

INTERNATIONAL DEVELOPMENT ASSOCIATION
INTERNATIONAL MONETARY FUND

UNION OF THE COMOROS

Joint Bank/Fund Debt Sustainability Analysis 2008

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and the International Monetary Fund

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Comoros is in debt distress. The debt sustainability analysis (DSA) shows that Comoros would remain in debt distress under the baseline scenario, even in the absence of shocks. In the alternative scenario, which for illustrative purposes assumes a hypothetical access to HIPC/MDRI debt relief within the next 3 years, debt would become manageable, including under a variety of stress tests.¹

I. BACKGROUND

1. **Following cancellation in 2007 of US \$34.5 million of arrears to the African Development Bank (AfDB)², the stock of Comoros' public external debt declined to 56.7 percent of GDP (US\$ 276 million), from 67.4 percent at end-2006.** Eight tenths of the debt stock is owed to multilateral creditors, the largest creditor is the International Development Association (IDA)—which accounts for 45 percent of total debt, followed by

¹ This is the second DSA prepared for Comoros using the debt sustainability framework for low-income countries developed jointly by the World Bank and the IMF. The first DSA was prepared in 2006 at the time of the last Article IV consultations. The DSA is based on external and public debt data from the Comorian authorities, and on the World Bank and IMF staff estimates; it was produced jointly by Bank and Fund staffs following "Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries (LICs)," October 06, 2008 – <http://siteresources.worldbank.org/INTDEBTDEPT/PolicyPapers/21952151/39748MainExt.pdf> and <http://www-int.imf.org/depts/pdr/Debt/Debt-Sustainability/Low-Income-Country-DSA/SM08317andCorr1.pdf>

² The African Development Bank cancelled 99 percent of Comoros arrears to the institution under its Post Conflict Country Facility, with contributions from the AfDB itself (69 percent) and France and other donors (30 percent).

the African Development Bank (AfDB)—15 percent, and BADEA—12 percent. Among the bilateral creditors, the Kuwaiti and Saudi Funds jointly account for about 15 percent of the debt stock, compared with 2 percent for France, the only Paris Club creditor. Comoros owes no debt to the IMF. With more than two thirds of the total debt stock denominated in SDR, 12 percent in U.S. dollar, and 16 percent in currencies that are linked to the U.S. dollar, the country's debt situation in local currency is highly vulnerable to fluctuations in the Euro (to which the Comorian Franc is pegged) exchange rate to the U.S. dollar.³ In 2007, domestic public debt, including unpaid short-term central bank advances to the treasury, amounted to the equivalent of US\$16.6 million (3.3 percent of GDP).

2. **Progress in clearing external debt arrears has been uneven.** In addition to the AfDB arrears cancellation, the country obtained favorable rescheduling terms in 2007 on arrears to BADEA (US \$26.7 million)⁴, the Kuwaiti Fund (US\$27.7 million) and the Saudi Funds (US\$14.1 million). However, for various reasons, including lack of resources to carry out payments set under the arrears settlement arrangements, the final agreements remain pending in the case of the Islamic Development Bank, the OPEC Fund, the European Investment Bank, the Arab Monetary Fund, the United Arab Emirates, and France. The Comorian authorities have indicated that they remain engaged with these creditors, most of which have reportedly expressed willingness to reach favorable understandings regarding the unsettled arrears situations.

³ Authorities do not keep record of private sector external debt obligations.

⁴ Note that new arrears were accumulated by end-2007 following the rescheduling.

Text Table 1. Comoros: External Debt and Arrears, Official Creditors, 2007

| Creditors | 2007 | | |
|--------------------|------------------------------|-----------------------------------|-------|
| | Stocks | | |
| | Total Debt | <i>of which</i> <i>Arrears</i> | |
| | (in millions of U.S dollars) | (in percent of total) | |
| Total | 276 | 15.7 | 100.0 |
| Multilaterals | 225 | 12.1 | 81.6 |
| AfDB Group | 42.6 | 0.0 | 15.4 |
| BADEA | 32.0 | 0.1 | 11.6 |
| EIB | 0.7 | 0.2 | 0.3 |
| IDB | 12.0 | 7.0 | 4.4 |
| OPEC | 3.6 | 3.6 | 1.3 |
| IFAD | 8.7 | 0.0 | 3.2 |
| IDA | 124.3 | 0.0 | 45.0 |
| ARAB MONETARY FUND | 1.2 | 1.2 | 0.4 |
| Bilaterals | 50.9 | 3.6 | 18.4 |
| UAE (Abu Dhabi) | 1.3 | 1.3 | 0.5 |
| France | 5.2 | 0.7 | 1.9 |
| China | 1.4 | 1.5 | 0.5 |
| Kuwait Fund | 27.7 | 0.0 | 10.0 |

3. **Comoros' NPV-based external debt indicators are above all indicative policy-dependent thresholds**⁵ The joint Bank-Fund debt sustainability framework (DSF) for low-income countries classifies Comoros as a “poor performer”, reflecting the poor quality of the country’s policies and institutions as measured by the 3-year average of the World Bank’s CPIA ratings (Table 2).⁶ Within this framework, the ratios of all relevant external debt

⁵ Comoros has not yet benefited from debt relief under the enhanced HIPC Initiative and MDRI. However, because the country has been assessed to have met the Enhanced HIPC Initiative income and indebtedness criteria based on end-2004 data, it could become eligible for HIPC and MDRI debt relief. See “Heavily Indebted Poor Countries (HIPC) Initiative—Issues Related to the Sunset Clause,” posted on the IMF Website August 16, 2006.

⁶ See “Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries (LICs),” October 06, 2008 – <http://www-int.imf.org/depts/pdr/Debt/Debt-Sustainability/Low-Income-Country-DSA/SM08317andCorr1.pdf> and <http://siteresources.worldbank.org/INTDEBTDEPT/PolicyPapers/21952151/39748MainExt.pdf>.

indicators, in NPV terms, were above the indicative policy-dependent thresholds for Comoros at end-2007; in particular, the ratio to exports of goods and services was more than double (271 percent) the threshold. However, debt service ratios to exports and revenues were below relevant indicative thresholds, reflecting mainly the impact of the AfDB arrears cancellation and favorable rescheduling terms (delayed principal repayments) from other creditors.

Text Table 2. Policy Dependent Debt Burden Thresholds under the DSF

| | Comoros | | Thresholds |
|----------------------------|----------|----------|--|
| | End-2006 | End-2007 | Low Income DSA (Weak Policy) ¹ |
| NPV of debt in percent of | | | |
| Exports | 390 | 271 | 100 |
| GDP | 55 | 40 | 30 |
| Revenue | 406 | 315 | 200 |
| Debt service in percent of | | | |
| Exports | 13 | 11 | 15 |
| Revenue | 14 | 13 | 25 |

Sources: Comorian authorities; and IMF and World Bank staffs estimates.

¹ Weak policy refers to low income countries whose 3-year average CPIA rating is below 3.25.

II. UNDERLYING DSA ASSUMPTIONS

4. **Staffs performed a debt sustainability analysis under a baseline and an alternative scenario.** The baseline scenario is identical to the alternative, but without the hypothetical assumption of an HIPC/MDRI debt relief. The alternative scenario is predicated on steady post-conflict economic recovery underpinned by full restoration of inter-island cooperation, good progress on fiscal consolidation, and implementation of key growth-supporting reforms. The scenario also assumes that the completion point under the HIPC Initiative would be reached over the next three years and that Comoros would also benefit from relief under the MDRI. Under such conditions, (i) real GDP growth would gradually pick up from near stagnation in 2007, settling around 4 percent over the medium term; (ii) the primary fiscal balance would steadily improve from a deficit (an average 1.7 percent of GDP on during 2007-11) to a surplus of 0.3 percent of GDP during 2012-27, reflecting improved revenue collection and enhanced control over current expenditure. The scenario also assumes the resumption of external assistance in 2008 in the context of economic programs supported by the IMF under the Emergency Post Conflict Assistance and Exogenous Shocks Facility and, in late 2009, under the Poverty Reduction and Growth Facility. This LIC-DSA assumes that all other arrears, including to Paris Club Creditors, would be rescheduled on respective creditors' standard terms.⁷

⁷ For Paris club creditors Naples and Cologne terms were assumed for arrears rescheduling and HIPC/MDRI relief simulation respectively.

5. **The previous external DSA (2006 DSA) for Comoros assumed similar GDP growth rates, but with much more favorable external and fiscal positions (Text Table 3).** Real GDP growth was projected to average 3.5 percent for the first five years (2006-2010) and 4 percent for the remainder of the period; the new estimates are 2.4 for 2007-2011, and 4 percent for 2012-28. The downward revision of the growth projections in the first five years reflects weaker than expected growth performance in 2007 on the back of crisis political conditions and more pronounced terms of trade deterioration. The last DSA projected export growth of 16.4 percent on average for the initial five years and 8 percent thereafter, compared with a more modest 10 percent and 3.7 percent on average, respectively, in the new DSA, reflecting less optimistic prospects for world prices of Comoros' key export commodities. The 2006 DSA assumed a current account deficit (including grants) of 5½ percent of GDP on average for (2006-2010), whereas the current DSA projects a higher average deficit (9.4 percent of GDP for 2007-2011) driven mainly by high world prices of oil and food. The current account deficits are projected to gradually decline to 6 percent of GDP by the end of 2028. Like the previous one, this DSA assumes that the bulk of the identified fiscal financing requirements will be met with grants. The political crisis of 2007 contributed to a shortfall in government revenues, a fact that underpins lower projected revenue in this DSA compared to the old. Despite these developments, the reduction in the debt stock resulting from arrears cancellation, coupled with favorable rescheduling terms, has improved debt dynamics under the current DSA, compared to the previous DSA.

Text Table 3. Comoros. 2006 and 2008 DSA Comparative Assumptions
(Percent, unless otherwise indicated)

| | DSA 2008 | | | | DSA 2006 | | | | |
|--|----------|------------|---------|---------|----------|------------|------|---------|---------|
| | 2007 | 2008 | 2009-11 | 2012-28 | 2006 | 2007 | 2008 | 2009-11 | 2012-26 |
| | Act. | Projection | | | Act. | Projection | | | |
| Real GDP growth (in percent) | 0.5 | 0.5 | 2.0 | 4.0 | 1.2 | 3.0 | 4.5 | 4.3 | 4.0 |
| Inflation (annual change, average) | 4.5 | 5.9 | 3.1 | 3.0 | 3.8 | 3.0 | 3.0 | 3.0 | 3.0 |
| Domestic revenue (in percent of GDP) | 12.7 | 12.4 | 13.0 | 14.1 | 14.2 | 15.7 | 16.0 | 16.5 | 17.0 |
| Domestic primary balance (in percent of GDP) | -2.2 | -2.7 | -1.3 | -0.1 | -0.3 | 1.0 | 0.9 | 0.8 | 0.2 |
| Current account balance (in percent of GDP) | -6.7 | -8.7 | -10.6 | -7.6 | -4.5 | -6.0 | -5.9 | -5.2 | -5.1 |
| Official grants (in percent of GDP) | 8.3 | 9.1 | 6.3 | 7.2 | 6.4 | 8.0 | 9.3 | 10.0 | 10.0 |
| Real Export Growth | 30.1 | 5.8 | 6.5 | 3.7 | ... | 18.0 | 14.1 | 17.0 | 8.0 |
| Terms of trade | -20.3 | -21.2 | 4.2 | 0.2 | -6.0 | ... | 5.2 | 4.6 | 6.5 |

Sources: Comorian authorities; and IMF and World Bank staffs estimates and projections.

Text Table 4. Comoros: Medium-term Scenarios: Baseline and Alternative, 2007-13

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|----------------------|-------|-------|-------|-------|-------|-------|
| Baseline scenario¹ | | | | | | | |
| Real sector | | | | | | | |
| | (In units indicated) | | | | | | |
| Real GDP (percent change) | 0.5 | 0.5 | 1.0 | 2.0 | 3.0 | 3.5 | 4.0 |
| GDP deflator (percent change) | 5.2 | 7.1 | 6.1 | 1.4 | 3.1 | 3.5 | 3.5 |
| Nominal GDP (US\$ millions) | 465.6 | 539.3 | 525.0 | 545.5 | 581.9 | 623.4 | 671.2 |
| Investment (percent of GDP) | 10.4 | 10.5 | 12.8 | 13.9 | 14.5 | 15.1 | 15.8 |
| General government | | | | | | | |
| | (In percent of GDP) | | | | | | |
| Grants | 7.6 | 8.9 | 5.9 | 6.1 | 6.3 | 6.5 | 6.7 |
| Domestic revenues | 12.7 | 12.4 | 12.7 | 13.0 | 13.4 | 13.9 | 14.3 |
| Domestic primary spending | 14.9 | 15.1 | 14.3 | 14.3 | 14.2 | 14.2 | 14.0 |
| Domestic primary balance | -2.2 | -2.7 | -1.6 | -1.3 | -0.8 | -0.3 | 0.3 |
| Overall balance (cash basis) | -3.4 | -3.4 | -2.5 | -2.2 | -1.7 | -1.2 | -1.1 |
| Change in arrears | -1.4 | -0.8 | -0.3 | -0.4 | -0.5 | -0.5 | -0.5 |
| External sector | | | | | | | |
| | (In percent of GDP) | | | | | | |
| Current account balance (incl. grants) | -6.7 | -8.7 | -10.5 | -10.3 | -11.0 | -10.4 | -10.6 |
| Exports of goods and services | 14.8 | 14.4 | 14.5 | 14.7 | 14.8 | 15.0 | 15.0 |
| Imports of goods and services | 41.6 | 43.1 | 41.0 | 41.8 | 42.3 | 42.3 | 42.8 |
| Official grants and loans | 8.3 | 9.1 | 6.1 | 6.3 | 6.5 | 6.7 | 6.9 |
| External debt | 57.6 | 52.2 | 47.2 | 44.4 | 40.7 | 36.5 | 32.7 |
| <i>Of which: arrears</i> | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ext. debt service (in percent of exports of goods and services) | 11.4 | 12.2 | 7.2 | 6.0 | 2.7 | 4.5 | 3.9 |
| NPV of ext. debt to exports of goods & services | 249.3 | 235.7 | 217.7 | 207.5 | 193.4 | 175.3 | 160.2 |
| Gross international reserves (months of imports) | 7.3 | 5.8 | 6.3 | 6.0 | 5.6 | 5.2 | 4.8 |
| Alternative Scenario² | | | | | | | |
| External debt | 57.6 | 52.2 | 45.9 | 43.2 | 17.7 | 16.4 | 15.1 |
| <i>Of which: arrears</i> | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ext. debt service (in percent of exports of goods and services) | 11.4 | 12.2 | 7.2 | 6.0 | 3.7 | 4.5 | 3.9 |
| NPV of ext. debt to exports of goods & services | 249.3 | 235.7 | 217.7 | 207.5 | 63.3 | 58.0 | 53.7 |

Sources: Comorian authorities and IMF and World Bank staffs estimates and projections.

¹ It reflects political crisis resolved in 2008, EPCA and ESF approved by Q4 2008, PRGF in place by Q3 2009, external assistance in line with I-PRSP.

² Assumes debt relief under HIPC/MDRI in 2011.

Box 1. Macroeconomic Assumptions

Real GDP growth: GDP growth in 2008 is projected to stagnate at 0.5 percent, with a sustained recovery projected to start in 2009 from a growth rate of 1 percent, accelerating gradually to a peak of 4 percent in 2013. For the period of 2014- 2028, real GDP growth rate averages 4 percent, close to the rate registered in 2005 following the previous secessionist crisis. Growth during the recovery phase through 2012 would be underpinned by a good agricultural supply response to higher food prices, renewed confidence and enhanced political stability; stable terms of trade; and new FDI-led investments, especially in tourism and public infrastructure. Longer-term growth would be driven by enhanced investment in key sectors and by structural reforms aimed at enhancing competitiveness.

Inflation: Average inflation is projected to rise to 5.9 in 2008 from 4.5 in 2007, driven mainly by high oil and fuel prices. In the absence of significant second round effects in 2009, average annual inflation will settle at around 3 percent over the longer-term horizon.

Real exchange rate and terms of trade: After a modest appreciation in 2008, the real effective exchange rate is projected to be broadly stable throughout the remainder of the projection period; the terms of trade are expected to worsen further in 2008, before improving somewhat through 2010, and remaining broadly constant thereafter.

Current account balance: The current account balance (including official transfers) is projected to initially deteriorate from a deficit of 6.7 percent of GDP in 2007 to 10.8 percent in 2011 followed by gradual improvements to about 6 of GDP by 2028. The initial worsening of the current account balance would result from a further deterioration of the terms of trade and strong import growth (especially for investment) outpacing exports. Service export is expected to pick up steadily at an annual average of 10 percent, in response to improved hotel infrastructure when the Galawa and other tourism resorts are completed by 2012, compared with 5 percent during 1998-2007.

Government balance: The primary balance (total revenue and grants less non-interest expenditure) is projected to worsen slightly to a deficit of 2.7 percent of GDP in 2008 from 2.2 percent in 2007, and to gradually move into surplus beginning in 2013, as revenue gradually increases and more efforts are made to maintain spending under control.

External assistance, scaling up and concessionality: The framework assumes that up to 2010 external assistance will be exclusively in the form of grants, averaging just under 7 percent of GDP. Over the long-term (2011-2028) further assistance will be available, in adequate terms, including from IDA and AfDB.

Domestic borrowing: The scenario assumes no new medium to long-term domestic borrowing beyond Central Bank's short-term cash advances to the treasury.

III. EXTERNAL DSA

A. Baseline Scenario

6. **In the baseline scenario, Comoros' NPV-based debt burden indicators remain above the indicative thresholds for a prolonged period.** Low growth and continued accumulation of payments arrears keep all NPV indicators significantly above the country-specific indicative thresholds for almost a decade, with the ratio of NPV of debt-to-export barely below the threshold by 2028. Any stress test would worsen the situation further. For example, under the stress test defined as a one standard deviation negative shock to historical exports growth, the NPV of debt would reach 378 percent of exports of goods and services in 2010 or three times in excess of the threshold.

7. **However, debt service indicators are for the most part below the relevant thresholds, reflecting mainly the impact of highly favorable terms under the arrears rescheduling arrangements of 2007.** This is illustrated graphically by a characteristic hump-shape for the debt service-to-exports and to-revenue ratios.

B. Alternative Scenario and Stress Tests

8. **In the alternative scenario, with a hypothetical HIPC completion point and MDRI relief assumed over the next three years, Comoros' external debt indicators would improve substantially.** While the savings from the HIPC interim debt relief would be roughly offset by new IMF borrowings (under EPCA and ESF in 2008 and PRGF assumed in 2009), Comoros would greatly benefit from the HIPC and MDRI relief after 2011, when all IDA and AfDB debts, jointly accounting for about 60 percent of the total external debt, are projected to be cancelled. As a result, following the HIPC completion point and additional relief under the MDRI, the NPV of external debt would fall to 84 percent of exports, well below the LIC DSA thresholds and debt service would average about 5 percent of exports.

9. **The debt dynamics under the adjustment scenario would be sustainable under a variety of stress tests.** Under the most extreme test, defined as combined one-half standard deviation shocks to GDP, exports and non debt creating flows, the NPV of debt to-exports ratio briefly breaches the threshold in 2011, but quickly falls below it thereafter. After the shock, the NPV of debt would decline to 64 percent of exports after 2018; and the debt service ratios would remain below relevant thresholds throughout the horizon.

Text Table 5. Comoros: External Debt Indicators, 2008 - 2028
(in percent)

| | Indicative thresholds | Baseline Scenario | | | Alternative Scenario | | |
|-------------------------|-----------------------|--------------------|----------------------|------------------------|----------------------|----------------------|------------------------|
| | | 2008 | 2009-11 ¹ | 2012-2028 ¹ | 2008 | 2009-11 ¹ | 2012-2028 ¹ |
| | | NPV of debt-to-GDP | 30.0 | 32.0 | 32.4 | 16.8 | 37.1 |
| Debt service to revenue | 25.0 | 14.3 | 11.7 | 10.3 | 14.9 | 6.5 | 5.3 |
| NPV of debt-to-revenue | 200.0 | 257.8 | 248.5 | 118.5 | 299.4 | 235.0 | 69.2 |
| Debt service-to-exports | 15.0 | 12.3 | 10.4 | 9.5 | 12.8 | 5.8 | 4.9 |
| NPV of debt-to-exports | 100.0 | 221.3 | 220.9 | 110.0 | 256.9 | 208.0 | 64.0 |
| Memorandum items: | | | | | | | |
| GDP growth | ... | 0.5 | 1.6 | 3.0 | 0.5 | 2.0 | 4.0 |
| Export growth, f.o.b. | ... | 6.4 | 2.2 | 3.0 | 6.4 | 6.8 | 5.5 |

Sources: Comorian authorities; and IMF and World Bank staffs estimates and projections.

¹ Simple average.

IV. PUBLIC DSA

10. Under the baseline scenario, Comoros' debt is above LIC DSA thresholds.

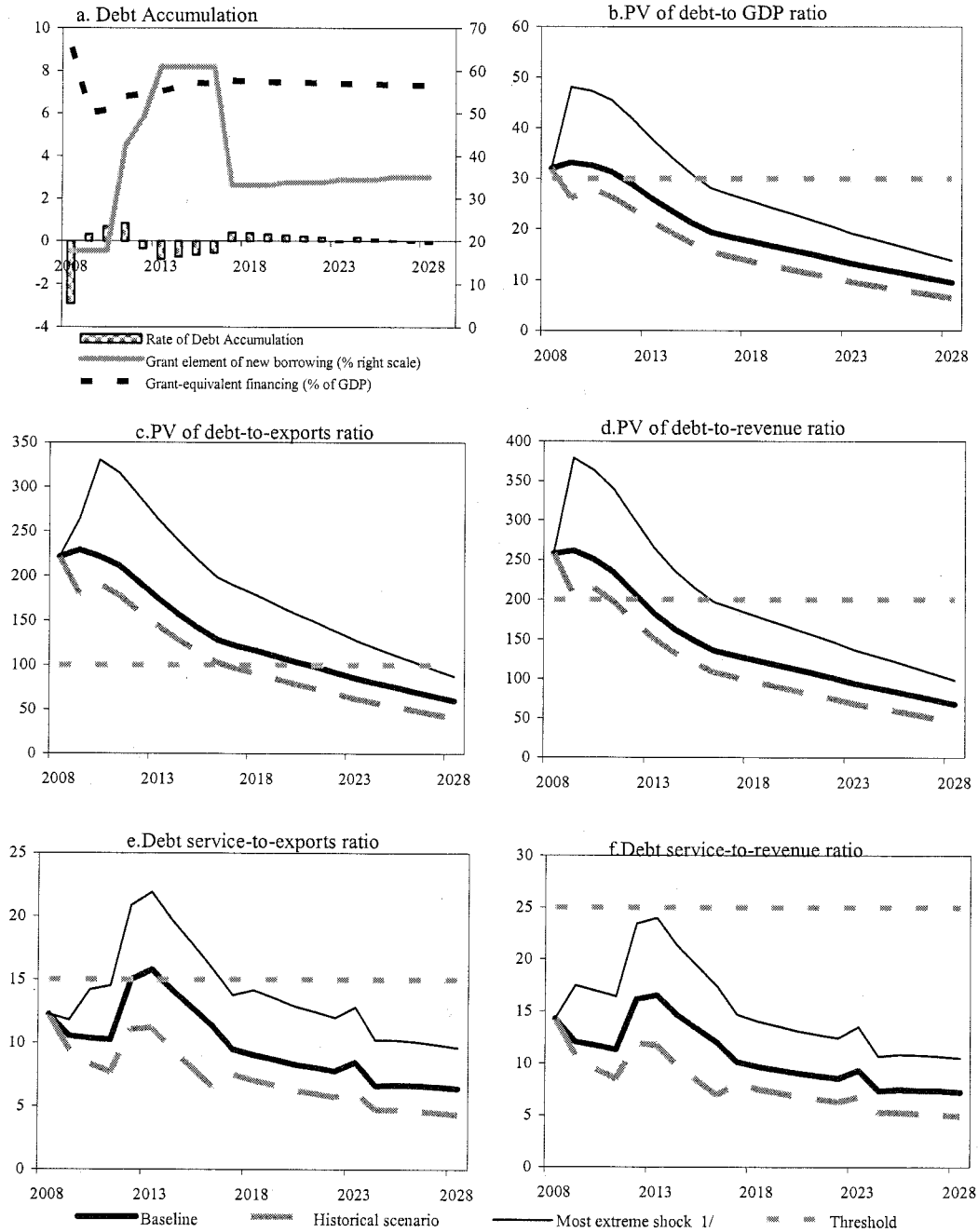
However, under the alternative scenario, higher revenues and spending restraint will permit achievement of a small primary fiscal surplus, anchoring fiscal consolidation and permitting a gradual reduction of domestic arrears. Both NPV and debt service ratios drop faster towards the end of the projection period than at the beginning, reflecting the impacts of primary surpluses in the later years as well as repayment of the bulk of principal due to larger creditors (IDA and AfDB).

V. DEBT DISTRESS QUALIFICATION AND CONCLUSIONS

11. **In the baseline scenario, Comoros is shown to be in debt distress, as evidenced by recurrent arrears accumulation and prolonged breaches of the NPV of debt thresholds.** As in the previous DSA, under the baseline scenario the external NPV of debt ratios are above country-specific indicative thresholds for most of 2008-2024. The updated public DSA for 2008 does not change this assessment. However, an alternative scenario which assumes HIPC/ MDRI debt relief points to a significant improvement of the debt outlook. The debt dynamics are somewhat vulnerable to lower real GDP growth and lower export growth. These vulnerabilities underscore the importance of export diversification and continued reform efforts.

12. **The authorities generally concurred with the thrust of this DSA.** They therefore expressed readiness to take the steps needed to facilitate Comoros' eligibility to the enhanced HIPC Initiative, including steadfast implementation of donor-supported reforms and measures to address weak debt management capacity.

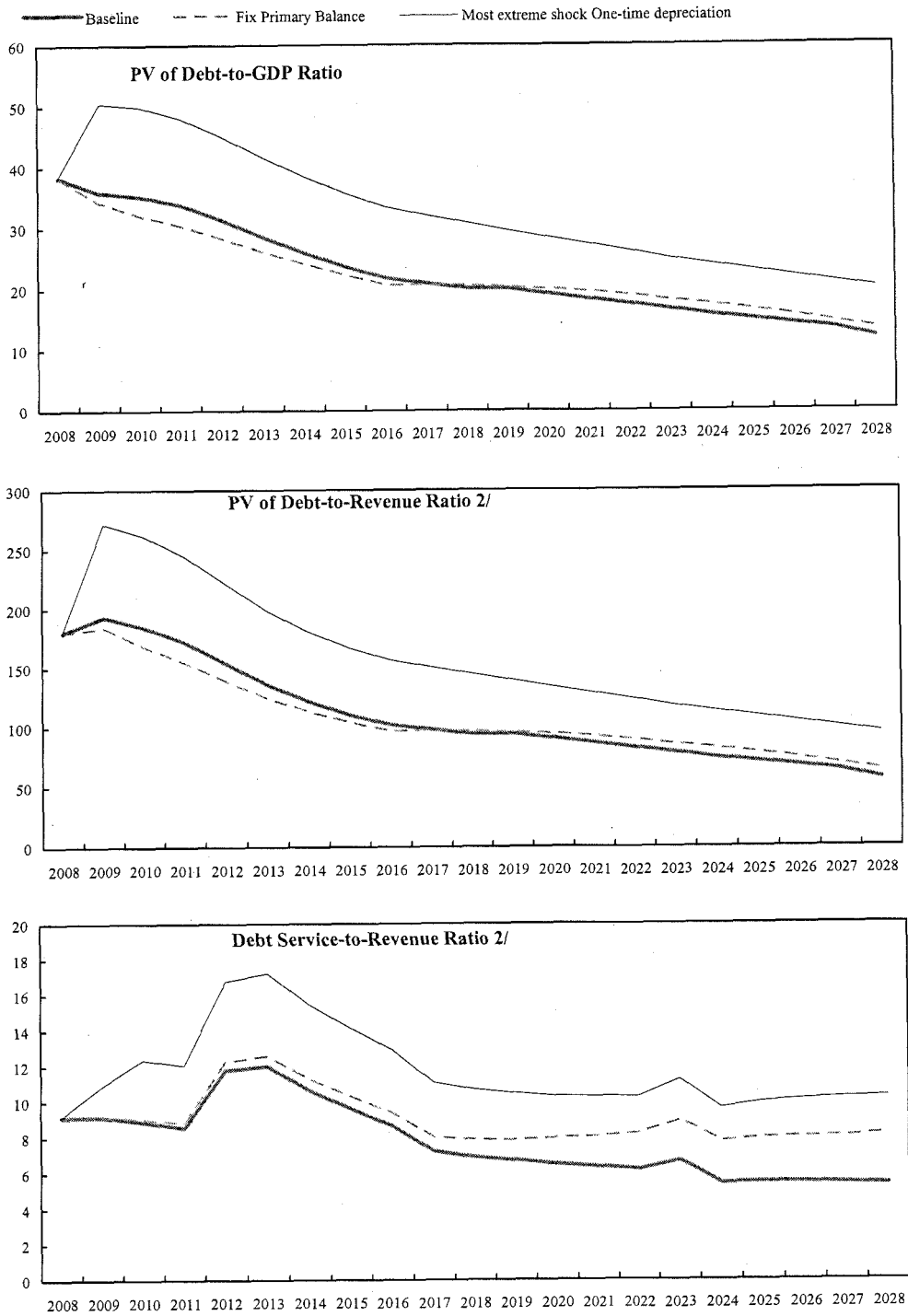
Figure 1. Comoros: Baseline (Non HIPC/MDRI) Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2008-2028 1/



Source: Comorian authorities; and IMF and World Bank staffs projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2018. In figure b. it corresponds to a One-time depreciation shock; in c. to a Exports shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in picture f. to a One-time depreciation shock

Figure 2. Comoros: Baseline (Non HIPC/MDRI) Indicators of Public Debt Under Alternatives Scenarios, 2008-2028 1/

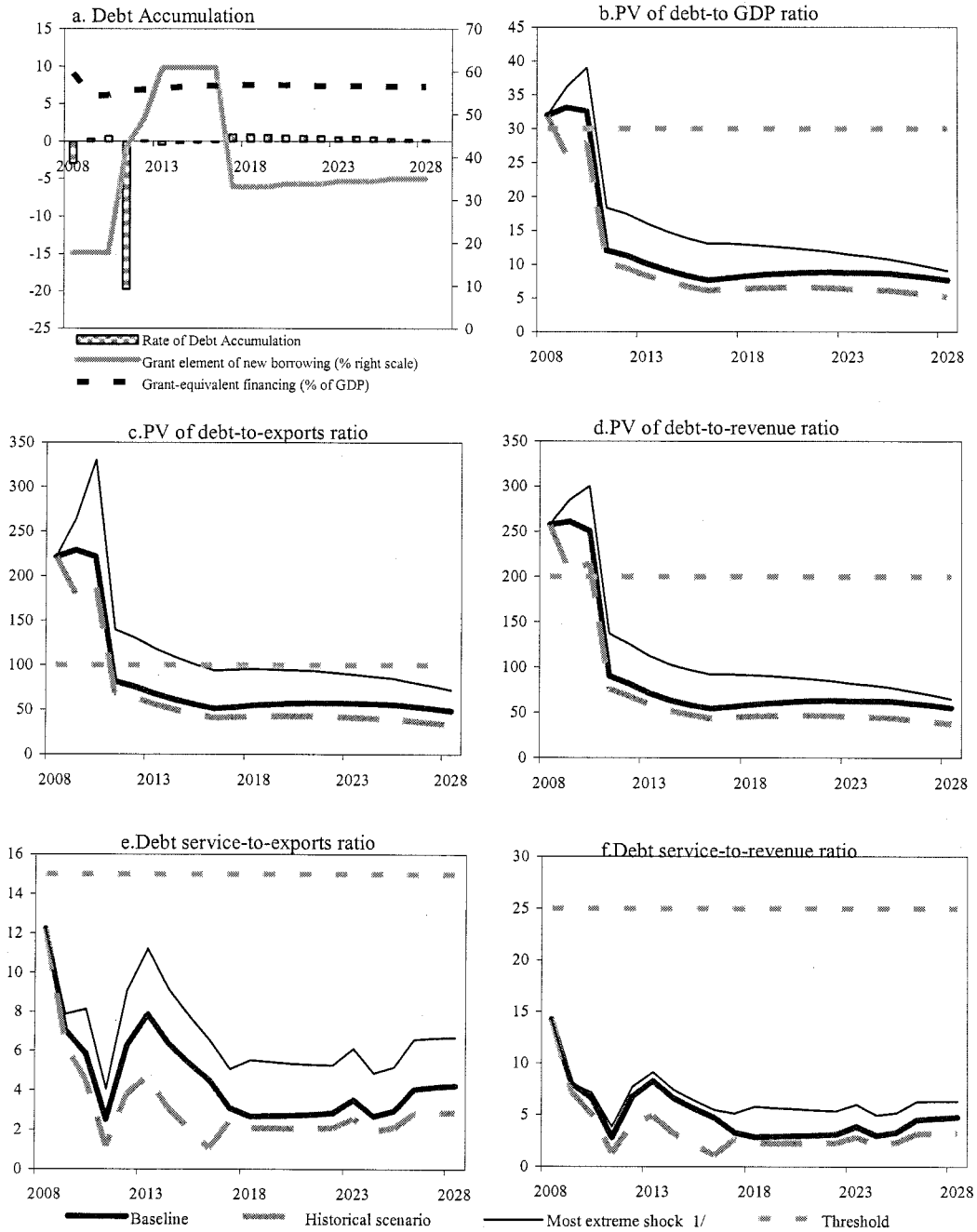


Sources: Comorian authorities; and IMF and World Bank staffs estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2018.

2/ Revenues are defined inclusive of grants.

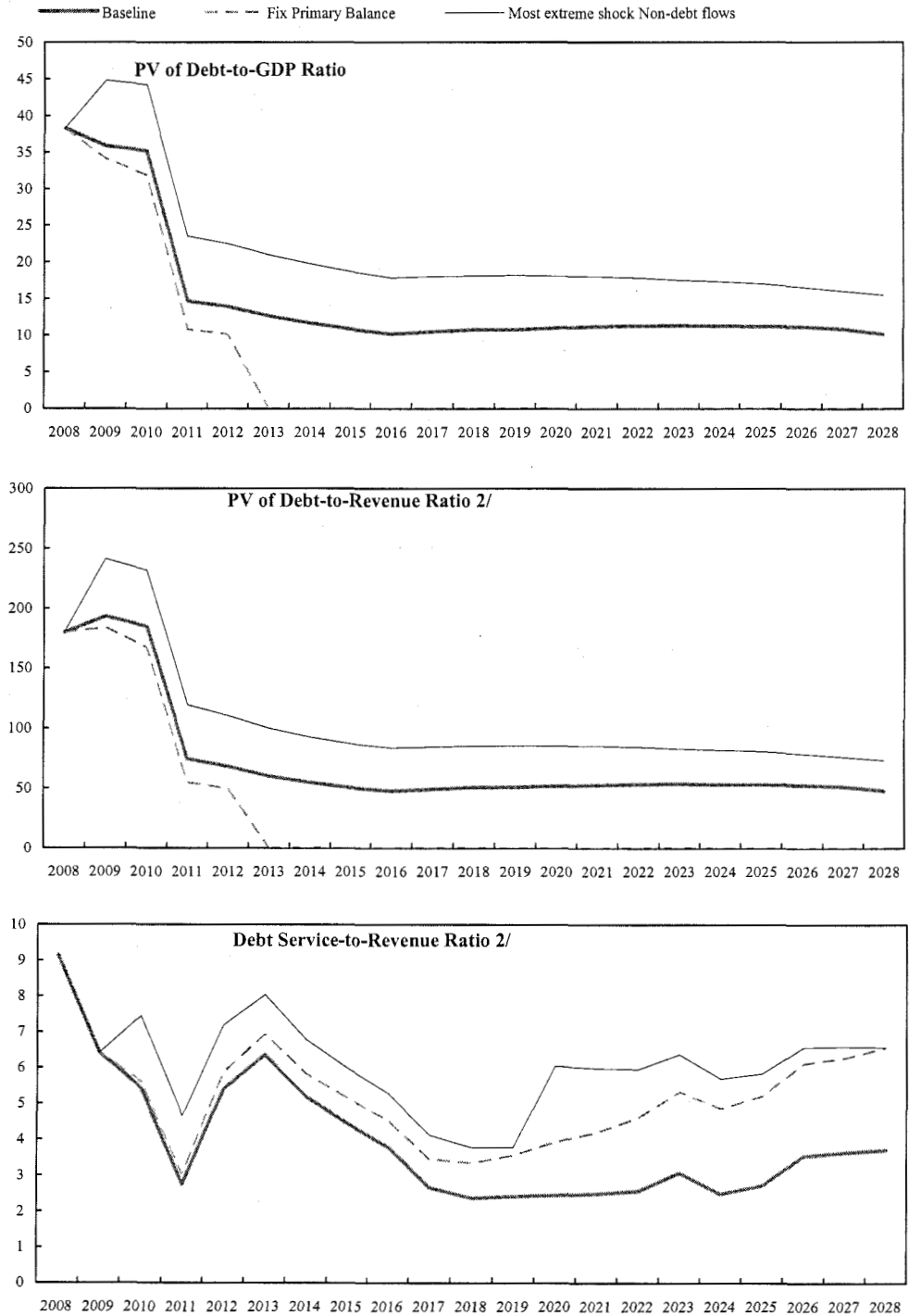
Figure 3. Comoros: Alternative (HIPC/MDRI) Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2008-2028 1/



Source: Comorian authorities; and IMF and World Bank staffs projections and simulations.

1/ The most extreme stress test is the test that yields the highest ratio in 2018. In figure b. it corresponds to a Non-debt flows shock; in c. to a Exports shock; in d. to a Non-debt flows shock; in e. to a Exports shock and in picture f. to a Non-debt flows shock

Figure 4. Comoros: Alternative (HIPC/MDRI) Indicators of Public Debt Under Alternatives Scenarios, 2008-2028 1/



Sources: Comorian authorities; and IMF and World Bank staffs estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2018.

2/ Revenues are defined inclusive of grants.

Table 1a.: External Debt Sustainability Framework, Baseline Scenario (Non HIPC/MDRI), 2005-2028 1/ (in percent of GDP, unless otherwise indicated)

| | Actual | | | Projections | | | | | | | | | | 2014-2028 Average |
|--|--------|-------|-------|-------------|-------|-------|-------|-------|-------|-------------------|-------|-------|-------|-------------------|
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2008-2013 Average | | | 2018 | |
| External debt (nominal) 1/ | 71.2 | 69.8 | 57.6 | 58.0 | 53.2 | 50.6 | 47.5 | 43.3 | 38.8 | 24.9 | 12.6 | 24.9 | 12.6 | |
| o/w public and publicly guaranteed (PPG) | 71.2 | 69.8 | 57.6 | 58.0 | 53.2 | 50.6 | 47.5 | 43.3 | 38.8 | 24.9 | 12.6 | 24.9 | 12.6 | |
| Change in external debt | -9.3 | -1.4 | -12.2 | 0.5 | -4.8 | -2.6 | -3.1 | -4.1 | -4.5 | -1.6 | -1.0 | -1.6 | -1.0 | |
| Identified net debt-creating flows | 1.9 | 3.1 | 4.2 | 6.8 | 7.9 | 7.2 | 7.5 | 6.9 | 6.4 | 5.3 | 5.3 | 5.3 | 5.3 | |
| Non-interest current account deficit | 6.5 | 5.5 | 6.3 | 8.2 | 10.2 | 9.8 | 10.5 | 9.8 | 10.0 | 7.7 | 5.8 | 7.7 | 5.8 | |
| Deficit in balance of goods and services | 21.5 | 24.4 | 26.9 | 28.7 | 26.5 | 27.1 | 27.5 | 27.3 | 27.9 | 23.0 | 16.9 | 23.0 | 16.9 | |
| Exports | 14.3 | 14.2 | 14.8 | 14.4 | 14.5 | 14.7 | 14.8 | 15.0 | 15.0 | 15.1 | 15.8 | 15.1 | 15.8 | |
| Imports | 35.8 | 38.6 | 41.6 | 43.1 | 41.0 | 41.8 | 42.3 | 42.3 | 42.8 | 38.1 | 32.6 | 38.1 | 32.6 | |
| Net current transfers (negative = inflow) | -14.5 | -18.3 | -19.8 | -19.7 | -16.1 | -16.8 | -16.4 | -16.9 | -17.3 | -15.1 | -11.2 | -15.1 | -11.2 | |
| o/w official | -0.4 | -0.7 | -0.8 | -3.6 | -0.5 | -0.5 | -0.5 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | -0.6 | |
| Other current account flows (negative = net inflow) | -0.1 | -0.2 | -1.6 | -1.6 | -2.1 | -1.9 | -1.8 | -1.7 | -2.3 | -0.2 | 0.2 | -0.2 | 0.2 | |
| Net FDI (negative = inflow) | -4.5 | -2.2 | -8.9 | -1.6 | -2.1 | -1.9 | -1.8 | -1.7 | -2.3 | -1.7 | -0.2 | -1.7 | -0.2 | |
| Endogenous debt dynamics 2/ | 0.6 | 0.6 | 0.4 | 0.5 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | -0.8 | -0.3 | -0.8 | -0.3 | |
| Contribution from nominal interest rate | -3.2 | -0.8 | -0.3 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | 0.2 | 0.2 | 0.2 | 0.2 | |
| Contribution from real GDP growth | -2.0 | -1.9 | -9.0 | -0.2 | -0.6 | -1.0 | -1.4 | -1.6 | -1.6 | -1.0 | -0.5 | -1.0 | -0.5 | |
| Residual (3-4) 3/ | 0.0 | 0.0 | -7.3 | -6.4 | -12.6 | -9.9 | -10.7 | -11.0 | -10.9 | ... | ... | ... | ... | |
| o/w exceptional financing | ... | ... | ... | 0.0 | -1.3 | -1.2 | -2.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| PV of external debt 4/ | ... | ... | 39.9 | 32.0 | 33.2 | 32.6 | 31.3 | 28.9 | 26.1 | 17.6 | 9.5 | 17.6 | 9.5 | |
| In percent of exports | ... | ... | 270.5 | 221.3 | 229.0 | 221.9 | 211.7 | 193.1 | 174.1 | 115.9 | 60.0 | 115.9 | 60.0 | |
| PV of PPG external debt | ... | ... | 39.9 | 32.0 | 33.2 | 32.6 | 31.3 | 28.9 | 26.1 | 17.6 | 9.5 | 17.6 | 9.5 | |
| In percent of exports | ... | ... | 270.5 | 221.3 | 229.0 | 221.9 | 211.7 | 193.1 | 174.1 | 115.9 | 60.0 | 115.9 | 60.0 | |
| In percent of government revenues | ... | ... | 315.4 | 257.8 | 261.2 | 250.6 | 233.8 | 208.0 | 182.4 | 123.8 | 67.7 | 123.8 | 67.7 | |
| PPG debt services-to-exports ratio (in percent) | 14.6 | 13.1 | 11.4 | 12.3 | 10.6 | 10.4 | 10.2 | 15.0 | 15.8 | 9.0 | 6.4 | 9.0 | 6.4 | |
| PPG debt services-to-revenue ratio (in percent) | 14.6 | 13.1 | 11.4 | 12.3 | 10.6 | 10.4 | 10.2 | 15.0 | 15.8 | 9.0 | 6.4 | 9.0 | 6.4 | |
| Total gross financing need (Billions of U.S. dollars) | 13.3 | 13.7 | 13.3 | 14.3 | 12.0 | 11.7 | 11.3 | 16.1 | 16.5 | 9.7 | 7.2 | 9.7 | 7.2 | |
| Non-interest current account deficit that stabilizes debt ratio | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | |
| 15.9 | 6.9 | 18.5 | 7.7 | 14.9 | 12.4 | 13.6 | 13.9 | 14.5 | 14.5 | 9.3 | 6.9 | 9.3 | 6.9 | |
| Key macroeconomic assumptions | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 4.2 | 1.2 | 0.5 | 0.5 | 1.0 | 2.0 | 3.0 | 3.5 | 4.0 | 2.3 | 4.0 | 2.3 | 4.0 | |
| GDP deflator in US dollar terms (change in percent) | 2.5 | 2.8 | 14.8 | 9.8 | 15.3 | -3.7 | 1.9 | 3.6 | 3.5 | 4.0 | 3.0 | 4.0 | 3.0 | |
| Effective interest rate (percent) 5/ | 0.8 | 0.9 | 0.6 | 1.0 | 0.2 | 1.0 | 0.7 | 0.7 | 0.8 | 0.8 | 1.0 | 0.8 | 1.0 | |
| Growth of exports of G&S (US dollar terms, in percent) | 0.9 | 3.6 | 20.0 | 8.0 | 20.8 | 13.3 | -2.4 | 5.4 | 7.5 | 8.4 | 7.7 | 6.6 | 7.0 | |
| Growth of imports of G&S (US dollar terms, in percent) | 15.8 | 12.4 | 24.5 | 8.8 | 15.1 | 19.9 | -7.4 | 5.9 | 8.0 | 7.0 | 9.1 | 7.1 | 4.9 | |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Government revenues (excluding grants, in percent of GDP) | 15.7 | 13.6 | 12.7 | 12.4 | 12.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | 17.7 | |
| Aid flows (in Billions of US dollars) 7/ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| o/w Grants | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| o/w Concessional loans | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Grant-equivalent financing (in percent of GDP) 8/ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Grant-equivalent financing (in percent of external financing) 8/ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Memorandum items: | | | | | | | | | | | | | | |
| Nominal GDP (Billions of US dollars) | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 6.4 | 1.0 | 6.4 | 1.0 | |
| Nominal dollar GDP growth | 6.8 | 4.1 | 15.4 | 15.8 | -2.7 | 3.9 | 6.7 | 7.1 | 7.7 | 7.1 | 7.1 | 7.1 | 7.1 | |
| PV of PPG external debt (in Billions of US dollars) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| (PV/(PV+1))/GDPH-1 (in percent) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |

Source: Comorian authorities; and IMF and World Bank staffs simulations.

1/ Includes both public and private sector external debt.
 2/ Derived as $(1 - g - r)(1 + g + r)^t$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and r = growth rate of GDP deflator in U.S. dollar terms.
 3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.
 4/ Assumes that PV of private sector debt is equivalent to its face value.
 5/ Current-year interest payments divided by previous period debt stock.
 6/ 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 1b. Comoros: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2008-2028
(in percent)

| | Projections | | | | | | | | | | | |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2028 |
| PV of debt-to GDP ratio | | | | | | | | | | | | |
| Baseline | 32 | 33 | 33 | 31 | 29 | 26 | 24 | 21 | 19 | 18 | 18 | 9 |
| A. Alternative Scenarios | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2008-2028 1/ | 32 | 26 | 28 | 26 | 24 | 21 | 19 | 17 | 15 | 15 | 14 | 6 |
| A2. New public sector loans on less favorable terms in 2008-2028 2 | 32 | 33 | 32 | 31 | 28 | 26 | 24 | 22 | 20 | 19 | 18 | 11 |
| B. Bound Tests | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2009-2010 | 32 | 33 | 33 | 32 | 29 | 27 | 24 | 22 | 20 | 19 | 18 | 10 |
| B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/ | 32 | 34 | 36 | 35 | 32 | 29 | 26 | 24 | 22 | 21 | 20 | 10 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010 | 32 | 33 | 34 | 33 | 30 | 27 | 25 | 22 | 20 | 19 | 18 | 10 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/ | 32 | 36 | 39 | 38 | 35 | 32 | 29 | 27 | 25 | 23 | 22 | 11 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 32 | 33 | 35 | 34 | 32 | 29 | 26 | 24 | 22 | 21 | 20 | 10 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/ | 32 | 48 | 47 | 45 | 42 | 38 | 34 | 31 | 28 | 27 | 25 | 14 |
| PV of debt-to-exports ratio | | | | | | | | | | | | |
| Baseline | 221 | 229 | 222 | 212 | 193 | 174 | 157 | 142 | 128 | 121 | 116 | 60 |
| A. Alternative Scenarios | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2008-2028 1/ | 221 | 180 | 190 | 178 | 160 | 143 | 128 | 115 | 103 | 96 | 90 | 41 |
| A2. New public sector loans on less favorable terms in 2008-2028 2 | 221 | 227 | 218 | 207 | 190 | 174 | 159 | 145 | 133 | 124 | 119 | 67 |
| B. Bound Tests | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2009-2010 | 221 | 229 | 222 | 212 | 193 | 174 | 157 | 142 | 128 | 121 | 116 | 60 |
| B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/ | 221 | 263 | 330 | 316 | 289 | 263 | 239 | 217 | 198 | 188 | 178 | 87 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010 | 221 | 229 | 222 | 212 | 193 | 174 | 157 | 142 | 128 | 121 | 116 | 60 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/ | 221 | 250 | 266 | 254 | 234 | 213 | 195 | 179 | 164 | 155 | 146 | 69 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 221 | 240 | 271 | 259 | 238 | 217 | 198 | 180 | 165 | 156 | 147 | 71 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/ | 221 | 229 | 222 | 212 | 193 | 174 | 157 | 142 | 128 | 121 | 116 | 60 |
| PV of debt-to-revenue ratio | | | | | | | | | | | | |
| Baseline | 258 | 261 | 251 | 234 | 208 | 182 | 163 | 148 | 136 | 130 | 124 | 68 |
| A. Alternative Scenarios | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2008-2028 1/ | 258 | 206 | 215 | 197 | 173 | 150 | 133 | 120 | 108 | 102 | 96 | 46 |
| A2. New public sector loans on less favorable terms in 2008-2028 2 | 258 | 259 | 246 | 229 | 204 | 182 | 164 | 151 | 140 | 133 | 127 | 76 |
| B. Bound Tests | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2009-2010 | 258 | 262 | 255 | 238 | 212 | 186 | 166 | 151 | 138 | 132 | 126 | 69 |
| B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/ | 258 | 288 | 276 | 258 | 230 | 203 | 183 | 168 | 155 | 148 | 141 | 73 |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010 | 258 | 260 | 263 | 245 | 218 | 191 | 171 | 155 | 142 | 136 | 130 | 71 |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/ | 258 | 285 | 300 | 280 | 252 | 224 | 202 | 187 | 173 | 165 | 156 | 78 |
| B5. Combination of B1-B4 using one-half standard deviation shocks | 258 | 259 | 272 | 254 | 227 | 201 | 181 | 167 | 154 | 147 | 140 | 71 |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/ | 258 | 379 | 364 | 339 | 302 | 265 | 236 | 215 | 197 | 188 | 180 | 98 |

Table 2b. Comoros: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2008-2028 (continued)

| | | Debt service-to-exports ratio (in percent) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|----|----|----|----|----|----|----|----|----|--|---|----|-------------------------------|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|--|--|
| | | 12 | 11 | 10 | 10 | 15 | 16 | 14 | 13 | 11 | 10 | 9 | 9 | 6 | Debt service-to-revenue ratio | | | | | | | | | | | | | | | | | |
| Baseline | | 12 | 11 | 10 | 10 | 15 | 16 | 14 | 13 | 11 | 10 | 9 <td>9<td>6</td> <td>14</td><td>12</td><td>12</td><td>11</td><td>16</td><td>17</td><td>15</td><td>13</td><td>12</td><td>10</td><td>10</td><td>10</td><td>7</td> </td> | 9 <td>6</td> <td>14</td> <td>12</td> <td>12</td> <td>11</td> <td>16</td> <td>17</td> <td>15</td> <td>13</td> <td>12</td> <td>10</td> <td>10</td> <td>10</td> <td>7</td> | 6 | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 10 | 10 | 10 | 7 | | | | | |
| A. Alternative Scenarios | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2008-2028 1/ | | 12 | 9 | 8 | 8 | 11 | 11 | 9 | 8 | 7 | 7 | 7 | 7 | 4 | 14 | 11 | 9 | 8 | 12 | 12 | 10 | 8 | 7 | 8 | 8 | 5 | | | | | | |
| A2. New public sector loans on less favorable terms in 2008-2028 2 | | 12 | 11 | 10 | 10 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 6 | 14 | 12 | 12 | 11 | 13 | 12 | 11 | 11 | 10 | 10 | 10 | 6 | | | | | | |
| B. Bound Tests | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2009-2010 | | 12 | 11 | 10 | 10 | 15 | 16 | 14 | 13 | 11 | 9 | 9 | 9 | 6 | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 10 | 10 | 7 | | | | | | |
| B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/ | | 12 | 12 | 14 | 15 | 21 | 22 | 20 | 18 | 16 | 14 | 14 | 14 | 10 | 14 | 12 | 12 | 14 | 15 | 14 | 13 | 12 | 11 | 11 | 11 | 8 | | | | | | |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010 | | 12 | 11 | 10 | 10 | 15 | 16 | 14 | 13 | 11 | 9 | 9 | 9 | 6 | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 11 | 11 | 8 | | | | | | |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/ | | 12 | 11 | 11 | 11 | 16 | 17 | 15 | 14 | 12 | 11 | 12 | 12 | 8 | 14 | 12 | 12 | 11 | 17 | 18 | 16 | 14 | 13 | 11 | 12 | 8 | | | | | | |
| B5. Combination of B1-B4 using one-half standard deviation shocks | | 12 | 11 | 11 | 12 | 17 | 18 | 16 | 14 | 13 | 11 | 12 | 12 | 8 | 14 | 11 | 11 | 10 | 15 | 16 | 14 | 13 | 12 | 11 | 11 | 8 | | | | | | |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/ | | 12 | 11 | 10 | 10 | 15 | 16 | 14 | 13 | 11 | 9 | 9 | 9 | 6 | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 10 | 10 | 7 | | | | | | |
| Baseline | | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 10 | 10 | 10 | 7 | 14 | 12 | 12 | 11 | 13 | 12 | 11 | 11 | 10 | 10 | 10 | 6 | | | | | | |
| A. Alternative Scenarios | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A1. Key variables at their historical averages in 2008-2028 1/ | | 14 | 11 | 9 | 8 | 12 | 12 | 10 | 8 | 7 | 8 | 8 | 8 | 5 | 14 | 12 | 12 | 11 | 13 | 12 | 11 | 11 | 10 | 10 | 10 | 6 | | | | | | |
| A2. New public sector loans on less favorable terms in 2008-2028 2 | | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 10 | 10 | 10 | 7 | 14 | 12 | 12 | 11 | 13 | 12 | 11 | 11 | 10 | 10 | 10 | 6 | | | | | | |
| B. Bound Tests | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B1. Real GDP growth at historical average minus one standard deviation in 2009-2010 | | 14 | 12 | 12 | 12 | 16 | 17 | 15 | 14 | 12 | 10 | 10 | 10 | 7 | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 10 | 10 | 7 | | | | | | |
| B2. Export value growth at historical average minus one standard deviation in 2009-2010 3/ | | 14 | 12 | 12 | 12 | 17 | 17 | 15 | 14 | 12 | 11 | 11 | 11 | 8 | 14 | 12 | 12 | 14 | 15 | 14 | 13 | 12 | 11 | 11 | 11 | 8 | | | | | | |
| B3. US dollar GDP deflator at historical average minus one standard deviation in 2009-2010 | | 14 | 12 | 12 | 12 | 17 | 17 | 15 | 14 | 12 | 11 | 11 | 11 | 8 | 14 | 12 | 12 | 11 | 16 | 17 | 15 | 13 | 12 | 11 | 11 | 8 | | | | | | |
| B4. Net non-debt creating flows at historical average minus one standard deviation in 2009-2010 4/ | | 14 | 12 | 12 | 12 | 17 | 17 | 15 | 14 | 12 | 11 | 12 | 12 | 9 | 14 | 12 | 12 | 11 | 17 | 18 | 16 | 14 | 13 | 12 | 11 | 8 | | | | | | |
| B5. Combination of B1-B4 using one-half standard deviation shocks | | 14 | 11 | 11 | 11 | 16 | 16 | 15 | 13 | 12 | 11 | 11 | 11 | 8 | 14 | 11 | 11 | 10 | 15 | 16 | 14 | 13 | 12 | 11 | 11 | 8 | | | | | | |
| B6. One-time 30 percent nominal depreciation relative to the baseline in 2009 5/ | | 14 | 17 | 17 | 16 | 23 | 24 | 21 | 19 | 17 | 15 | 14 | 14 | 10 | 14 | 17 | 17 | 16 | 23 | 24 | 21 | 19 | 17 | 15 | 14 | 10 | | | | | | |
| <i>Memorandum item:</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grant element assumed on residual financing (i.e., financing required above baseline) 6/ | | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | | | | | | |

Source: Comorian authorities; and IMF and World Bank staffs 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. Comoros: Public Sector Debt Sustainability Framework, Baseline Scenario (Non HIPC/MDRI), 2005-2028
(In percent of GDP, unless otherwise indicated)

| | Actual | | | Estimate | | | Projections | | | | | 2014-28 | | | |
|--|--------|------|-------|----------|--------------------|-------|-------------|-------|-------|-------|-------|-----------------|-------|------|---------|
| | 2005 | 2006 | 2007 | Average | Standard Deviation | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014-13 Average | 2018 | 2028 | Average |
| | | | | | | | | | | | | | | | |
| Public sector debt 1/ | 73.9 | 73.2 | 60.9 | | | 61.0 | 56.0 | 53.3 | 50.1 | 45.9 | 41.3 | 41.3 | 27.4 | 15.0 | |
| o/w foreign-currency denominated | 71.2 | 69.8 | 57.6 | | | 58.0 | 53.2 | 50.6 | 47.5 | 43.3 | 38.8 | 38.8 | 24.9 | 12.6 | |
| Change in public sector debt | -8.8 | -0.6 | -12.3 | | | 0.1 | -5.0 | -2.7 | -3.2 | -4.2 | -4.6 | -4.6 | -1.6 | -1.0 | |
| Identified debt-creating flows | 4.7 | -6.9 | -15.4 | | | 1.0 | -3.0 | -1.1 | -24.5 | -2.4 | -2.9 | -2.9 | -1.3 | 0.0 | |
| Primary deficit | -0.8 | 1.8 | 1.5 | 1.4 | 1.2 | -0.3 | 2.1 | 1.8 | 1.3 | 0.5 | 0.0 | 0.0 | 0.9 | 0.3 | 0.7 |
| Revenue and grants | 19.9 | 18.7 | 20.3 | | | 21.3 | 18.6 | 19.1 | 19.7 | 20.4 | 21.0 | 21.0 | 21.3 | 21.1 | |
| of which: grants | 4.3 | 5.0 | 7.6 | | | 8.9 | 5.9 | 6.1 | 6.3 | 6.5 | 6.7 | 6.7 | 7.1 | 7.1 | |
| Primary (noninterest) expenditure | 19.1 | 20.5 | 21.8 | | | 21.0 | 20.7 | 20.9 | 21.0 | 20.9 | 21.0 | 21.0 | 21.6 | 21.8 | |
| Automatic debt dynamics | 5.6 | -8.7 | -9.7 | | | 1.2 | -3.9 | -1.7 | -2.9 | -2.9 | -2.8 | -2.8 | -1.6 | -0.7 | |
| Contribution from interest rate/growth differential | -5.1 | -2.4 | -1.7 | | | -0.7 | -1.4 | -1.7 | -2.1 | -2.2 | -2.2 | -2.2 | -1.3 | -0.6 | |
| of which: contribution from average real interest rate | -1.7 | -1.5 | -1.4 | | | -0.4 | -0.8 | -0.6 | -0.6 | -0.5 | -0.4 | -0.4 | -0.2 | 0.0 | |
| of which: contribution from real GDP growth | -3.4 | -0.9 | -0.4 | | | -0.3 | -0.6 | -1.1 | -1.6 | -1.7 | -1.8 | -1.8 | -1.1 | -0.6 | |
| Contribution from real exchange rate depreciation | 10.6 | -6.4 | -7.9 | | | 2.0 | -2.5 | 0.0 | -0.8 | -0.7 | -0.6 | -0.6 | ... | ... | |
| Other identified debt-creating flows | 0.0 | 0.0 | -7.3 | | | 0.0 | -1.3 | -1.2 | -23.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Privatization receipts (negative) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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) | 0.0 | 0.0 | -7.3 | | | 0.0 | -1.3 | -1.2 | -23.0 | 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 | 0.0 | |
| Residual, including asset changes | -13.5 | 6.2 | 3.1 | | | -0.8 | -2.0 | -1.6 | 21.3 | -1.8 | -1.7 | -1.7 | -0.4 | -1.0 | |
| Other Sustainability Indicators | | | | | | | | | | | | | | | |
| PV of public sector debt | 2.7 | 3.5 | 40.9 | | | 38.3 | 35.9 | 35.2 | 33.9 | 31.4 | 28.5 | 28.5 | 20.0 | 11.9 | |
| o/w foreign-currency denominated | 0.0 | 0.0 | 37.5 | | | 35.3 | 33.1 | 32.5 | 31.3 | 28.9 | 26.0 | 26.0 | 17.5 | 9.5 | |
| o/w external | ... | ... | 37.5 | | | 35.3 | 33.1 | 32.5 | 31.3 | 28.9 | 26.0 | 26.0 | 17.5 | 9.5 | |
| PV of contingent liabilities (not included in public sector debt) | ... | ... | ... | | | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Gross financing need 2/ | 3.3 | 5.6 | 5.8 | | | 4.0 | 6.1 | 5.7 | 5.2 | 5.0 | 4.6 | 4.6 | 4.2 | 4.1 | |
| PV of public sector debt-to-revenue and grants ratio (in percent) | 13.5 | 18.5 | 201.3 | | | 179.8 | 193.1 | 184.6 | 172.2 | 154.2 | 136.1 | 136.1 | 94.2 | 56.5 | |
| o/w external 3/ | 17.2 | 25.3 | 322.9 | | | 309.0 | 282.5 | 270.9 | 252.9 | 226.0 | 199.6 | 199.6 | 141.2 | 85.0 | |
| Debt service-to-revenue and grants ratio (in percent) 4/ | ... | ... | 296.5 | | | 284.6 | 260.7 | 250.1 | 233.3 | 207.6 | 182.0 | 182.0 | 123.6 | 67.5 | |
| Debt service-to-revenue ratio (in percent) 4/ | 10.9 | 11.0 | 9.1 | | | 9.2 | 9.2 | 8.9 | 8.6 | 8.6 | 8.6 | 8.6 | 6.9 | 5.4 | |
| Primary deficit that stabilizes the debt-to-GDP ratio | 13.9 | 15.1 | 14.6 | | | 15.8 | 13.4 | 13.0 | 12.6 | 17.3 | 17.6 | 17.6 | 10.4 | 8.1 | |
| Primary deficit that stabilizes the debt-to-GDP ratio | 7.9 | 2.5 | 13.9 | | | -0.4 | 7.1 | 4.5 | 4.6 | 4.7 | 4.5 | 4.5 | 2.0 | 1.7 | |
| Key macroeconomic and fiscal assumptions | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 4.2 | 1.2 | 0.5 | 2.0 | 1.5 | 0.5 | 1.0 | 2.0 | 3.0 | 3.0 | 3.5 | 4.0 | 2.3 | 4.0 | 4.0 |
| Average nominal interest rate on forex debt (in percent) | 0.8 | 0.9 | 0.6 | 1.0 | 0.2 | 1.0 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 1.0 | 1.2 |
| Average real interest rate on domestic debt (in percent) | 2.1 | 3.2 | -2.0 | -0.9 | 8.4 | -3.6 | -2.5 | 2.3 | 0.7 | 0.4 | 0.4 | 0.4 | -0.4 | 1.2 | 2.0 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | 14.1 | -9.2 | -11.6 | -6.0 | 19.4 | 3.5 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Inflation rate (GDP deflator, in percent) | 2.3 | 2.0 | 5.2 | 5.4 | 9.4 | 7.1 | 6.1 | 1.4 | 3.1 | 3.5 | 3.5 | 4.1 | 3.0 | 3.0 | 3.1 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grant element of new external borrowing (in percent) | ... | ... | ... | ... | ... | 17.7 | 17.7 | 17.7 | 42.4 | 49.1 | 61.0 | 34.3 | 33.1 | 35.0 | |

Sources: Comorian authorities; and IMF and World Bank staffs 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 2b. Comoros: Sensitivity Analysis for Key Indicators of Public Debt 2008-2028

| | Projections | | | | | | | |
|---|-------------|------|------|------|------|------|------|------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2018 | 2028 |
| PV of Debt-to-GDP Ratio | | | | | | | | |
| Baseline | 38 | 36 | 35 | 34 | 31 | 29 | 20 | 12 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 38 | 35 | 34 | 33 | 32 | 31 | 29 | 29 |
| A2. Primary balance is unchanged from 2008 | 38 | 34 | 32 | 30 | 28 | 26 | 21 | 13 |
| A3. Permanently lower GDP growth 1/ | 38 | 36 | 36 | 34 | 32 | 30 | 23 | 20 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010 | 38 | 36 | 36 | 35 | 33 | 30 | 23 | 16 |
| B2. Primary balance is at historical average minus one standard deviations in 2009-2010 | 38 | 36 | 36 | 35 | 33 | 30 | 21 | 13 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 38 | 36 | 35 | 34 | 32 | 29 | 21 | 13 |
| B4. One-time 30 percent real depreciation in 2009 | 38 | 50 | 50 | 48 | 45 | 42 | 31 | 20 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2009 | 38 | 45 | 44 | 43 | 40 | 37 | 27 | 17 |
| PV of Debt-to-Revenue Ratio 2/ | | | | | | | | |
| Baseline | 180 | 193 | 185 | 172 | 154 | 136 | 94 | 56 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 180 | 188 | 178 | 168 | 156 | 145 | 132 | 120 |
| A2. Primary balance is unchanged from 2008 | 180 | 184 | 168 | 155 | 139 | 124 | 97 | 63 |
| A3. Permanently lower GDP growth 1/ | 180 | 194 | 186 | 175 | 157 | 140 | 106 | 94 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010 | 180 | 194 | 189 | 177 | 160 | 143 | 105 | 76 |
| B2. Primary balance is at historical average minus one standard deviations in 2009-2010 | 180 | 195 | 191 | 178 | 160 | 141 | 99 | 60 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 180 | 192 | 186 | 174 | 156 | 138 | 97 | 61 |
| B4. One-time 30 percent real depreciation in 2009 | 180 | 272 | 262 | 244 | 221 | 198 | 145 | 95 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2009 | 180 | 241 | 232 | 217 | 196 | 176 | 129 | 82 |
| Debt Service-to-Revenue Ratio 2/ | | | | | | | | |
| Baseline | 9 | 9 | 9 | 9 | 12 | 12 | 7 | 5 |
| A. Alternative scenarios | | | | | | | | |
| A1. Real GDP growth and primary balance are at historical averages | 9 | 9 | 9 | 8 | 12 | 12 | 9 | 10 |
| A2. Primary balance is unchanged from 2008 | 9 | 9 | 9 | 9 | 12 | 13 | 8 | 8 |
| A3. Permanently lower GDP growth 1/ | 9 | 9 | 9 | 9 | 12 | 12 | 7 | 7 |
| B. Bound tests | | | | | | | | |
| B1. Real GDP growth is at historical average minus one standard deviations in 2009-2010 | 9 | 9 | 9 | 9 | 12 | 12 | 7 | 7 |
| B2. Primary balance is at historical average minus one standard deviations in 2009-2010 | 9 | 9 | 9 | 9 | 12 | 12 | 7 | 6 |
| B3. Combination of B1-B2 using one half standard deviation shocks | 9 | 9 | 9 | 9 | 12 | 12 | 7 | 6 |
| B4. One-time 30 percent real depreciation in 2009 | 9 | 11 | 12 | 12 | 17 | 17 | 11 | 10 |
| B5. 10 percent of GDP increase in other debt-creating flows in 2009 | 9 | 9 | 11 | 10 | 14 | 14 | 8 | 8 |

Sources: Comorian authorities; and IMF and World Bank staffs estimates and projections.

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

2/ Revenues are defined inclusive of grants.

Table 4a.: External Debt Sustainability Framework, Alternative Scenario (HIPC/MDRI), 2005-2028 1/
(In percent of GDP, unless otherwise indicated)

| | Actual | | | Historical Average | Standard Deviation | Projections | | | | | | | 2008-2013 Average | 2018 | 2028 | 2014-2028 Average |
|--|--------|-------|-------|-----------------------|-----------------------|-------------|-------|-------|-------|-------|-------|------|----------------------|-------|-------|----------------------|
| | 2005 | 2006 | 2007 | | | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | | | | | |
| External debt (nominal) 1/ | 71.2 | 69.8 | 57.6 | | | 58.4 | 53.8 | 51.6 | 49.2 | 45.8 | 42.0 | | 30.1 | 18.6 | | |
| o/w public and publicly guaranteed (PPG) | 71.2 | 69.8 | 57.6 | | | 58.4 | 53.8 | 51.6 | 49.2 | 45.8 | 42.0 | | 30.1 | 18.6 | | |
| Change in external debt | -9.3 | -1.4 | -12.2 | | | 0.9 | -4.6 | -2.2 | -2.4 | -3.4 | -3.9 | | -1.3 | -1.1 | | |
| Identified net debt-creating flows | 1.9 | 3.1 | -4.2 | | | 6.8 | 7.8 | 7.2 | 7.5 | 6.8 | 6.3 | | 5.1 | 5.1 | | |
| Non-interest current account deficit | 6.5 | 5.5 | 6.3 | 2.8 | 3.4 | 8.2 | 10.3 | 9.9 | 10.7 | 10.1 | 10.2 | | 7.8 | 5.8 | 7.3 | |
| Deficit in balance of goods and services | 21.5 | 24.4 | 26.9 | | | 28.7 | 26.5 | 27.1 | 27.5 | 27.3 | 27.9 | | 23.0 | 16.9 | | |
| Exports | 14.3 | 14.2 | 14.8 | | | 14.4 | 14.5 | 14.7 | 14.8 | 15.0 | 15.0 | | 15.1 | 15.8 | | |
| Imports | 35.8 | 38.6 | 41.6 | | | 43.1 | 41.0 | 41.8 | 42.3 | 42.3 | 42.8 | | 38.1 | 32.6 | | |
| Net current transfers (negative = inflow) | -14.5 | -18.3 | -19.8 | -15.7 | 2.5 | -19.7 | -16.1 | -16.8 | -16.4 | -16.9 | -17.3 | | -15.1 | -11.2 | -13.8 | |
| o/w official | -0.4 | -1.6 | -2.8 | | | -3.6 | -0.5 | -0.5 | -0.5 | -0.6 | -0.6 | | -0.6 | -0.6 | | |
| Other current account flows (negative = net inflow) | -0.4 | -0.7 | -0.8 | | | -0.8 | -0.2 | -0.4 | -0.4 | -0.4 | -0.3 | | -0.1 | 0.2 | | |
| Net FDI (negative = inflow) | -0.1 | -0.2 | -1.6 | -0.4 | 0.4 | -1.6 | -2.1 | -1.9 | -1.8 | -1.7 | -2.3 | | -1.7 | -0.2 | -1.2 | |
| Endogenous debt dynamics 2/ | -4.5 | -2.2 | -8.9 | | | 0.3 | -0.4 | -0.8 | -1.4 | -1.5 | -1.6 | | -1.1 | -0.5 | | |
| Contribution from nominal interest rate | 0.6 | 0.6 | 0.4 | | | 0.5 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.2 | | |
| Contribution from real GDP growth | -3.2 | -0.8 | -0.3 | | | -0.2 | -0.6 | -1.0 | -1.5 | -1.6 | -1.7 | | -1.2 | -0.7 | | |
| Contribution from price and exchange rate changes | -2.0 | -1.9 | -9.0 | | | ... | ... | ... | ... | ... | ... | | ... | ... | | |
| Residual (3-4) 3/ | -11.2 | -4.5 | -8.0 | | | -5.9 | -12.4 | -9.4 | -9.9 | -10.2 | -10.2 | | -6.4 | -6.2 | | |
| o/w exceptional financing | 0.0 | 0.0 | -7.3 | | | -0.4 | -1.6 | -1.6 | -23.1 | 0.0 | 0.0 | | 0.0 | 0.0 | | |
| PV of external debt 4/ | ... | ... | 39.9 | | | 37.1 | 38.4 | 37.7 | 15.0 | 14.1 | 12.6 | | 9.6 | 7.8 | | |
| In percent of exports | ... | ... | 270.5 | | | 256.9 | 265.4 | 257.0 | 101.6 | 94.1 | 84.4 | | 63.5 | 49.4 | | |
| PV of PPG external debt | ... | ... | 39.9 | | | 37.1 | 38.4 | 37.7 | 15.0 | 14.1 | 12.6 | | 9.6 | 7.8 | | |
| In percent of government revenues | ... | ... | 315.4 | | | 299.4 | 302.6 | 290.2 | 112.1 | 101.4 | 88.4 | | 67.8 | 55.7 | | |
| Debt service-to-exports ratio (in percent) | 14.6 | 13.1 | 11.4 | | | 12.8 | 7.6 | 6.5 | 3.3 | 7.2 | 8.9 | | 4.0 | 4.2 | | |
| PPG debt service-to-exports ratio (in percent) | 14.6 | 13.1 | 11.4 | | | 12.8 | 7.6 | 6.5 | 3.3 | 7.2 | 8.9 | | 4.0 | 4.2 | | |
| PPG debt service-to-revenue ratio (in percent) | 13.3 | 13.7 | 13.3 | | | 14.9 | 8.6 | 7.4 | 3.7 | 7.7 | 9.3 | | 4.2 | 4.8 | | |
| Total gross financing need (Billions of U.S. dollars) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | | |
| Non-interest current account deficit that stabilizes debt ratio | 15.9 | 6.9 | 18.5 | | | 7.3 | 14.9 | 12.1 | 13.2 | 13.4 | 14.1 | | 9.2 | 6.9 | | |
| Key macroeconomic assumptions | | | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 4.2 | 1.2 | 0.5 | 2.0 | 1.5 | 0.5 | 1.0 | 2.0 | 3.0 | 3.5 | 4.0 | 2.3 | 4.0 | 4.0 | 4.0 | |
| GDP deflator in US dollar terms (change in percent) | 2.5 | 2.8 | 14.8 | 6.5 | 9.8 | 15.3 | -3.7 | 1.9 | 3.6 | 3.5 | 3.5 | 4.0 | 3.0 | 3.0 | 3.1 | |
| Effective interest rate (percent) 5/ | 0.8 | 0.9 | 0.6 | 1.0 | 0.2 | 1.0 | 0.4 | 0.4 | 0.1 | 0.2 | 0.2 | 0.4 | 0.3 | 1.0 | 0.6 | |
| Growth of exports of G&S (US dollar terms, in percent) | 0.9 | 3.6 | 20.0 | 8.0 | 20.8 | 13.3 | -2.4 | 5.4 | 7.5 | 8.4 | 7.7 | 6.6 | 7.0 | 7.6 | 7.6 | |
| Growth of imports of G&S (US dollar terms, in percent) | 15.8 | 12.4 | 24.5 | 8.8 | 15.1 | 19.9 | -7.4 | 5.9 | 8.0 | 7.0 | 9.1 | 7.1 | 4.9 | 6.0 | 5.3 | |
| Grant element of new public sector borrowing (in percent) | ... | ... | ... | ... | ... | 17.7 | 17.7 | 17.7 | 42.4 | 49.1 | 61.0 | 34.3 | 33.1 | 35.0 | 39.4 | |
| Government revenues (excluding grants, in percent of GDP) | 15.7 | 13.6 | 12.7 | | | 12.4 | 12.7 | 13.0 | 13.4 | 13.9 | 14.3 | | 14.2 | 14.0 | 14.1 | |
| Aid flows (in Billions of US dollars) 7/ | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.1 | 0.1 | | |
| o/w Grants | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.1 | 0.1 | | |
| o/w Concessional loans | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | |
| Grant-equivalent financing (in percent of GDP) 8/ | ... | ... | ... | | | 9.1 | 6.0 | 6.2 | 6.8 | 6.9 | 7.0 | | 7.5 | 7.3 | 7.4 | |
| Grant-equivalent financing (in percent of external financing) 8/ | ... | ... | ... | | | 91.9 | 89.4 | 93.1 | 90.6 | 93.8 | 96.8 | | 89.7 | 94.2 | 92.9 | |
| Memorandum items: | | | | | | | | | | | | | | | | |
| Nominal GDP (Billions of US dollars) | 0.4 | 0.4 | 0.5 | | | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | | 1.0 | 1.9 | | |
| Nominal dollar GDP growth | 6.8 | 4.1 | 15.4 | | | 15.8 | -2.7 | 3.9 | 6.7 | 7.1 | 7.7 | 6.4 | 7.1 | 7.1 | 7.2 | |
| PV of PPG external debt (in Billions of US dollars) | ... | ... | 0.2 | | | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | | 0.1 | 0.1 | | |
| (PVt-PVt-1)/GDPt-1 (in percent) | ... | ... | ... | | | 3.1 | 0.3 | 0.8 | -21.7 | 0.1 | -0.5 | -3.0 | 0.7 | 0.2 | 0.3 | |

Source: Staff simulations.

1/ Includes both public and private sector external debt.

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

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

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

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

6/ 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 4b. Comoros: Public Sector Debt Sustainability Framework, Alternative Scenario (HIPC/MDRI), 2005-2028
(In percent of GDP, unless otherwise indicated)

| | Actual | | | Average | Standard Deviation | Estimate | | | | | Projections | | | |
|--|--------|------|-------|---------|--------------------|----------|-------|-------|-------|-------|-------------|-----------------|------|------|
| | 2005 | 2006 | 2007 | | | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2008-13 Average | 2018 | 2028 |
| Public sector debt 1/ | 73.9 | 73.2 | 60.9 | | | 61.5 | 56.6 | 54.4 | 51.8 | 48.4 | 44.5 | | 32.6 | 21.0 |
| o/w foreign-currency denominated | 71.2 | 69.8 | 57.6 | | | 58.4 | 53.8 | 51.6 | 49.2 | 45.8 | 42.0 | | 30.1 | 18.6 |
| Change in public sector debt | -8.8 | -0.6 | -12.3 | | | 0.6 | -4.8 | -2.3 | -2.5 | -3.4 | -4.0 | | -1.3 | -1.1 |
| Identified debt-creating flows | 4.7 | -6.9 | -15.4 | | | 0.6 | -3.4 | -1.5 | -24.7 | -2.5 | -3.0 | | -1.6 | -0.4 |
| Primary deficit | -0.8 | 1.8 | 1.5 | 1.4 | 1.2 | -0.3 | 2.3 | 1.9 | 1.6 | 0.8 | 0.2 | 1.1 | 0.5 | 0.8 |
| Revenue and grants | 19.9 | 18.7 | 20.3 | | | 21.3 | 18.6 | 19.1 | 19.7 | 20.4 | 21.0 | | 21.3 | 21.1 |
| of which: grants | 4.3 | 5.0 | 7.6 | | | 8.9 | 5.9 | 6.1 | 6.3 | 6.5 | 6.7 | | 7.1 | 7.1 |
| Primary (noninterest) expenditure | 19.1 | 20.5 | 21.8 | | | 21.0 | 20.8 | 21.0 | 21.3 | 21.1 | 21.2 | | 21.7 | 21.8 |
| Automatic debt dynamics | 5.6 | -8.7 | -9.7 | | | 1.2 | -4.0 | -1.8 | -3.2 | -3.3 | -3.3 | | -2.1 | -1.2 |
| Contribution from interest rate/growth differential | -5.1 | -2.4 | -1.7 | | | -0.8 | -1.5 | -1.8 | -2.4 | -2.5 | -2.6 | | -1.7 | -1.0 |
| of which: contribution from average real interest rate | -1.7 | -1.5 | -1.4 | | | -0.5 | -0.9 | -0.7 | -0.8 | -0.8 | -0.7 | | -0.4 | -0.1 |
| of which: contribution from real GDP growth | -3.4 | -0.9 | -0.4 | | | -0.3 | -0.6 | -1.1 | -1.6 | -1.8 | -1.9 | | -1.3 | -0.9 |
| Contribution from real exchange rate depreciation | 10.6 | -6.4 | -7.9 | | | 2.0 | -2.5 | 0.0 | -0.8 | -0.7 | -0.7 | | ... | ... |
| Other identified debt-creating flows | 0.0 | 0.0 | -7.3 | | | -0.4 | -1.6 | -1.6 | -23.1 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Privatization receipts (negative) | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Recognition of implicit or contingent liabilities | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Debt relief (HIPC and other) | 0.0 | 0.0 | -7.3 | | | -0.4 | -1.6 | -1.6 | -23.1 | 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 | -13.5 | 6.2 | 3.1 | | | 0.0 | -1.4 | -0.8 | 22.2 | -0.9 | -0.9 | | 0.2 | -0.7 |
| Other Sustainability Indicators | | | | | | | | | | | | | | |
| PV of public sector debt | 2.7 | 3.5 | 40.9 | | | 44.0 | 41.1 | 40.4 | 17.6 | 16.6 | 15.1 | | 12.1 | 10.2 |
| o/w foreign-currency denominated | 0.0 | 0.0 | 27.5 | | | 41.0 | 38.3 | 37.7 | 15.0 | 14.1 | 12.6 | | 9.6 | 7.8 |
| o/w external | ... | ... | 37.5 | | | 41.0 | 38.3 | 37.7 | 15.0 | 14.1 | 12.6 | | 9.6 | 7.8 |
| PV of contingent liabilities (not included in public sector debt) | ... | ... | ... | | | ... | ... | ... | ... | ... | ... | | ... | ... |
| Gross financing need 2/ | 3.3 | 5.6 | 5.8 | | | 4.1 | 5.7 | 5.2 | 4.4 | 4.1 | 3.9 | | 3.5 | 3.8 |
| PV of public sector debt-to-revenue and grants ratio (in percent) | 13.5 | 18.5 | 201.3 | | | 206.4 | 221.4 | 211.6 | 89.6 | 81.6 | 72.1 | | 56.9 | 48.5 |
| PV of public sector debt-to-revenue ratio (in percent) | 17.2 | 25.3 | 322.9 | | | 354.8 | 323.9 | 310.4 | 131.5 | 119.6 | 105.8 | | 85.3 | 73.0 |
| o/w external 3/ | ... | ... | 296.5 | | | 330.5 | 302.0 | 289.6 | 111.9 | 101.2 | 88.2 | | 67.7 | 55.6 |
| Debt service-to-revenue and grants ratio (in percent) 4/ | 10.9 | 11.0 | 9.1 | | | 9.5 | 6.8 | 5.9 | 3.4 | 6.1 | 7.1 | | 3.3 | 3.7 |
| Debt service-to-revenue ratio (in percent) 4/ | 13.9 | 15.1 | 14.6 | | | 16.4 | 10.0 | 8.7 | 4.9 | 8.9 | 10.4 | | 4.9 | 5.6 |
| Primary deficit that stabilizes the debt-to-GDP ratio | 7.9 | 2.5 | 13.9 | | | -0.8 | 7.1 | 4.2 | 4.1 | 4.2 | 4.2 | | 1.8 | 1.8 |
| Key macroeconomic and fiscal assumptions | | | | | | | | | | | | | | |
| Real GDP growth (in percent) | 4.2 | 1.2 | 0.5 | 2.0 | 1.5 | 0.5 | 1.0 | 2.0 | 3.0 | 3.5 | 4.0 | 2.3 | 4.0 | 4.0 |
| Average nominal interest rate on forex debt (in percent) | 0.8 | 0.9 | 0.6 | 1.0 | 0.2 | 1.0 | 0.4 | 0.4 | 0.1 | 0.2 | 0.2 | 0.4 | 0.3 | 1.0 |
| Average real interest rate on domestic debt (in percent) | 2.1 | 3.2 | -2.0 | -0.9 | 8.4 | -3.6 | -2.5 | 2.3 | 0.7 | 0.4 | 0.4 | -0.4 | 1.2 | 2.0 |
| Real exchange rate depreciation (in percent, + indicates depreciation) | 14.1 | -9.2 | -11.6 | -6.0 | 19.4 | 3.5 | ... | ... | ... | ... | ... | ... | ... | ... |
| Inflation rate (GDP deflator, in percent) | 2.3 | 2.0 | 5.2 | 5.4 | 9.4 | 7.1 | 6.1 | 1.4 | 3.1 | 3.5 | 3.5 | 4.1 | 3.0 | 3.0 |
| Growth of real primary spending (deflated by GDP deflator, in percent) | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grant element of new external borrowing (in percent) | ... | ... | ... | ... | ... | 17.7 | 17.7 | 17.7 | 42.4 | 49.1 | 61.0 | 34.3 | 33.1 | 35.0 |

Sources: Country authorities; and Fund 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.