avoid the return to unsustainable debt levels observed before 2009; (iii) continue improving security.

12. **The bound test results suggest that C.A.R.'s slow recovery in exports is the most significant factor that contributes to its vulnerability of debt sustainability**. If export value growth is at historical average minus one standard deviation in 2016-17, the debt-to-exports ratio rises to above 100 in 2017 and stays significantly above the policy threshold for the entire test period.

**Text Table 3. Central African Republic: Policy-Based Thresholds and External Debt Burden Indicators**

| | | Baseline Scenario Ratios | |
|---|---|---|---|
| | Thresholds 1/ | 2015 | 2016-36 |
| | | | Peak |
| PV of PPG external debt in percent of | | | |
| GDP | 30 | 12 | 14 |
| Exports | 100 | 95 | 100 |
| Revenue | 200 | 169 | 135 |
| | | | |
| PPG external debt service in percent of | | | |
| Exports | 15 | 24 | 10 |
| Revenue | 18 | 43 | 15 |

Sources: C.A.R. authorities; and IMF and World Bank estimates.

1/ Policy-based thresholds as defined in the LIC DSA framework for a weak policy performer based on the 3-year average CPIA score.

# PUBLIC DEBT SUSTAINABILITY RESULTS

13. **Compared to the previous DSA, public debt indicators under the baseline scenario worsened.** In contrast to the previous DSA, the PV of public debt-to-GDP ratios are now projected to remain above the 38 percent benchmark throughout 2016–19, but is on a declining trend as macroeconomic conditions improve. The PV of public debt-to-GDP ratio and PV of debt-to-revenue ratio are projected to be much higher than the previous DSA in the medium term, reflecting a slower-than-projected recovery of government revenues (see Text Table 4). This reflected a lower-than-expected economic activity, associated with the continued insecurity, two inoperative regional tax and customs directorates, and imports consisting mainly of food products subject to low customs duties in 2015. In addition, the rapid accumulation of domestic arrears (16.3 percent of GDP from 2012 to 2015) increased vulnerabilities of the domestic debt. However, all indicators are going to improve in the medium term and long run in line with the improved security and macroeconomic situation.

**Text Table 4. Central African Republic: Comparative Debt Ratios, 2015–19**
(Percent)

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| | | | Proj. | | |
| PV of debt to GDP ratio | | | | | |
| 2015 DSA | 42.8 | 37.5 | 45.1 | 43.2 | 42.1 |
| New DSA | 46.0 | 41.3 | 37.9 | 34.6 | 31.3 |
| PV of debt to revenue ratio | | | | | |
| 2015 DSA | 337.9 | 267.8 | 260.8 | 268.9 | 221.3 |
| New DSA | 321.4 | 318.3 | 286.9 | 251.8 | 218.7 |
| Debt service to revenue ratio | | | | | |
| 2015 DSA | 26.9 | 25.0 | 19.6 | 21.9 | 25.2 |
| New DSA | 25.8 | 15.2 | 10.3 | 11.3 | 11.3 |
| Revenue and grants (in percent of GDP) | | | | | |
| 2015 DSA | 11.5 | 12.3 | 11.8 | 10.7 | 12.3 |
| New DSA | 14.3 | 13.0 | 13.2 | 13.7 | 14.3 |

Sources: C.A.R. authorities; and IMF staff estimates and projections.

14. **The alternative scenarios suggest that the baseline is very sensitive to the growth assumptions.** The most extreme shock—a one-standard deviation drop in the growth rate for 2016 and 2017—will substantially increase the public debt and keep C.A.R.'s PV of debt-to-GDP ratio above the benchmark throughout the entire period (Figure 2 and Table 2). The PV of debt-to-revenue ratio is also projected to rise under the most extreme shock, and debt service-to-revenue ratio will also increase significantly in the medium term.

15. **The public DSA analysis shows that C.A.R.'s overall risk of debt distress is high because of significant vulnerabilities related to domestic debt.** Public debt level is high mainly due to the presence of domestic arrears as a result of the GDP collapse from the 2013 crisis. The country continues to have significant vulnerabilities to adverse shocks to GDP growth. Staff and the authorities agree that maintaining domestic security is a priority to reduce the potential adverse shocks to growth and exports and therefore debt distress. Meanwhile, reforms should focus on enhancing revenue administration and public financial administration efforts and structural reforms to increase potential economic growth.

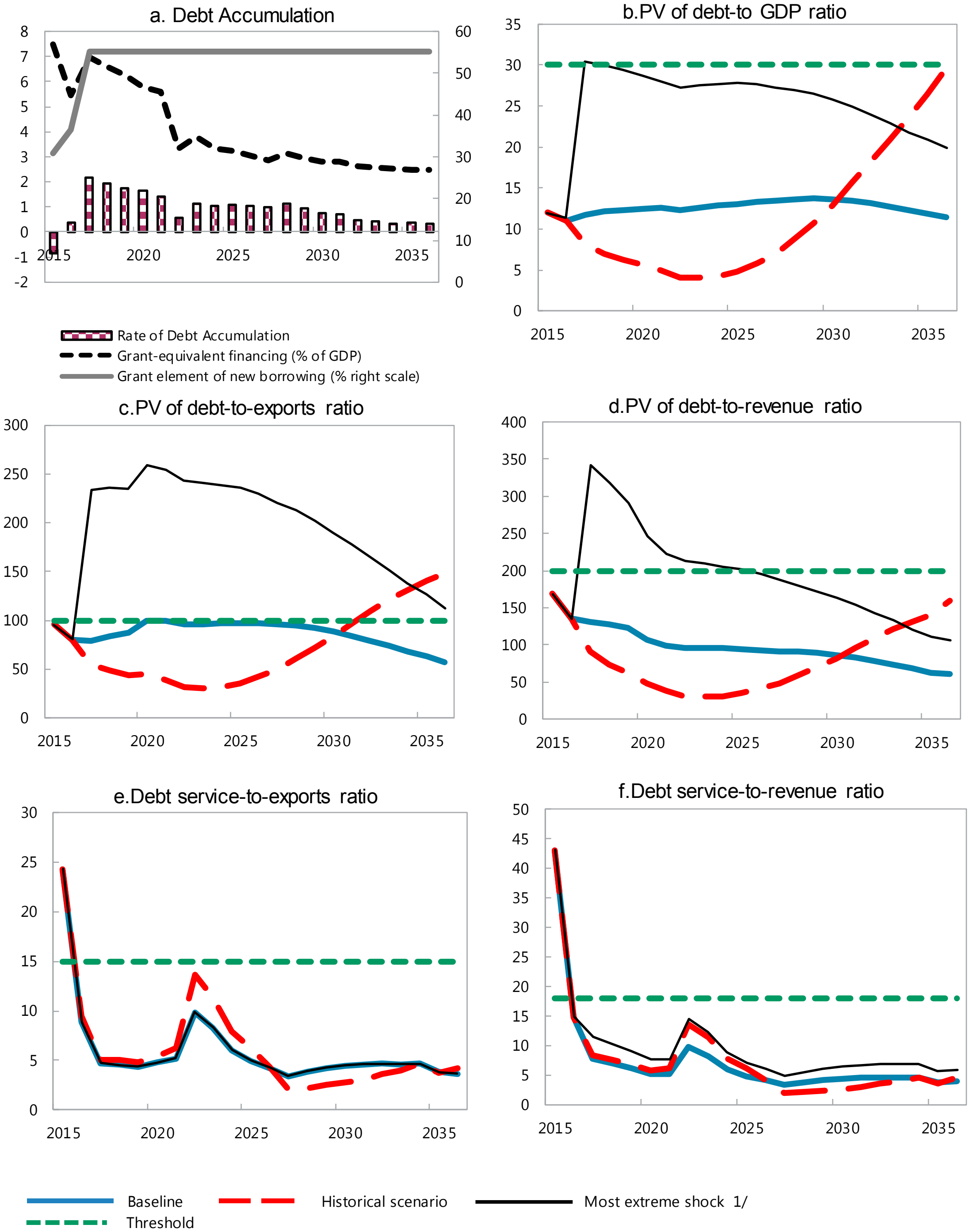
# CONCLUSION

16. **As in the previous DSA, C.A.R.'s debt remains at high risk of distress.** The debt sustainability indicators have worsened. Although external debt-to-GDP ratio stays below the benchmark, almost all the external and public debt indicators deteriorate. In particular, the PV of external debt-to-exports ratio remains for a significant period well above the policy threshold under the extreme scenario.

17. **C.A.R. needs to consolidate the basis for growth by fostering domestic security, maintaining macroeconomic and political stability, and developing the country's institutional and administrative capacity.** As the public debt is highly vulnerable to slower GDP growth, structural policies that improve the business climate, boost productivity and diversify the export base would contribute to improving the debt rating.

18. **C.A.R. should pursue a debt strategy limited to grant and highly concessional financing.** The high-risk classification and the vulnerabilities evidenced by the alternative and stress test scenarios underline the importance of increasing exports from the traditional forestry and diamond sectors, while taking steps to widen the export base. At the same time, it is essential for C.A.R. to steadfastly strengthen macroeconomic stability and pursue fiscal reforms and through sound policies, step up domestic revenue mobilization, and restrain non priority expenditures. Meanwhile, it is critical for the authorities to intensify their efforts to substantially improve public debt management, with assistance from the Regional Technical Assistance Center for Central Africa, and push for funding and putting in place Version 6.0 of the Debt Management and Financial Analysis System (DMFAS) software. Also, more stringent procedures should be put in place to ensure that new financial commitments are undertaken only with the approval and signature of the minister of finance. Finally, to the maximum extent possible, C.A.R. should rely on grant financing, considering its fragile post-conflict situation. Beyond that, staff encourages the authorities to continue to seek maximum concessionality in their external financing.

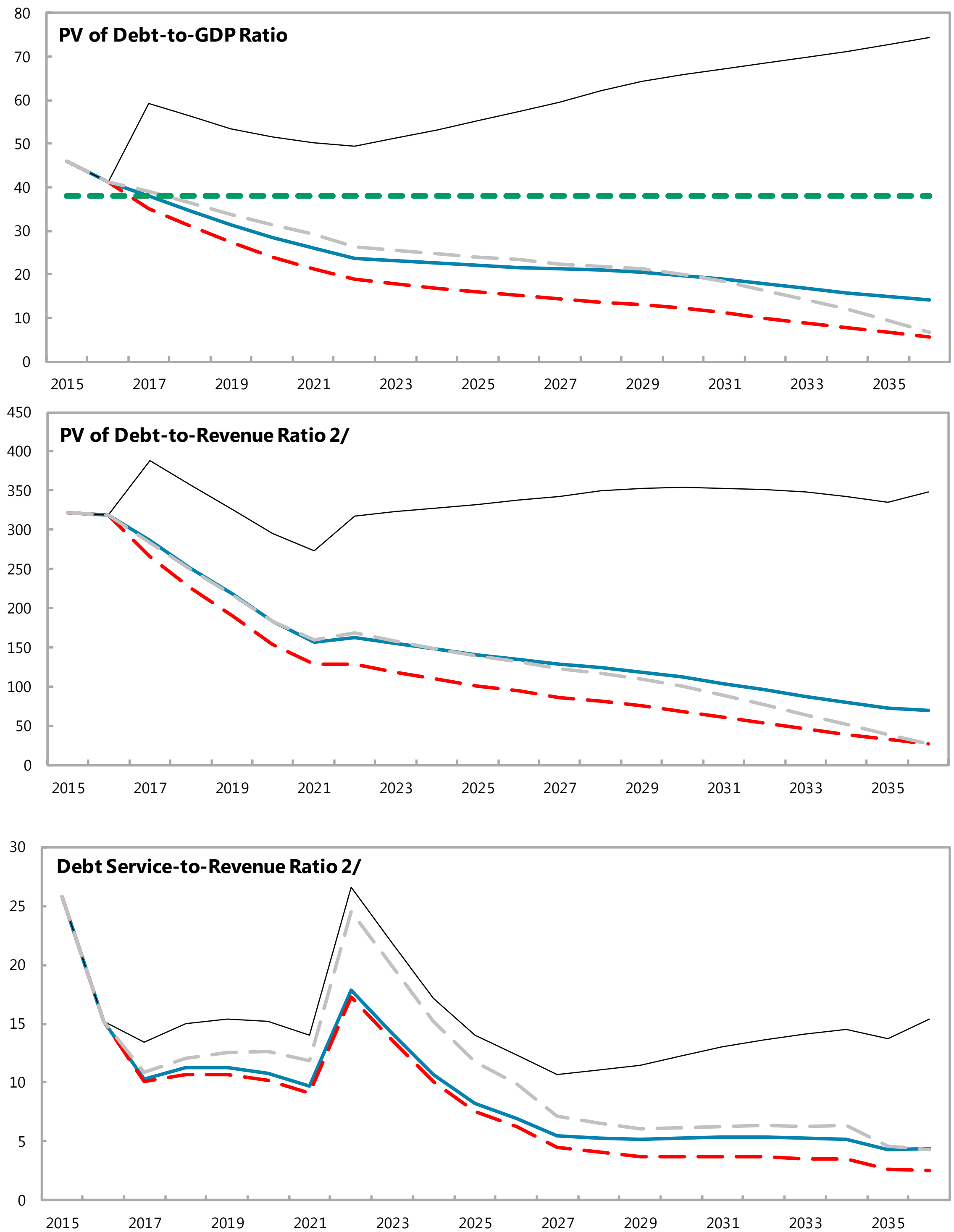
**Figure 1. Central African Republic: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2015–36 1/**




Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b. it corresponds to a Combination shock; in c. to a Combination shock; in d. to a Combination shock; in e. to a Growth shock and in figure f. to a Growth shock

**Figure 2. Central African Republic: Indicators of Public Debt Under Alternative Scenarios, 2016–36 [1/]**




1/ The most extreme stress test is the test that yields the highest ratio on or before 2025.
2/ Revenues are defined inclusive of grants.

## Table 1. Central African Republic: External Debt Sustainability Framework, Baseline Scenario, 2012–36 1/

(Percent of GDP, unless otherwise indicated)

| | Actual | | | | Historical 6/ | Standard 6/ | Projections | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Average | Deviation | | | | | | | 2016-2021 | | | 2022-2036 |
| | 2012 | 2013 | 2014 | 2015 | | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Average | 2025 | 2036 | Average |
| **External debt (nominal) 1/** | **9.7** | **14.6** | **14.9** | **14.5** | | | **14.5** | **16.8** | **18.4** | **19.5** | **20.2** | **20.8** | | **24.2** | **20.3** | |
| *of which: public and publicly guaranteed (PPG)* | 9.7 | 14.6 | 14.9 | 14.5 | | | 14.5 | 16.8 | 18.4 | 19.5 | 20.2 | 20.8 | | 24.2 | 20.3 | |
| Change in external debt | 1.2 | 4.8 | 0.3 | -0.4 | | | 0.1 | 2.2 | 1.7 | 1.0 | 0.7 | 0.6 | | 0.5 | -0.7 | |
| Identified net debt-creating flows | 1.5 | 7.1 | 3.8 | 11.8 | | | 8.9 | 8.0 | 7.6 | 6.2 | 5.9 | 5.5 | | 2.5 | -2.9 | |
| **Non-interest current account deficit** | **4.5** | **2.7** | **5.2** | **12.5** | **6.7** | **3.1** | **10.6** | **10.8** | **10.2** | **8.8** | **8.6** | **8.1** | **9.5** | **4.9** | **-0.4** | 3.1 |
| Deficit in balance of goods and services | 11.4 | 10.5 | 24.5 | 22.4 | | | 19.8 | 18.8 | 18.1 | 16.5 | 15.9 | 15.1 | | 11.2 | 4.0 | |
| Exports | 12.5 | 14.4 | 13.0 | 12.6 | | | 13.7 | 14.8 | 14.5 | 14.3 | 12.6 | 12.6 | | 13.5 | 20.1 | |
| Imports | 23.9 | 25.0 | 37.6 | 35.0 | | | 33.5 | 33.7 | 32.6 | 30.8 | 28.5 | 27.6 | | 24.7 | 24.1 | |
| Net current transfers (negative = inflow) | -6.3 | -7.1 | -18.5 | -9.2 | -6.1 | 4.6 | -8.6 | -8.2 | -7.7 | -7.3 | -6.9 | -6.5 | -7.5 | -5.9 | -4.0 | -5.3 |
| *of which: official* | -3.2 | -4.7 | -11.3 | -2.5 | | | -2.5 | -2.6 | -2.6 | -2.6 | -2.6 | -2.5 | | -2.5 | -1.9 | |
| Other current account flows (negative = net inflow) | -0.7 | -0.7 | -0.8 | -0.8 | | | -0.6 | 0.1 | -0.1 | -0.4 | -0.4 | -0.4 | | -0.4 | -0.4 | |
| **Net FDI (negative = inflow)** | **-3.2** | **-0.1** | **-0.1** | **-0.3** | **-2.2** | **1.7** | **-1.6** | **-1.8** | **-1.8** | **-1.7** | **-1.7** | **-1.7** | **-1.7** | **-1.8** | **-2.0** | -2.1 |
| **Endogenous debt dynamics 2/** | **0.2** | **4.5** | **-1.3** | **-0.4** | | | **-0.2** | **-0.9** | **-0.9** | **-0.9** | **-0.9** | **-1.0** | | **-0.6** | **-0.5** | |
| Contribution from nominal interest rate | 0.1 | 0.3 | 0.3 | 0.4 | | | 0.5 | -0.2 | 0.0 | 0.0 | 0.1 | 0.1 | | 0.1 | 0.2 | |
| Contribution from real GDP growth | -0.4 | 5.1 | -0.1 | -0.8 | | | -0.7 | -0.7 | -0.9 | -1.0 | -1.0 | -1.1 | | -0.7 | -0.7 | |
| Contribution from price and exchange rate changes | 0.5 | -0.9 | -1.5 | 1.8 | | | ... | ... | ... | ... | ... | ... | | ... | ... | |
| **Residual (3-4) 3/** | **-0.3** | **-2.3** | **-3.5** | **-12.2** | | | **-8.8** | **-5.8** | **-5.9** | **-5.1** | **-5.2** | **-4.9** | | **-2.0** | **2.1** | |
| *of which: exceptional financing* | 0.0 | 0.0 | -0.8 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| PV of external debt 4/ | ... | ... | 13.0 | 12.0 | | | 11.0 | 11.7 | 12.1 | 12.4 | 12.5 | 12.6 | | 13.1 | 11.5 | |
| In percent of exports | ... | ... | 99.9 | 95.3 | | | 80.3 | 79.0 | 83.8 | 86.7 | 98.8 | 99.9 | | 97.1 | 57.0 | |
| **PV of PPG external debt** | **...** | **...** | **13.0** | **12.0** | | | **11.0** | **11.7** | **12.1** | **12.4** | **12.5** | **12.6** | | **13.1** | **11.5** | |
| **In percent of exports** | **...** | **...** | **99.9** | **95.3** | | | **80.3** | **79.0** | **83.8** | **86.7** | **98.8** | **99.9** | | **97.1** | **57.0** | |
| **In percent of government revenues** | **...** | **...** | **265.1** | **168.8** | | | **135.3** | **131.5** | **128.3** | **122.5** | **107.0** | **99.8** | | **94.6** | **61.6** | |
| **Debt service-to-exports ratio (in percent)** | **25.0** | **21.6** | **20.4** | **24.3** | | | **8.8** | **4.7** | **4.6** | **4.4** | **4.8** | **5.2** | | **4.9** | **3.7** | |
| **PPG debt service-to-exports ratio (in percent)** | **25.0** | **21.6** | **20.4** | **24.3** | | | **8.8** | **4.7** | **4.6** | **4.4** | **4.8** | **5.2** | | **4.9** | **3.7** | |
| **PPG debt service-to-revenue ratio (in percent)** | **27.2** | **55.4** | **54.0** | **43.1** | | | **14.9** | **7.8** | **7.0** | **6.2** | **5.1** | **5.2** | | **4.8** | **4.0** | |
| Total gross financing need (Billions of U.S. dollars) | 0.1 | 0.1 | 0.1 | 0.2 | | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | | 0.2 | -0.1 | |
| Non-interest current account deficit that stabilizes debt ratio | 3.3 | -2.1 | 4.9 | 12.9 | | | 10.5 | 8.5 | 8.6 | 7.8 | 7.9 | 7.5 | | 4.5 | 0.3 | |
| **Key macroeconomic assumptions** | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 4.1 | -36.7 | 1.0 | 4.8 | -0.4 | 12.1 | 5.2 | 5.5 | 5.8 | 5.8 | 5.8 | 5.8 | 5.7 | 3.3 | 3.4 | 3.4 |
| GDP deflator in US dollar terms (change in percent) | -5.0 | 10.5 | 11.2 | -10.9 | 3.8 | 8.1 | 6.3 | 6.6 | 6.0 | 5.9 | 6.3 | 5.2 | 6.1 | 2.8 | 2.9 | 2.9 |
| Effective interest rate (percent) 5/ | 1.7 | 2.5 | 2.7 | 2.3 | 1.8 | 0.8 | 4.0 | -1.6 | 0.1 | 0.2 | 0.4 | 0.5 | 0.6 | 0.6 | 1.1 | 1.0 |
| Growth of exports of G&S (US dollar terms, in percent) | -8.1 | -19.1 | 1.3 | -9.9 | 2.2 | 14.3 | 21.7 | 21.7 | 9.7 | 10.4 | -0.5 | 10.9 | 12.3 | 8.2 | 13.7 | 9.8 |
| Growth of imports of G&S (US dollar terms, in percent) | -3.2 | -26.8 | 68.8 | -13.0 | 9.6 | 24.4 | 7.0 | 13.0 | 8.6 | 6.1 | 4.1 | 7.9 | 7.8 | 3.8 | 7.3 | 5.4 |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | 30.9 | ... | ... | 36.5 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 | 52.1 | 55.3 | 55.3 | 55.3 |
| Government revenues (excluding grants, in percent of GDP) | 11.5 | 5.6 | 4.9 | 7.1 | | | 8.1 | 8.9 | 9.5 | 10.1 | 11.6 | 12.6 | | 13.8 | 18.6 | 15.6 |
| Aid flows (in Billions of US dollars) 7/ | 0.1 | 0.1 | 0.2 | 0.1 | | | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | | 0.2 | 0.2 | |
| *of which: Grants* | 0.1 | 0.0 | 0.2 | 0.1 | | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | |
| *of which: Concessional loans* | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | |
| Grant-equivalent financing (in percent of GDP) 8/ | ... | ... | ... | 7.5 | | | 5.4 | 7.0 | 6.6 | 6.2 | 5.8 | 5.6 | | 3.2 | 2.5 | 2.9 |
| Grant-equivalent financing (in percent of external financing) 8/ | ... | ... | ... | 93.1 | | | 84.6 | 76.5 | 78.0 | 79.1 | 79.1 | 80.3 | | 74.9 | 84.0 | 78.2 |
| *Memorandum items:* | | | | | | | | | | | | | | | | |
| Nominal GDP (Billions of US dollars) | 2.2 | 1.5 | 1.7 | 1.6 | | | 1.8 | 2.0 | 2.2 | 2.5 | 2.8 | 3.2 | | 4.1 | 8.0 | |
| Nominal dollar GDP growth | -1.1 | -30.0 | 12.3 | -6.6 | | | 11.8 | 12.4 | 12.2 | 12.1 | 12.5 | 11.3 | 12.1 | 6.3 | 6.4 | 6.4 |
| PV of PPG external debt (in Billions of US dollars) | | | 0.2 | 0.2 | | | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | | 0.5 | 0.9 | |
| (PVt-PVt-1)/GDPt-1 (in percent) | | | | -0.9 | | | 0.4 | 2.2 | 1.9 | 1.8 | 1.7 | 1.4 | 1.6 | 1.1 | 0.3 | 0.7 |
| 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 | 0.0 | |
| PV of PPG external debt (in percent of GDP + remittances) | ... | ... | 13.1 | 12.0 | | | 11.0 | 11.7 | 12.2 | 12.4 | 12.5 | 12.6 | | 13.1 | 11.5 | |
| PV of PPG external debt (in percent of exports + remittances) | ... | ... | 103.1 | 98.2 | | | 82.5 | 80.9 | 85.8 | 88.6 | 101.1 | 102.1 | | 98.8 | 57.4 | |
| Debt service of PPG external debt (in percent of exports + remittances) | ... | ... | 21.0 | 25.1 | | | 9.1 | 4.8 | 4.7 | 4.5 | 4.9 | 5.3 | | 5.0 | 3.7 | |

Sources: Country authorities; and staff estimates and projections.

1/ Includes central government external debt.

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

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes. The large residuals reflect the narrow coverage of the debt and the exclusion of the large technical arrears with non-Paris club creditors.

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

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

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

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

8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

## Table 2. Central African Republic: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36

(Percent)

| | Projections | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2035 | 2036 |
| **PV of debt-to GDP ratio** | | | | | | | |
| **Baseline** | 11 | 12 | 12 | 12 | 12 | 12 | 11 |
| **A. Alternative Scenarios** | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 11 | 8 | 7 | 6 | 6 | 26 | 30 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 11 | 13 | 15 | 16 | 17 | 22 | 21 |
| **B. Bound Tests** | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 11 | 17 | 18 | 18 | 19 | 18 | 17 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 11 | 17 | 17 | 17 | 17 | 13 | 13 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 11 | 14 | 14 | 15 | 15 | 14 | 13 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 11 | 20 | 19 | 19 | 19 | 14 | 14 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 11 | 30 | 30 | 29 | 29 | 21 | 20 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 11 | 16 | 17 | 17 | 17 | 17 | 16 |
| **PV of debt-to-exports ratio** | | | | | | | |
| **Baseline** | 80 | 79 | 84 | 87 | 99 | 63 | 57 |
| **A. Alternative Scenarios** | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 80 | 55 | 48 | 44 | 45 | 141 | 147 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 80 | 91 | 103 | 113 | 134 | 116 | 106 |
| **B. Bound Tests** | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 80 | 79 | 84 | 87 | 99 | 63 | 57 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 80 | 213 | 219 | 221 | 246 | 133 | 120 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 80 | 79 | 84 | 87 | 99 | 63 | 57 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 80 | 132 | 134 | 134 | 148 | 75 | 67 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 80 | 234 | 236 | 235 | 259 | 126 | 113 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 80 | 79 | 84 | 87 | 99 | 63 | 57 |
| **PV of debt-to-revenue ratio** | | | | | | | |
| **Baseline** | 135 | 131 | 128 | 122 | 107 | 63 | 62 |
| **A. Alternative Scenarios** | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 135 | 91 | 73 | 62 | 48 | 140 | 159 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 135 | 151 | 158 | 159 | 145 | 115 | 115 |
| **B. Bound Tests** | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 135 | 196 | 192 | 183 | 160 | 93 | 92 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 135 | 189 | 178 | 166 | 142 | 71 | 69 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 135 | 154 | 151 | 144 | 126 | 73 | 72 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 135 | 219 | 205 | 189 | 161 | 75 | 73 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 135 | 342 | 317 | 292 | 246 | 110 | 107 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 135 | 184 | 180 | 172 | 150 | 87 | 86 |

## Table 2. Central African Republic: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016–36 (concluded)
(Percent)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Debt service-to-exports ratio** | | | | | | | |
| **Baseline** | 9 | 5 | 5 | 4 | 5 | 4 | 4 |
| **A. Alternative Scenarios** | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 9 | 5 | 5 | 5 | 5 | 4 | 4 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 9 | 5 | 5 | 5 | 6 | 7 | 6 |
| **B. Bound Tests** | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 9 | 5 | 5 | 4 | 5 | 4 | 4 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 9 | 9 | 10 | 9 | 10 | 9 | 8 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 9 | 5 | 5 | 4 | 5 | 4 | 4 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 9 | 5 | 5 | 5 | 6 | 5 | 5 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 9 | 8 | 9 | 9 | 9 | 8 | 8 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 9 | 5 | 5 | 4 | 5 | 4 | 4 |
| **Debt service-to-revenue ratio** | | | | | | | |
| **Baseline** | 15 | 8 | 7 | 6 | 5 | 4 | 4 |
| **A. Alternative Scenarios** | | | | | | | |
| A1. Key variables at their historical averages in 2015-2035 1/ | 15 | 8 | 8 | 7 | 6 | 4 | 5 |
| A2. New public sector loans on less favorable terms in 2015-2035 2 | 15 | 8 | 8 | 8 | 7 | 7 | 7 |
| **B. Bound Tests** | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2016-2017 | 15 | 12 | 10 | 9 | 8 | 6 | 6 |
| B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/ | 15 | 8 | 8 | 7 | 6 | 5 | 5 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017 | 15 | 9 | 8 | 7 | 6 | 4 | 5 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/ | 15 | 9 | 8 | 7 | 6 | 5 | 5 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 15 | 12 | 12 | 11 | 9 | 7 | 8 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/ | 15 | 11 | 10 | 9 | 7 | 5 | 6 |
| *Memorandum item:* | | | | | | | |
| Grant element assumed on residual financing (i.e., financing required above baseline) 6/ | 51 | 51 | 51 | 51 | 51 | 51 | 51 |

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.

## Table 3. Central African Republic: Public Sector Debt Sustainability Framework, Baseline Scenario, 2012–36

(In percent of GDP, unless otherwise indicated)

| | Actual | | | | | | Projections | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2012 | 2013 | 2014 | 2015 | Average 5/ | Standard Deviation 5/ | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2016-21 Average | 2025 | 2036 | 2022-36 Average |
| **Public sector debt 1/** | 23.5 | 38.5 | 51.1 | 48.5 | | | 44.9 | 43.0 | 40.9 | 38.4 | 36.2 | 34.2 | | 33.3 | 23.1 | |
| *of which: foreign-currency denominated* | 9.7 | 14.6 | 14.9 | 14.5 | | | 14.5 | 16.8 | 18.4 | 19.5 | 20.2 | 20.8 | | 24.2 | 20.3 | |
| Change in public sector debt | 1.7 | 15.0 | 12.6 | -2.6 | | | -3.6 | -1.9 | -2.1 | -2.5 | -2.2 | -2.0 | | -0.3 | -1.1 | |
| Identified debt-creating flows | -1.4 | 13.8 | -6.7 | -4.1 | | | -0.9 | -1.8 | -2.1 | -1.9 | -1.9 | -1.9 | | -0.5 | 0.1 | |
| Primary deficit | -0.7 | 5.9 | -3.6 | 0.1 | -0.6 | 4.1 | 3.2 | 2.7 | 2.0 | 1.8 | 1.6 | 0.9 | 2.0 | 1.1 | 1.4 | 1.0 |
| Revenue and grants | 16.4 | 8.4 | 15.7 | 14.3 | | | 13.0 | 13.2 | 13.7 | 14.3 | 15.5 | 16.5 | | 15.7 | 20.5 | |
| *of which: grants* | 4.9 | 2.8 | 10.8 | 7.2 | | | 4.9 | 4.3 | 4.3 | 4.2 | 3.9 | 3.9 | | 1.9 | 1.9 | |
| Primary (noninterest) expenditure | 15.6 | 14.2 | 12.1 | 14.4 | | | 16.2 | 15.9 | 15.7 | 16.1 | 17.2 | 17.4 | | 16.8 | 21.8 | |
| Automatic debt dynamics | -0.8 | 11.3 | -2.1 | -3.2 | | | -4.1 | -4.5 | -4.1 | -3.9 | -3.7 | -3.0 | | -1.3 | -1.0 | |
| Contribution from interest rate/growth differential | -0.7 | 11.9 | -3.6 | -4.6 | | | -4.0 | -4.4 | -3.9 | -3.7 | -3.5 | -2.8 | | -1.3 | -1.0 | |
| *of which: contribution from average real interest rate* | 0.2 | -1.7 | -3.2 | -2.3 | | | -1.6 | -2.0 | -1.6 | -1.5 | -1.3 | -0.8 | | -0.2 | -0.2 | |
| *of which: contribution from real GDP growth* | -0.9 | 13.6 | -0.4 | -2.3 | | | -2.4 | -2.3 | -2.4 | -2.3 | -2.1 | -2.0 | | -1.1 | -0.8 | |
| Contribution from real exchange rate depreciation | -0.1 | -0.6 | 1.5 | 1.4 | | | -0.1 | -0.2 | -0.2 | -0.2 | -0.3 | -0.2 | | ... | ... | |
| Other identified debt-creating flows | 0.1 | -3.3 | -1.0 | -1.0 | | | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | | -0.3 | -0.3 | |
| 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 | 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 | 0.0 | |
| Debt relief (HIPC and other) | -0.1 | -3.3 | -1.0 | -1.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Other (specify, e.g. bank recapitalization) | 0.3 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | | -0.3 | -0.3 | |
| Residual, including asset changes | 3.1 | 1.2 | 19.3 | 1.5 | | | -2.7 | -0.1 | 0.0 | -0.6 | -0.3 | -0.1 | | 0.2 | -1.2 | |
| **Other Sustainability Indicators** | | | | | | | | | | | | | | | | |
| **PV of public sector debt** | ... | ... | 49.3 | 46.0 | | | 41.3 | 37.9 | 34.6 | 31.3 | 28.5 | 26.0 | | 22.1 | 14.2 | |
| *of which: foreign-currency denominated* | ... | ... | 13.0 | 12.0 | | | 11.0 | 11.7 | 12.1 | 12.4 | 12.5 | 12.6 | | 13.1 | 11.5 | |
| *of which: external* | ... | ... | 13.0 | 12.0 | | | 11.0 | 11.7 | 12.1 | 12.4 | 12.5 | 12.6 | | 13.1 | 11.5 | |
| PV of contingent liabilities (not included in public sector debt) | ... | ... | ... | ... | | | ... | ... | ... | ... | ... | ... | | ... | ... | |
| Gross financing need 2/ | 3.5 | 9.8 | -0.2 | 3.8 | | | 5.2 | 4.1 | 3.5 | 3.4 | 3.3 | 2.5 | | 2.4 | 2.3 | |
| PV of public sector debt-to-revenue and grants ratio (in percent) | ... | ... | 313.8 | 321.4 | | | 318.3 | 286.9 | 251.8 | 218.7 | 183.3 | 157.5 | | 141.0 | 69.5 | |
| PV of public sector debt-to-revenue ratio (in percent) | ... | ... | 1003.9 | 648.1 | | | 508.7 | 426.1 | 365.7 | 309.9 | 244.6 | 206.3 | | 160.1 | 76.6 | |
| *of which: external 3/* | ... | ... | 265.1 | 168.8 | | | 135.3 | 131.5 | 128.3 | 122.5 | 107.0 | 99.8 | | 94.6 | 61.6 | |
| Debt service-to-revenue and grants ratio (in percent) 4/ | 26.2 | 46.8 | 21.3 | 25.8 | | | 15.2 | 10.3 | 11.3 | 11.3 | 10.7 | 9.7 | | 8.3 | 4.4 | |
| Debt service-to-revenue ratio (in percent) 4/ | 37.3 | 69.7 | 68.1 | 52.1 | | | 24.2 | 15.4 | 16.4 | 15.9 | 14.3 | 12.7 | | 9.4 | 4.9 | |
| Primary deficit that stabilizes the debt-to-GDP ratio | -2.4 | -9.2 | -16.2 | 2.7 | | | 6.8 | 4.6 | 4.1 | 4.3 | 3.8 | 2.9 | | 1.4 | 2.5 | |
| **Key macroeconomic and fiscal assumptions** | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 4.1 | -36.7 | 1.0 | 4.8 | -0.4 | 12.1 | 5.2 | 5.5 | 5.8 | 5.8 | 5.8 | 5.8 | 4.9 | 3.3 | 3.4 | 3.4 |
| Average nominal interest rate on forex debt (in percent) | 1.7 | 2.5 | 2.7 | 2.3 | 1.8 | 0.8 | 4.0 | -1.6 | 0.1 | 0.2 | 0.4 | 0.5 | 0.6 | 0.6 | 1.1 | 1.0 |
| Average real interest rate on domestic debt (in percent) | 2.1 | -5.0 | -8.9 | -5.1 | 1.4 | 6.6 | -4.3 | -3.9 | -3.4 | -3.3 | -3.3 | -2.0 | -3.4 | 3.1 | 5.2 | 3.3 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | -1.4 | -4.3 | 11.2 | 10.3 | 2.2 | 8.8 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Inflation rate (GDP deflator, in percent) | 2.7 | 7.0 | 11.1 | 6.2 | 4.6 | 2.9 | 5.8 | 5.3 | 4.8 | 4.7 | 4.7 | 3.3 | 4.2 | 2.8 | 2.9 | 2.9 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | 7.9 | -42.3 | -13.9 | 24.2 | -2.2 | 16.1 | 18.7 | 3.6 | 4.6 | 8.3 | 12.9 | 7.2 | 9.2 | 4.6 | 2.7 | 5.0 |
| Grant element of new external borrowing (in percent) | ... | ... | ... | 30.9 | ... | ... | 36.5 | 55.3 | 55.3 | 55.3 | 55.3 | 55.3 | 53.2 | 55.3 | 55.3 | ... |

Sources: Country authorities; and staff estimates and projections.

1/ Includes gross debt of the central government.

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

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

## Table 4. Central African Republic: Sensitivity Analysis for Key Indicators of Public Debt, 2016–36

| | Projections | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2025 | 2036 |
| **PV of Debt-to-GDP Ratio** | | | | | | | |
| **Baseline** | 41 | 38 | 35 | 31 | 28 | 22 | |
| **A. Alternative scenarios** | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 41 | 39 | 37 | 34 | 31 | 24 | |
| A2. Primary balance is unchanged from 2015 | 41 | 35 | 31 | 27 | 24 | 16 | |
| A3. Permanently lower GDP growth 1/ | 41 | 40 | 38 | 36 | 34 | 38 | |
| **B. Bound tests** | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 41 | 59 | 56 | 53 | 52 | 55 | |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 42 | 39 | 35 | 32 | 29 | 23 | |
| B3. Combination of B1-B2 using one half standard deviation shocks | 41 | 47 | 44 | 41 | 39 | 39 | |
| B4. One-time 30 percent real depreciation in 2016 | 41 | 41 | 36 | 32 | 28 | 19 | |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 41 | 42 | 39 | 35 | 32 | 25 | |
| **PV of Debt-to-Revenue Ratio 2/** | | | | | | | |
| **Baseline** | 318 | 287 | 252 | 219 | 183 | 141 | |
| **A. Alternative scenarios** | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 318 | 284 | 250 | 217 | 184 | 140 | |
| A2. Primary balance is unchanged from 2015 | 318 | 266 | 227 | 191 | 155 | 102 | |
| A3. Permanently lower GDP growth 1/ | 318 | 300 | 271 | 243 | 214 | 236 | [illegible] |
| **B. Bound tests** | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 318 | 388 | 357 | 327 | 295 | 333 | [illegible] |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 318 | 291 | 256 | 222 | 186 | 144 | |
| B3. Combination of B1-B2 using one half standard deviation shocks | 318 | 323 | 294 | 265 | 235 | 242 | [illegible] |
| B4. One-time 30 percent real depreciation in 2016 | 318 | 307 | 262 | 222 | 181 | 123 | |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 318 | 321 | 282 | 244 | 204 | 160 | |
| **Debt Service-to-Revenue Ratio 2/** | | | | | | | |
| **Baseline** | 15 | 10 | 11 | 11 | 11 | 8 | |
| **A. Alternative scenarios** | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 15 | 11 | 12 | 13 | 13 | 12 | |
| A2. Primary balance is unchanged from 2015 | 15 | 10 | 11 | 11 | 10 | 8 | |
| A3. Permanently lower GDP growth 1/ | 15 | 11 | 12 | 12 | 12 | 11 | |
| **B. Bound tests** | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017 | 15 | 13 | 15 | 15 | 15 | 14 | |
| B2. Primary balance is at historical average minus one standard deviations in 2016-2017 | 15 | 10 | 11 | 11 | 11 | 8 | |
| B3. Combination of B1-B2 using one half standard deviation shocks | 15 | 12 | 13 | 13 | 13 | 12 | |
| B4. One-time 30 percent real depreciation in 2016 | 15 | 13 | 13 | 13 | 12 | 10 | |
| B5. 10 percent of GDP increase in other debt-creating flows in 2016 | 15 | 11 | 12 | 12 | 11 | 9 | |

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.