



# CÔTE D'IVOIRE

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## FIRST REVIEWS UNDER EXTENDED ARRANGEMENT UNDER THE EXTENDED FUND FACILITY AND AN ARRANGEMENT UNDER THE EXTENDED CREDIT FACILITY, AND REQUESTS FOR MODIFICATION OF PERFORMANCE CRITERIA AND AUGMENTATION OF ACCESS—DEBT SUSTAINABILITY ANALYSIS UPDATE

**Approved by Dominique Desruelle and Peter Allum (IMF); and Paloma Anos-Casero, (IDA)**

Prepared by the International Monetary Fund and the International Development Association

*This debt sustainability analysis (DSA) update reflects revisions since the previous DSA carried out in November 2016 for the requests for an arrangement under the Extended Fund Facility and an arrangement under the Extended Credit Facility (Country Report 16/383).<sup>1</sup> This analysis reflects updated information on the macroeconomic outlook in light of the external and domestic shocks, the proposed access augmentation from the IMF, and revised financing scenario. Côte d'Ivoire faces a moderate risk of debt distress, based on the assessment of public external debt. All external debt indicators lie below their thresholds under the baseline scenario. Under worst-case stress scenarios, all solvency and liquidity indicators in the framework breach their respective thresholds (as in the 2016 DSA). Public sector debt indicators (including domestic liabilities) point toward a stabilization of public debt in the medium term under the baseline scenario.*

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<sup>1</sup> In the LIC-DSA framework Côte d'Ivoire is classified as having weak policy performance with a Country Policy and Institutional Assessment (CPIA) average of 3.24 for the period 2013–15 ([http://databank.worldbank.org/data/download/CPIA\\_excel.zip](http://databank.worldbank.org/data/download/CPIA_excel.zip)). With the progress in the CPIA score (the 3-year average for the period 2012–14 stood at 3.17), Côte d'Ivoire is on the cusp of a medium policy performance category, which would raise from 30 to 40 percent the threshold of the PV of external debt-to-GDP ratio, from 100 to 150 the threshold for the PV of external debt-to-exports ratio, and from 200 to 250 the threshold for the PV of external debt-to-revenue ratio. In addition, the threshold for the external debt service-to-exports ratio would raise from 15 to 20 percent, and the threshold for the external debt service-to-revenues ratio would raise from 18 to 20 percent.

## BACKGROUND

**1. External public and publicly guaranteed debt stock increased marginally in 2016 (as a percentage of GDP), and is projected to increase further in 2017.<sup>2</sup>** Excluding concessional lending from the IMF and the Caisse Française de Development claims, total public and publicly guaranteed external debt has increased marginally from 22.5 percent of GDP in 2015 to 22.6 percent of GDP in 2016. For 2017, Cote d'Ivoire's external debt stock is projected to increase to 26.8 percent of GDP, reflecting the authorities' plan to issue a Eurobond. In terms of composition, the external debt has seen the share of multilateral creditors increased from 24.2 percent in 2015 to 24.7 percent in 2016. The share of official bilateral creditors has also increased from 16.1 percent to 19.5 percent. Conversely, the share of commercial creditors has declined from 59.8 percent of the total in 2015 to 55.8 percent in 2016. Despite this decline, the figure confirms the high reliance of Côte d'Ivoire on commercial debt for external financing (text table 1).

	2015	2016		2017	2018	2019	2020	2021	2022	
	Million USD	Percent of total	Percent of GDP	Million USD						
<b>Total</b>	<b>7233.8</b>	<b>7683.0</b>	<b>100.0</b>	<b>22.6</b>	<b>10040.4</b>	<b>11230.4</b>	<b>12575.2</b>	<b>13529.0</b>	<b>14535.1</b>	<b>15848.3</b>
including C2D and FCFA-denominated loans	9580.5	12689.5	165.2	37.3	13817.5	14501.7	15579.3	16961.6	17719.5	18906.1
<b>Multilateral creditors</b>	<b>1748.5</b>	<b>1901.3</b>	<b>24.7</b>	<b>5.6</b>	<b>1769.1</b>	<b>1594.2</b>	<b>1416.8</b>	<b>1239.1</b>	<b>1029.6</b>	<b>861.1</b>
IMF	983.8	991.8	12.9	2.9	894.5	761.0	624.4	485.1	323.7	204.4
World Bank	394.5	527.4	6.9	1.6	527.7	523.7	519.5	514.2	497.7	479.0
AfDB group	47.0	45.5	0.6	0.1	45.7	45.7	45.7	45.7	45.3	44.8
Other multilaterals	323.2	336.6	4.4	1.0	301.1	263.8	227.2	194.1	162.9	132.9
<b>Official bilateral creditors</b>	<b>1161.4</b>	<b>1496.9</b>	<b>19.5</b>	<b>4.4</b>	<b>1421.5</b>	<b>1339.4</b>	<b>1248.6</b>	<b>1183.2</b>	<b>1145.3</b>	<b>1079.0</b>
Paris Club	307.0	232.4	3.0	0.7	166.9	102.7	40.3	8.6	7.4	6.4
Non-Paris Club	854.4	1264.6	16.5	3.7	1254.6	1236.6	1208.2	1174.7	1137.8	1072.6
<b>Commercial creditors</b>	<b>4323.9</b>	<b>4284.7</b>	<b>55.8</b>	<b>12.6</b>	<b>3640.6</b>	<b>3540.2</b>	<b>3425.7</b>	<b>3304.5</b>	<b>3172.1</b>	<b>3010.7</b>
London Club	4272.8	4242.0	55.2	12.5	3606.1	3514.2	3408.2	3295.5	3172.1	3010.7
Other commercials	51.0	42.7	0.6	0.1	34.5	26.0	17.5	9.0	0.0	0.0
New debt					3209.2	4756.6	6484.2	7802.2	9188.1	10897.5

1/Central government only

**2. Domestic public debt increased considerably in 2016.** From about 18 percent of GDP in 2015, domestic debt has risen by about 2 percentage points to 20 percent of GDP in 2016. The rise in domestic debt in has been driven by a substantial increase in government debt securities issued in the regional bond market (about 3.7% of nominal GDP). Thus, in 2016 government debt securities constituted more than 80 percent of government domestic liabilities.

**3. In early 2015, the government started collecting quarterly data on the debt stock of public enterprises.** The development of a centralized database on public enterprises' and government guaranteed debt is an important tool to prevent an unsustainable accumulation of debt by public sector entities. Most recent available data show that as of end 2016, the debt stock of

<sup>2</sup> In this DSA, PPG external debt covers only the central government. It excludes French claims under C2D debt-for-development swaps, which were cancelled in the context of beyond HIPC debt relief. Under the C2D mechanism, debt service due on these claims is returned in the form of grants to the government to finance development projects. In the staff report the flows associated with the C2D process are included in the external and fiscal accounts to capture the gross cash flows (debt service and grants). See IMF Country Report n°14/358 and Supp.1, 11/21/2014 for a detailed discussion.

public enterprises amounted to 3.5 percent of GDP, of which only 0.14 percent of GDP is directly guaranteed by the government. The data should be considered preliminary, however, since the government is refining the database.

## UNDERLYING ASSUMPTIONS AND BORROWING PLANS

**4. This DSA is consistent with the macroeconomic framework underlying the Staff Report prepared for the first review of the three-year EFF/ECF-supported program.** Côte d'Ivoire has been adversely affected by a terms of trade shock as well as domestic shocks. At the WAEMU level, with the monetary policy tightening by the regional central bank, BCEAO, the cost of funds has increased. The macro framework assumes a gradual convergence towards a more sustainable growth path in the long run, an increasing contribution of domestic demand to GDP, a gradual moderation of investment, offset by an increase in private consumption, and steady progress towards the fiscal target of the government, consistent with Côte d'Ivoire's WAEMU membership commitments.

**5. Key macroeconomic assumptions are as follows:**

- **Global environment.** The external demand from Côte d'Ivoire's trading partners is projected to gradually increase in the long term. This assumption is subject to the downside risk of continued sluggish recovery in global demand.
- **GDP over the medium term.** In the current DSA update, real GDP growth is expected to be slower on average during the first five years of the projection (6.8 percent) than in the last DSA (7.5 percent). Real GDP growth is supported initially by robust investment growth and increasingly by private consumption.<sup>3</sup> Real GDP is projected to grow by 5.9 percent over 2023-28 on average and 5.5% over 2029-37 as investment normalizes and net trade contribution becomes more negative.
- **The current account deficit would gradually decline over time.** The current account deficit is projected to widen to 2.8 percent of GDP (from 2.4 percent in the previous DSA) on average in the first five years of the projection, reflecting the unfavorable terms-of-trade shock. The current account deficit is projected to shrink and stabilize at about 1.8 percent of GDP over the longer term, reflecting an improvement in the trade, and, to a lesser extent, of the services' balances. These assumptions are subject to downside risks including weaker-than expected global economic growth and changes in commodity prices, which may trigger terms-of-trade shocks.

<sup>3</sup> During the 2017-22 horizon, inflation pressures are expected to remain moderate, as real GDP is projected to grow at its potential (according to IMF Staff estimates), implying that the output gap is anticipated to be close to zero.

- **The primary fiscal balance would gradually improve over the baseline horizon.** In the current DSA update, the primary basic fiscal balance is assumed to be much lower on average during the first five years of the projection than in the last DSA, reflecting the adverse impacts of the external and internal shocks on government finances. The expected trajectory of the fiscal position remains anchored on a convergence of the fiscal deficit to the 3 percent of GDP target in 2019 and continued consolidation thereafter. A steady improvement in the primary fiscal balance is expected in the medium- to long-term.

**Text Table 2. Côte d'Ivoire: Selected Economic Indicators, 2013–37**  
(Period averages)

	2013-16	2017-2022	2023-28	2029-37
<b>National income</b>				
Real GDP growth (percent)	8.7	6.8	5.9	5.5
Nominal GDP (US\$ billion)	33.8	48.6	74.8	131.1
Nominal GDP per capita (US\$)	1,441.7	1,797.2	2,399.3	3,447.5
<b>External sector</b>				
Exports of goods, volume growth (percent)	0.6	7.1	5.5	5.0
Imports of goods, volume growth (percent)	8.7	10.0	8.3	7.3
Current account balance (percent of GDP)	-0.4	-2.8	-1.7	-1.8
Exports of GNFS (percent of GDP)	42.0	30.7	34.9	38.6
Imports of GNFS (percent of GDP)	38.1	30.3	32.7	35.6
			(Percent of GDP)	
<b>Central government operations</b>				
Total revenue and grants	19.7	21.0	21.7	23.1
Revenue	18.2	19.5	20.9	22.9
Grants	1.5	1.5	0.8	0.3
Primary basic balance	-0.5	0.3	1.4	1.6
Overall balance	-2.8	-3.1	-2.5	-2.0
Sources: Ivoirien authorities; and IMF staff estimates and projections.				

## Debt strategy

**6. The authorities' Medium Term Debt Strategy (MTDS) aims at keeping debt at a sustainable level.** The MDTS objectives for the domestic bond market are to: lengthen the average duration of domestic debt, contribute to the development of the domestic bond market, and reduce the cost of local issuance. Regarding external debt, the MTDS objectives are to: achieve a regular presence in international markets, limit foreign exchange risk and channel external financing primarily towards infrastructure investment. A set of ongoing initiatives will support the achievement of this strategy and help make debt management operations more efficient, including: the finalization of the operational restructuring of the debt policy directorate (merger of the external and domestic debt units), reinforcement of cash

management operations, and setting-up of a network of Primary Dealers to promote the issuance and secondary market trading of the CFA-denominated debt issued in the regional market.

## DEBT SUSTAINABILITY ANALYSIS

### A. External Debt Sustainability Analysis

**7. The external DSA assumes that the government would issue a Eurobond to cover its 2017 financing gap and that all existing Eurobonds would be rolled over during the whole horizon of the DSA.** Specifically, bullet Eurobonds would be rolled over in the year they mature, while Eurobonds whose principal is amortized over two or three years would be rolled over in the first year of principal amortization. The assumption of external debt rollover implies that going forward, Côte d'Ivoire would rely increasingly more on commercial debt and less on concessional loans to finance its public investment projects.

**8. The results of the external DSA confirm that Cote d'Ivoire's debt dynamics are sustainable under the baseline scenario.** The present values of the debt-to-GDP ratio, debt-to exports ratio, debt-to-revenue ratio, and liquidity measures of debt service to exports and revenues (excluding grants) all remain under the debt distress thresholds in the baseline scenario (Figure 1). However, in 2027 the debt service-to-revenues indicator is anticipated to increase toward the threshold, as 2027 represents the second year of principal amortization of the Eurobond issued in 2015.

**9. The debt indicators breach the thresholds in the most extreme shock scenario.** Under the latter—i.e., a shock hitting the country in the first two years of the projection consisting in a combination of lower real GDP growth, exports, foreign inflation, current transfers and FDI inflows—substantial and prolonged breaches for the PV of debt-to-GDP and the PV of debt-to-export ratios occur. Specifically, the PV of debt-to-GDP ratio would reach 43.9 percent in 2019, before returning to more sustainable levels in 2029. The PV of debt-to-exports ratio would reach 160 percent in 2019, before declining below the threshold in 2028. Debt service measures, which are sensitive to the repayment of the principal of maturing Eurobonds, also breach the thresholds under the most extreme shock scenario. These results underscore the considerable downside risks for debt sustainability originating from higher (domestic and external) macroeconomic volatility which may hit the economy.

**10. In an alternative scenario where the government assumes responsibility for liabilities of the Société Ivoirienne de Raffinage (SIR) in 2017, the risk of debt distress would nonetheless remain moderate.** Specifically, a long-term bank loan for about US\$ 600 million would be obtained to restructure the SIR debt. The loan is assumed to have a maturity of at least 8 years, gradual amortization of principal, and present value (PV) estimated at 1.1 percent of GDP. Although this new bank loan would worsen the debt service profile, it would not jeopardize the rating of debt distress, which remain moderate.

### B. Public Debt Sustainability Analysis

**11. Under the baseline scenario, in 2017 the PV of the public debt-to-GDP ratio is projected to reach 43.2 percent.** The PV of total public debt in 2017 reflects an increase in new medium- and long-term (MLT) debt. In turn, this increase originates from new official bilateral debt contracted (mainly

Non-Paris Club debt) and new commercial lending. In subsequent years, the PV of debt-to-GDP ratio declines gradually moving below 38 percent and reaching 21.7 percent in the long run. The trend reflects a gradual decline through time of both components of total public sector debt (foreign and domestic currency-denominated components). Similarly, the PV of debt-to-revenue ratio starts at 218 percent in 2017 before gradually declining below 150 percent in 2027, and eventually below 100 percent in the long run. By contrast, the debt service to revenue ratio deteriorates as it is projected to reach 20.2 percent in 2027, before stabilizing around 16 percent in the long run.

**12. Stress tests highlight a number of potential vulnerabilities.** In the scenario of constant primary balance, the debt indicators stabilize over the long run, except for the ratio between debt service and revenues which would reach 31.3 percent in the long run. The most extreme shock scenario (real GDP growth at historical average minus one standard deviation in the first two years of the projection) suggests rising public debt vulnerability for all debt burden indicators. At the end of the projection horizon, the PV of debt-to-GDP ratio would reach 71 percent.

**13. Overall, the analysis portrays a broadly favorable picture in terms of public debt sustainability.** The PV of the public debt-to-GDP ratio and the PV of public debt-to-exports ratio are projected to gradually decline through time. The public debt service to revenue ratio is more volatile—reflecting the amortization of medium- and long-term debt—and does not decline over the medium term. Summing up, while the PV of domestic debt gradually declines over time, as in the case of the external DSA, the debt service to revenue ratio is the debt burden indicator that should be closely monitored to identify potential fiscal vulnerabilities arising in the medium-term.

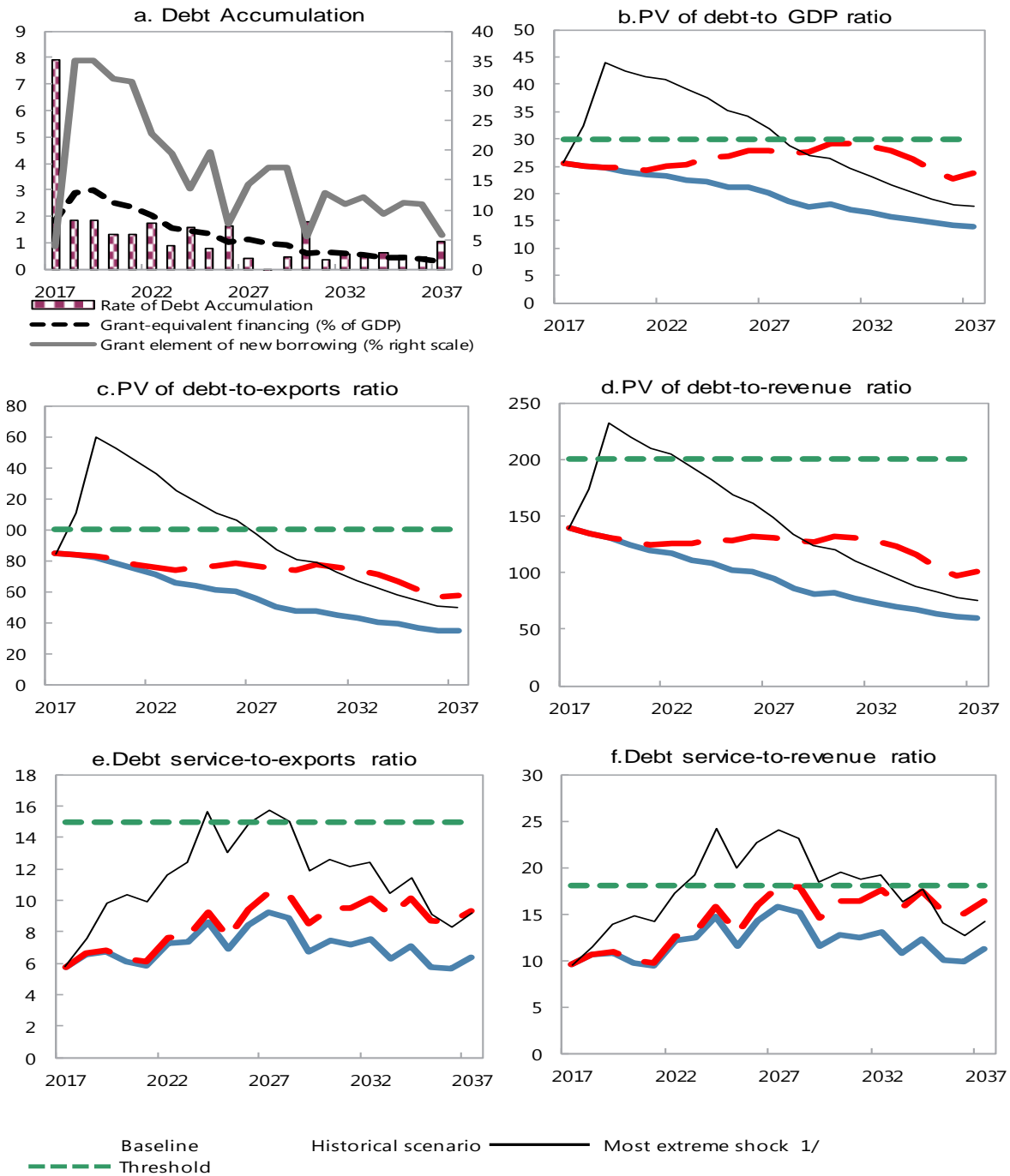
## CONCLUSIONS

**14. Côte d'Ivoire remains at moderate risk of debt distress in 2017, as in the 2016 DSA.** However, importantly, compared to the 2016 DSA Côte d'Ivoire is no longer a borderline case. Under the baseline scenario, all debt burden indicators remain under their respective debt distress thresholds. In addition, all the indicators remain below the lower bound of the  $\pm 5$  percent band calculated around the debt distress threshold. In the most extreme stress test scenario, however, all the debt and debt service indicators breach the thresholds of debt distress.

**15. Sound macroeconomic policies and an effective debt management strategy are essential to maintaining a sustainable external position.** Policies to maintain a sustainable fiscal position are also an essential prerequisite to stabilizing debt over time, and enhanced mobilization of domestic revenues would help to achieve this goal. In addition, a medium-term debt management strategy aimed at increasing reliance on domestic source of financing, smoothing out the pattern of debt amortization by avoiding too large refinancing spikes, and helping optimize the cost of funding of the sovereign would help maintain a sustainable debt position. Measures aimed at increasing the liquidity of the primary and secondary market of the regionally issued domestic debt, like the creation of a network of primary dealers, will contribute to a more cost-effective effective pricing of Ivoirien sovereign securities. An effective management and monitoring of PPPs will also help contain fiscal risk and contingent liabilities.

**16. The authorities of Côte d'Ivoire broadly agreed with that Côte d'Ivoire's risk of external debt distress is moderate.** They agreed that it was important to continue to strengthen debt management, to refine the database for public enterprises, to mobilize revenues in the medium term and, more generally, to implement prudent fiscal management. That said, the authorities stressed that they considered that the baseline macroeconomic assumptions used in this DSA update continue to be too conservative particularly regarding the economic growth projections which are lower than those in the baseline scenario of the 2016–20 National Development Plan.

**Figure 1. Côte d'Ivoire: Indicators of Public and Publicly Guaranteed External Debt under Alternative Scenarios, 2017–37<sup>1/</sup>**

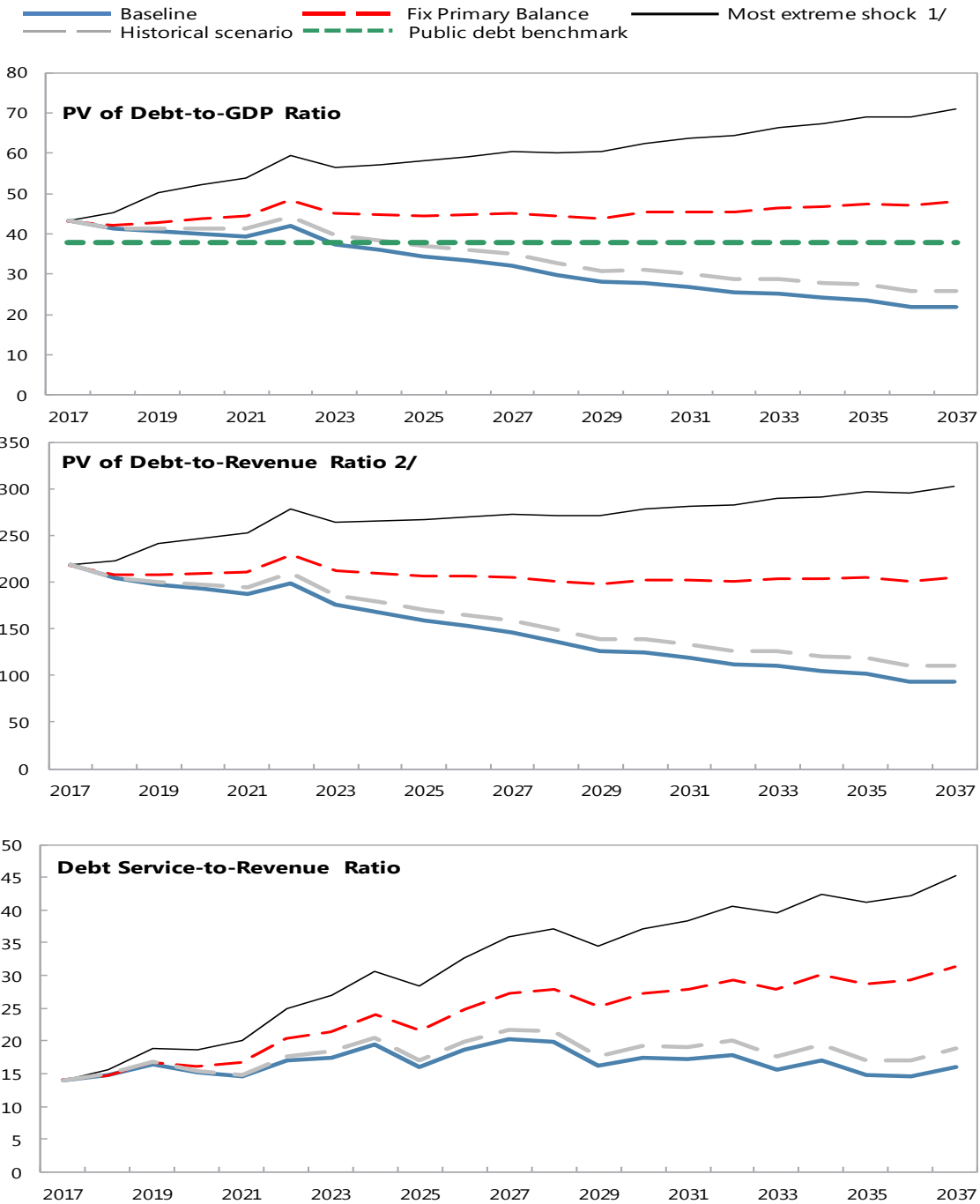


Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2027. In figure b. it corresponds to a Combination shock; in c. to a Exports shock; in d. to a Combination shock; in e. to a Exports shock and in figure f. to a Combination shock



**Figure 2. Côte d'Ivoire: Indicators of Public Debt Under Alternative Scenarios  
2017 – 37<sup>1/</sup>**



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 2027.

2/ Revenues are defined inclusive of grants.

**Table 1. Côte d'Ivoire: External Debt Sustainability Framework, Baseline Scenario, 2014–37<sup>1/</sup>**  
(Percent of GDP, unless otherwise indicated)

	Actual			Historical <sup>6/</sup> Standard <sup>6/</sup>		Projections							2017-2022			2023-2037
	2014	2015	2016	Average	Deviation	2017	2018	2019	2020	2021	2022	Average		2027	2037	Average
												Average	2027			
<b>External debt (nominal) 1/</b>	<b>35.4</b>	<b>39.3</b>	<b>36.5</b>			<b>42.2</b>	<b>42.7</b>	<b>43.2</b>	<b>42.6</b>	<b>42.8</b>	<b>42.9</b>			<b>40.0</b>	<b>33.6</b>	
<i>of which: public and publicly guaranteed (PPG)</i>	18.3	22.5	22.6			28.2	28.9	29.4	29.1	28.9	29.3			25.9	18.7	
Change in external debt	3.7	3.9	-2.8			5.7	0.5	0.5	-0.6	0.2	0.1			-0.8	1.8	
Identified net debt-creating flows	-6.3	2.1	-3.8			-0.5	-2.1	-2.5	-2.9	-2.5	-3.1			-3.5	-3.9	
<b>Non-interest current account deficit</b>	<b>-2.8</b>	<b>-1.0</b>	<b>-0.4</b>	<b>-3.5</b>	<b>4.1</b>	<b>2.1</b>	<b>1.2</b>	<b>1.2</b>	<b>1.1</b>	<b>1.3</b>	<b>0.7</b>			<b>-0.1</b>	<b>-1.9</b>	0.2
Deficit in balance of goods and services	-4.9	-3.5	-2.6			0.5	-0.1	-0.1	-0.3	-0.2	-1.1			-3.1	-3.7	
Exports	39.3	38.2	31.8			30.4	30.0	30.1	30.7	31.3	33.1			36.3	41.1	
Imports	34.4	34.7	29.2			30.8	29.9	30.0	30.4	31.2	32.0			33.2	37.4	
Net current transfers (negative = inflow)	0.8	1.1	0.8	1.3	0.5	0.3	0.2	0.1	0.2	0.3	0.6			1.8	1.3	1.8
<i>of which: official</i>	-0.7	-0.5	-1.4			-1.5	-1.6	-1.6	-1.6	-1.5	-1.2			-0.7	-0.1	
Other current account flows (negative = net inflow)	1.2	1.5	1.4			1.4	1.1	1.2	1.2	1.2	1.2			1.2	0.4	
<b>Net FDI (negative = inflow)</b>	<b>-1.2</b>	<b>-1.5</b>	<b>-1.7</b>	<b>-1.5</b>	<b>0.3</b>	<b>-1.8</b>	<b>-2.3</b>	<b>-2.6</b>	<b>-2.9</b>	<b>-2.9</b>	<b>-2.9</b>			<b>-2.9</b>	<b>-1.7</b>	<b>-2.8</b>
<b>Endogenous debt dynamics 2/</b>	<b>-2.3</b>	<b>4.5</b>	<b>-1.7</b>			<b>-0.7</b>	<b>-1.0</b>	<b>-1.0</b>	<b>-1.0</b>	<b>-0.9</b>	<b>-0.9</b>			<b>-0.4</b>	<b>-0.2</b>	
Contribution from nominal interest rate	1.4	1.7	1.5			1.7	1.8	1.8	1.7	1.7	1.7			1.6	1.4	
Contribution from real GDP growth	-2.5	-3.4	-2.8			-2.5	-2.8	-2.8	-2.7	-2.6	-2.5			-2.1	-1.6	
Contribution from price and exchange rate changes	-1.2	6.2	-0.4			...	...	...	...	...	...			...	...	
<b>Residual (3-4) 3/</b>	<b>10.0</b>	<b>1.8</b>	<b>1.0</b>			<b>6.2</b>	<b>2.6</b>	<b>3.0</b>	<b>2.2</b>	<b>2.7</b>	<b>3.2</b>			<b>2.7</b>	<b>5.7</b>	
<i>of which: exceptional financing</i>	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	
PV of external debt 4/	...	...	33.7			39.5	38.9	38.5	37.4	37.2	37.0			34.3	28.9	
In percent of exports	...	...	106.0			130.2	129.6	127.8	122.1	118.8	111.8			94.4	70.5	
<b>PV of PPG external debt</b>	<b>...</b>	<b>...</b>	<b>19.8</b>			<b>25.5</b>	<b>25.1</b>	<b>24.7</b>	<b>23.9</b>	<b>23.4</b>	<b>23.3</b>			<b>20.1</b>	<b>14.0</b>	
<b>In percent of exports</b>	<b>...</b>	<b>...</b>	<b>62.3</b>			<b>84.1</b>	<b>83.6</b>	<b>82.0</b>	<b>78.0</b>	<b>74.5</b>	<b>70.5</b>			<b>55.3</b>	<b>34.2</b>	
<b>In percent of government revenues</b>	<b>...</b>	<b>...</b>	<b>108.0</b>			<b>139.0</b>	<b>134.5</b>	<b>130.1</b>	<b>124.1</b>	<b>118.9</b>	<b>116.8</b>			<b>94.4</b>	<b>60.0</b>	
<b>Debt service-to-exports ratio (in percent)</b>	<b>6.8</b>	<b>9.3</b>	<b>17.0</b>			<b>12.0</b>	<b>12.4</b>	<b>12.2</b>	<b>11.3</b>	<b>10.9</b>	<b>12.0</b>			<b>13.3</b>	<b>8.2</b>	
<b>PPG debt service-to-exports ratio (in percent)</b>	<b>2.5</b>	<b>3.5</b>	<b>4.6</b>			<b>5.8</b>	<b>6.6</b>	<b>6.7</b>	<b>6.1</b>	<b>5.9</b>	<b>7.3</b>			<b>9.2</b>	<b>6.4</b>	
<b>PPG debt service-to-revenue ratio (in percent)</b>	<b>5.7</b>	<b>7.0</b>	<b>8.0</b>			<b>9.5</b>	<b>10.6</b>	<b>10.7</b>	<b>9.7</b>	<b>9.3</b>	<b>12.1</b>			<b>15.8</b>	<b>11.2</b>	
Total gross financing need (Billions of U.S. dollars)	0.3	2.5	2.8			2.2	1.9	1.8	1.6	1.7	2.0			3.0	1.2	
Non-interest current account deficit that stabilizes debt ratio	-6.5	-4.9	2.4			-3.6	0.8	0.6	1.7	1.1	0.6			0.7	-3.7	
<b>Key macroeconomic assumptions</b>																
Real GDP growth (in percent)	8.8	8.9	7.7	5.0	4.7	7.1	7.2	7.1	6.7	6.6	6.3	6.9	5.4	5.6	5.7	
GDP deflator in US dollar terms (change in percent)	4.0	-15.0	1.1	2.5	9.1	-1.7	1.4	1.8	2.0	1.7	1.3	1.1	2.0	2.0	2.0	
Effective interest rate (percent) 5/	4.9	4.4	4.2	3.3	1.1	5.0	4.6	4.5	4.3	4.3	4.2	4.5	4.3	4.8	4.3	
Growth of exports of G&S (US dollar terms, in percent)	7.0	-10.0	-9.2	2.3	8.8	0.4	7.6	9.4	10.8	10.8	13.7	8.8	9.8	9.7	9.3	
Growth of imports of G&S (US dollar terms, in percent)	0.9	-6.8	-8.3	3.8	12.0	11.2	5.6	9.4	10.0	11.3	10.5	9.7	8.2	6.9	8.9	
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	3.8	35.0	35.0	32.1	31.4	22.7	26.7	14.2	5.9	12.5	
Government revenues (excluding grants, in percent of GDP)	17.1	18.8	18.4			18.4	18.7	19.0	19.3	19.6	20.0			21.3	23.4	21.9
Aid flows (in Billions of US dollars) 7/	0.6	0.5	0.5			1.0	1.5	1.8	1.7	1.9	1.8			1.6	1.4	
<i>of which: Grants</i>	0.6	0.5	0.5			0.6	0.6	0.7	0.8	0.8	0.7			0.6	0.2	
<i>of which: Concessional loans</i>	0.0	0.0	0.0			0.5	0.8	1.1	0.9	1.1	1.1			1.0	1.2	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			1.8	2.9	3.0	2.5	2.4	2.0			1.1	0.3	0.8
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			18.1	53.8	54.0	56.4	54.5	40.5			29.3	9.3	23.8
<i>Memorandum items:</i>																
Nominal GDP (Billions of US dollars)	35.4	32.8	35.7			37.6	40.9	44.6	48.5	52.6	56.6			83.0	172.9	
Nominal dollar GDP growth	13.1	-7.4	8.9			5.3	8.7	9.1	8.9	8.4	7.7	8.0	7.5	7.7	7.7	
PV of PPG external debt (in Billions of US dollars)	...	...	6.7			9.6	10.3	11.0	11.6	12.2	13.2			16.7	24.2	
(Pvt-Pvt-1)/GDPt-1 (in percent)	...	...	...			7.9	1.8	1.8	1.3	1.3	1.8	2.7	0.4	1.0	0.8	
Gross workers' remittances (Billions of US dollars)	-0.5	-0.5	-0.7			-0.6	-0.7	-0.7	-0.8	-0.8	-0.9			-1.9	-2.3	
PV of PPG external debt (in percent of GDP + remittances)	...	...	20.2			25.9	25.5	25.1	24.3	23.7	23.7			20.6	14.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	66.5			88.8	88.3	86.6	82.3	78.5	74.1			59.0	35.3	
Debt service of PPG external debt (in percent of exports + remittance)	...	...	4.9			6.1	6.9	7.1	6.4	6.2	7.7			9.8	6.6	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as  $[r - g - \rho(1+g)] / (1+g+\rho+gp)$  times previous period debt ratio, with  $r$  = nominal interest rate;  $g$  = real GDP growth rate, and  $\rho$  = 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 change.

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. Côte d'Ivoire: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, Baseline Scenario, 2017–37<sup>1/</sup>**  
(Percent)

	Projections							2037
	2017	2018	2019	2020	2021	2022	2027	
<b>PV of debt-to GDP ratio</b>								
<b>Baseline</b>	26	25	25	24	23	23	<b>20</b>	14
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2017-2037 1/	26	25	25	25	24	25	<b>28</b>	24
A2. New public sector loans on less favorable terms in 2017-2037 2/	26	26	27	27	27	28	<b>28</b>	27
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	26	27	28	27	27	27	<b>23</b>	16
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	26	29	36	35	34	33	<b>26</b>	15
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	26	27	29	28	28	28	<b>24</b>	17
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	26	28	31	30	29	29	<b>23</b>	15
B5. Combination of B1-B4 using one-half standard deviation shocks	26	32	44	42	41	41	<b>32</b>	18
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	26	36	35	34	33	33	<b>28</b>	20
<b>PV of debt-to-exports ratio</b>								
<b>Baseline</b>	84	84	82	78	74	71	<b>55</b>	34
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2017-2037 1/	84	83	82	81	78	75	<b>77</b>	58
A2. New public sector loans on less favorable terms in 2017-2037 2/	84	87	88	87	85	83	<b>76</b>	65
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	84	84	82	78	74	70	<b>55</b>	34
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	84	111	160	152	144	136	<b>97</b>	49
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	84	84	82	78	74	70	<b>55</b>	34
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	84	93	101	96	92	86	<b>64</b>	35
B5. Combination of B1-B4 using one-half standard deviation shocks	84	110	153	145	138	129	<b>91</b>	45
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	84	84	82	78	74	70	<b>55</b>	34
<b>PV of debt-to-revenue ratio</b>								
<b>Baseline</b>	139	134	130	124	119	117	<b>94</b>	60
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2017-2037 1/	139	134	131	128	124	125	<b>131</b>	101
A2. New public sector loans on less favorable terms in 2017-2037 2/	139	139	140	138	136	138	<b>130</b>	114
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	139	144	148	141	135	133	<b>107</b>	68
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	139	155	189	179	171	167	<b>123</b>	64
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	139	146	154	147	140	138	<b>111</b>	71
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	139	149	161	153	146	143	<b>109</b>	62
B5. Combination of B1-B4 using one-half standard deviation shocks	139	174	231	220	210	204	<b>149</b>	76
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	139	191	185	176	168	165	<b>134</b>	85

**Table 2. Côte d'Ivoire: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, Baseline Scenario, 2017–37<sup>1/</sup> (concluded)**  
(Percent)

<b>Debt service-to-exports ratio</b>								
<b>Baseline</b>	6	7	7	6	6	7	<b>9</b>	6
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2017-2037 1/	6	7	7	6	6	8	<b>10</b>	9
A2. New public sector loans on less favorable terms in 2017-2037 2/	6	7	5	5	5	5	<b>7</b>	7
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	6	7	7	6	6	7	<b>9</b>	6
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	6	8	10	10	10	12	<b>16</b>	9
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	6	7	7	6	6	7	<b>9</b>	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	6	7	7	7	7	8	<b>11</b>	7
B5. Combination of B1-B4 using one-half standard deviation shocks	6	7	9	10	9	11	<b>15</b>	8
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	6	7	7	6	6	7	<b>9</b>	6
<b>Debt service-to-revenue ratio</b>								
<b>Baseline</b>	10	11	11	10	9	12	<b>16</b>	11
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2017-2037 1/	10	11	11	10	10	13	<b>18</b>	16
A2. New public sector loans on less favorable terms in 2017-2037 2/	10	11	9	8	8	8	<b>12</b>	13
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2018-2019	10	11	12	11	11	14	<b>18</b>	13
B2. Export value growth at historical average minus one standard deviation in 2018-2019 3/	10	11	12	12	12	14	<b>20</b>	12
B3. US dollar GDP deflator at historical average minus one standard deviation in 2018-2019	10	11	13	11	11	14	<b>19</b>	13
B4. Net non-debt creating flows at historical average minus one standard deviation in 2018-2019 4/	10	11	11	11	11	13	<b>18</b>	12
B5. Combination of B1-B4 using one-half standard deviation shocks	10	11	14	15	14	17	<b>24</b>	14
B6. One-time 30 percent nominal depreciation relative to the baseline in 2018 5/	10	15	15	14	13	17	<b>22</b>	16
<i>Memorandum item:</i>								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	4	4	4	4	4	4	<b>4</b>	4

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. Côte d'Ivoire: Public Sector Debt Sustainability Framework,  
Baseline Scenario, 2014–37<sup>1/</sup>**  
(Percent of GDP, unless otherwise indicated)

	Actual			Average <sup>5/</sup>	Standard Deviation <sup>5/</sup>	Estimate						Projections			
	2014	2015	2016			2017	2018	2019	2020	2021	2022	2017-22 Average		2027	2037
<b>Public sector debt 1/</b>	39.0	44.8	44.0			45.9	45.0	45.4	45.3	45.0	48.0		38.0	26.4	
<i>of which: foreign-currency denominated</i>	18.3	22.5	22.6			28.2	28.9	29.4	29.1	28.9	29.3		25.9	18.7	
Change in public sector debt	5.2	5.8	-0.8			2.0	-1.0	0.4	-0.1	-0.3	3.0		-1.2	-0.3	
Identified debt-creating flows	0.2	0.8	0.8			0.4	-0.1	-0.7	-0.6	-0.7	-0.5		-0.5	-0.1	
Primary deficit	1.0	1.3	2.3	1.0	1.2	2.5	1.7	1.1	1.1	1.0	1.1	1.4	0.7	0.6	0.8
Revenue and grants	18.9	20.2	19.8			19.8	20.2	20.6	20.9	21.1	21.1		22.0	23.5	
<i>of which: grants</i>	1.7	1.5	1.4			1.5	1.6	1.6	1.6	1.5	1.2		0.7	0.1	
Primary (noninterest) expenditure	19.8	21.6	22.0			22.4	21.9	21.7	22.0	22.1	22.2		22.7	24.1	
Automatic debt dynamics	-0.7	-0.4	-1.4			-2.0	-1.8	-1.8	-1.8	-1.7	-1.6		-1.2	-0.7	
Contribution from interest rate/growth differential	-2.4	-2.2	-2.1			-1.9	-1.9	-1.9	-1.8	-1.9	-1.8		-1.2	-0.7	
<i>of which: contribution from average real interest rate</i>	0.3	1.0	1.1			1.1	1.2	1.1	1.0	0.9	0.9		0.8	0.7	
<i>of which: contribution from real GDP growth</i>	-2.7	-3.2	-3.2			-2.9	-3.1	-3.0	-2.9	-2.8	-2.7		-2.0	-1.4	
Contribution from real exchange rate depreciation	1.7	1.9	0.7			-0.1	0.1	0.1	0.1	0.1	0.2		...	...	
Other identified debt-creating flows	-0.1	-0.2	-0.1			-0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Privatization receipts (negative)	-0.1	-0.2	-0.1			-0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Debt relief (HIPC and other)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	5.0	5.0	-1.6			1.5	-0.9	1.1	0.6	0.4	3.5		-0.7	-0.2	
<b>Other Sustainability Indicators</b>															
<b>PV of public sector debt</b>	...	...	41.2			43.2	41.2	40.6	40.1	39.5	42.0		32.2	21.7	
<i>of which: foreign-currency denominated</i>	...	...	19.8			25.5	25.1	24.7	23.9	23.4	23.3		20.1	14.0	
<i>of which: external</i>	...	...	19.8			25.5	25.1	24.7	23.9	23.4	23.3		20.1	14.0	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	2.9	6.4	8.4			6.5	5.1	4.2	4.7	5.5	7.0		6.3	2.3	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	208.6			217.9	203.6	197.1	192.2	187.0	199.0		146.5	92.3	
PV of public sector debt-to-revenue ratio (in percent)	...	...	224.3			235.4	220.7	214.1	208.1	200.8	210.5		151.2	92.8	
<i>of which: external 3/</i>	...	...	108.0			139.0	134.5	130.1	124.1	118.9	116.8		94.3	59.8	
Debt service-to-revenue and grants ratio (in percent) 4/	10.3	12.8	12.0			14.0	14.7	16.4	15.1	14.5	17.1		20.2	16.0	
Debt service-to-revenue ratio (in percent) 4/	11.4	13.8	12.9			15.1	15.9	17.9	16.4	15.6	18.1		20.9	16.0	
Primary deficit that stabilizes the debt-to-GDP ratio	-4.2	-4.4	3.1			0.6	2.7	0.7	1.2	1.3	-1.9		2.0	0.9	
<b>Key macroeconomic and fiscal assumptions</b>															
Real GDP growth (in percent)	8.8	8.9	7.7	5.0	4.7	7.1	7.2	7.1	6.7	6.6	6.3	6.9	5.4	5.6	5.7
Average nominal interest rate on forex debt (in percent)	3.6	4.3	4.1	2.4	1.5	4.8	4.3	4.0	3.8	3.7	3.6	4.0	3.7	3.8	3.6
Average real interest rate on domestic debt (in percent)	0.1	2.2	2.7	0.4	1.8	2.7	3.9	4.1	3.7	3.2	3.1	3.4	3.1	5.0	3.7
Real exchange rate depreciation (in percent, + indicates depreciation)	11.3	10.7	3.2	0.7	7.1	-0.7	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	3.9	1.8	1.4	3.5	2.1	2.4	1.7	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	5.3	18.3	10.2	3.4	6.2	8.8	5.0	5.9	8.3	7.2	6.7	7.0	5.4	5.7	6.2
Grant element of new external borrowing (in percent)	...	...	...	...	...	3.8	35.0	35.0	32.1	31.4	22.7	26.7	14.2	5.9	...

Sources: Country authorities; and staff estimates and projections.

1/ [Indicate coverage of public sector, e.g. general government or nonfinancial public sector. Also whether net or gross debt is used.]

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. Côte d'Ivoire: Sensitivity Analysis for Key Indicators of Public Debt 2017–37<sup>1/</sup>**

	Projections							
	2017	2018	2019	2020	2021	2022	2027	2037
<b>PV of Debt-to-GDP Ratio</b>								
<b>Baseline</b>	43	41	41	40	39	42	32	22
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	43	41	41	41	41	44	35	26
A2. Primary balance is unchanged from 2017	43	42	43	44	44	48	45	48
A3. Permanently lower GDP growth 1/	43	42	42	42	43	47	46	69
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	43	45	50	52	54	59	60	71
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	43	42	42	42	41	43	33	23
B3. Combination of B1-B2 using one half standard deviation shocks	43	43	44	46	47	51	48	52
B4. One-time 30 percent real depreciation in 2018	43	52	50	49	48	50	40	31
B5. 10 percent of GDP increase in other debt-creating flows in 2018	43	51	50	49	48	51	40	28
<b>PV of Debt-to-Revenue Ratio 2/</b>								
<b>Baseline</b>	218	204	197	192	187	199	146	92
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	218	204	200	197	194	209	159	110
A2. Primary balance is unchanged from 2017	218	208	208	209	210	229	205	204
A3. Permanently lower GDP growth 1/	218	206	203	202	202	221	208	294
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	218	223	241	247	253	279	273	302
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	218	206	205	200	194	206	152	97
B3. Combination of B1-B2 using one half standard deviation shocks	218	211	214	217	219	240	219	219
B4. One-time 30 percent real depreciation in 2018	218	255	242	234	226	236	181	133
B5. 10 percent of GDP increase in other debt-creating flows in 2018	218	252	243	236	229	240	181	117
<b>Debt Service-to-Revenue Ratio 2/</b>								
<b>Baseline</b>	14	15	16	15	15	17	20	16
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	14	15	17	15	15	18	22	19
A2. Primary balance is unchanged from 2017	14	15	17	16	17	20	27	31
A3. Permanently lower GDP growth 1/	14	15	17	16	16	19	27	42
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2018-2019	14	16	19	19	20	25	36	45
B2. Primary balance is at historical average minus one standard deviations in 2018-2019	14	15	17	16	16	18	21	17
B3. Combination of B1-B2 using one half standard deviation shocks	14	15	18	16	16	20	29	34
B4. One-time 30 percent real depreciation in 2018	14	17	21	20	19	24	32	31
B5. 10 percent of GDP increase in other debt-creating flows in 2018	14	15	19	23	22	25	25	20

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.