

INTERNATIONAL DEVELOPMENT ASSOCIATION
INTERNATIONAL MONETARY FUND

RWANDA

Joint World Bank-IMF Debt Sustainability Analysis

April 2020

Prepared jointly by the staffs of the International Development Association (IDA)
and the International Monetary Fund (IMF)

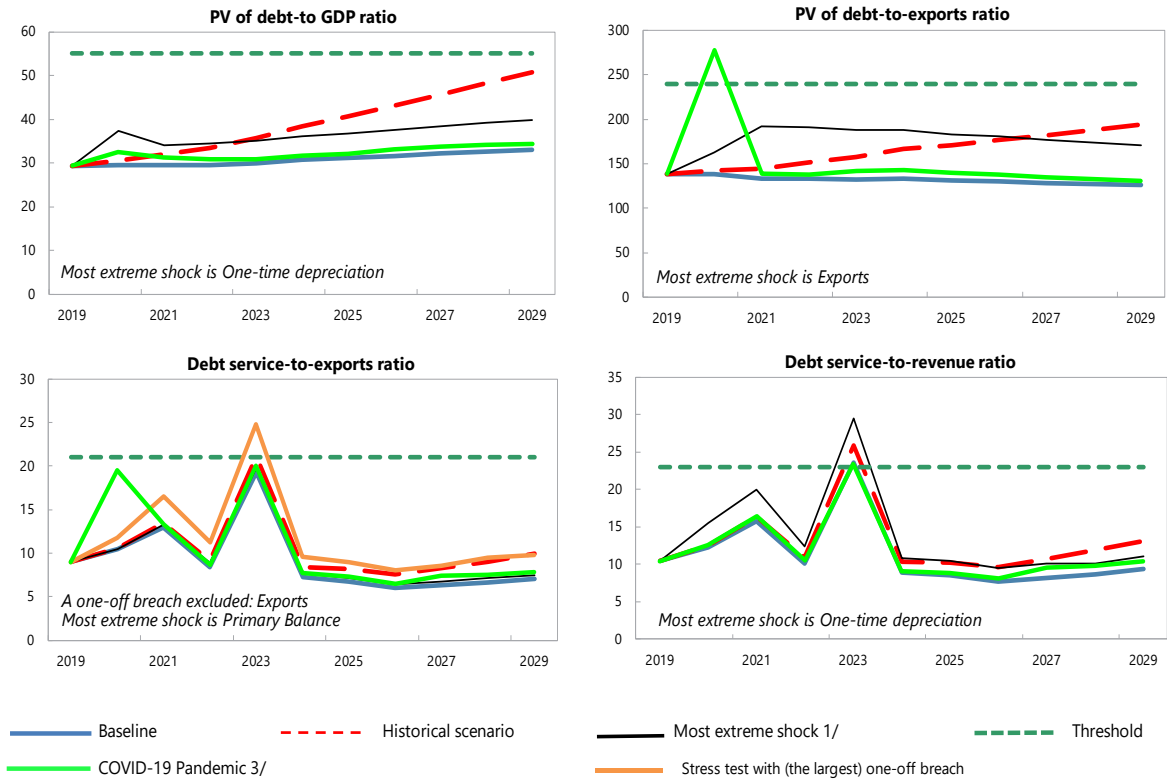
Rwanda: Joint Bank-Fund Debt Sustainability Analysis Update¹	
Risk of external debt distress	Low
Overall risk of debt distress	Low
Application of judgment	No

Rwanda's public debt is sustainable and remains at a low risk of external and overall debt distress. The DSA covers the central government as well as guarantees and debt held by all state-owned enterprises. This DSA is based on the baseline of the most recent DSA, published in July 2019, which will be updated in the next full DSA. A customized stress test to the most recent DSA is introduced to approximate the impact of the COVID-19 Pandemic on Rwanda's economy.² In this scenario, main macro variables such as real GDP growth and the primary balance in percent of GDP are shocked by -2.6 and -3.2 percentage points in 2020, respectively, compared to the baseline in the previous DSA. Exports are shocked by a significantly larger magnitude of -9.7 percentage points, to reflect lower receipts from tourism and goods exports due to weakening global demand. This produces a one-off breach to the PV of debt-to-exports ratio in 2020. All other external and public debt burden indicators remain under their respective thresholds under the baseline and stress tests, except for one-off breaches in the external debt service indicators in 2023 when the Eurobond issued in 2013 matures. These single one-year breaches are automatically discounted from the analysis according to the LIC-DSF guidance note. The current macroeconomic framework reflects currently available information. However, updates with respect to the economic impact and policy response to the COVID-19 crisis are rapidly evolving and risks are heavily tilted to the downside.

¹ Based on the previous DSA in the Staff Report for the 2019 Article IV Consultation and Request for a Three-Year Policy Coordination Instrument (Country Report No. 19/211).

² The COVID-19 Pandemic scenario is based on the projection described in the Staff Report, while other scenarios, including the baseline in this Annex, are based on the previous DSA.

Annex Figure 1. Rwanda: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2019–29^{1/ 2/}



Customization of Default Settings		
	Size	Interactions
Tailored Tests		
Combined CLs	Yes	
Natural Disasters	n.a.	n.a.
Commodity Prices ^{2/}	n.a.	n.a.
Market Financing	No	No

Note: "Yes" indicates any change to the size or interactions of the default settings for the stress tests. "n.a." indicates that the stress test does not apply.

Borrowing Assumptions for Stress Tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	1.8%	1.8%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	29	29
Avg. grace period	6	6

* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

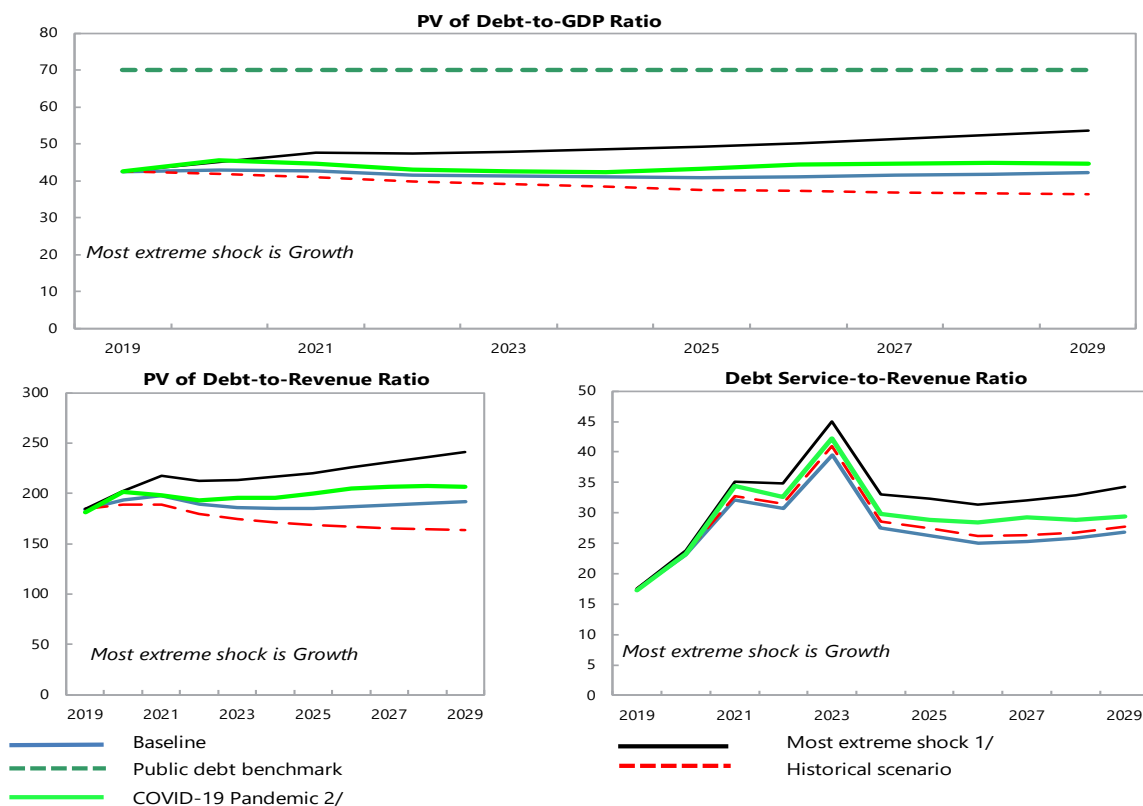
Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2029. Stress tests with one-off breaches are also presented (if any), while these one-off breaches are deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most extreme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

2/ The magnitude of shocks used for the commodity price shock stress test are based on the commodity prices outlook prepared by the IMF research department.

3/ COVID-19 Pandemic scenario is the customized shocks approximating the stress event and their impact captured in the Staff Report, while other scenarios are based on the baseline in the previous DSA (Country Report No. 19/211).

Annex Figure 2. Rwanda: Indicators of Public Debt Under Alternative Scenarios, 2019–29^{1/}



Borrowing Assumptions for Stress Tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	58%	58%
Domestic medium and long-term	15%	15%
Domestic short-term	27%	27%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.8%	1.8%
Avg. maturity (incl. grace period)	29	29
Avg. grace period	6	6
Domestic MLT debt		
Avg. real interest rate on new borrowing	5.5%	5.5%
Avg. maturity (incl. grace period)	3	3
Avg. grace period	2	2
Domestic short-term debt		
Avg. real interest rate	1%	1.0%

* Note: The public DSA allows for domestic financing to cover the additional financing needs generated by the shocks under the stress tests in the public DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: Country authorities; and staff estimates and projections.

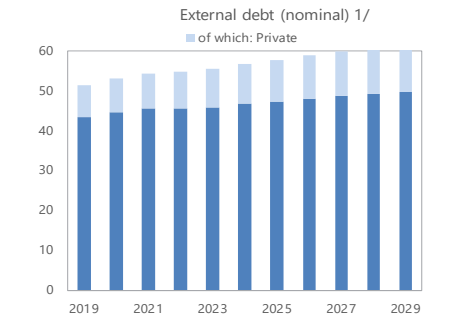
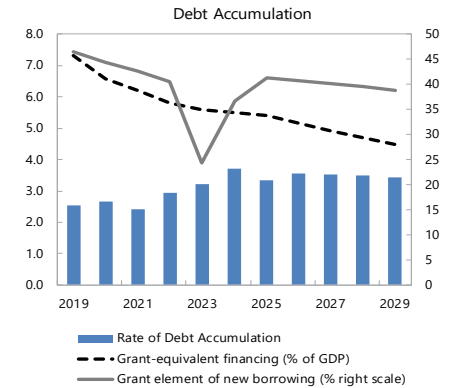
1/ The most extreme stress test is the test that yields the highest ratio in or before 2029. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals. When a stress test with a one-off breach happens to be the most extreme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

2/ COVID-19 Pandemic scenario is the customized shocks approximating the stress event and their impact captured in the Staff Report, while other scenarios are based on the baseline in the previous DSA (Country Report No. 19/211).

Annex Table 1. Rwanda: External Debt Sustainability Framework, Baseline Scenario, 2016–39
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
External debt (nominal) 1/	43.8	46.4	50.0	51.3	53.0	54.3	54.8	55.3	56.6	61.8	69.9	29.6	56.7
<i>of which: public and publicly guaranteed (PPG)</i>	35.0	37.9	41.6	43.4	44.6	45.5	45.6	45.8	46.7	49.6	50.7	24.7	46.8
Change in external debt	14.0	2.6	3.6	1.3	1.7	1.3	0.5	0.6	1.2	0.9	1.0		
Identified net debt-creating flows	12.7	1.8	3.0	3.0	2.7	1.8	2.3	1.8	1.5	0.2	-1.6	5.5	1.6
Non-interest current account deficit	14.6	6.4	6.4	8.1	8.0	6.6	6.7	6.1	6.0	5.9	4.8	8.8	6.5
Deficit in balance of goods and services	18.5	10.8	11.2	12.4	11.4	9.6	9.8	9.1	8.7	7.3	5.4	16.0	9.2
Exports	18.1	21.7	21.4	21.2	21.4	22.1	22.1	22.7	23.0	26.1	32.6		
Imports	36.6	32.5	32.7	33.6	32.8	31.8	32.0	31.7	31.7	33.4	38.0		
Net current transfers (negative = inflow)	-6.2	-6.5	-6.9	-6.7	-5.7	-5.3	-5.2	-4.8	-4.6	-3.8	-3.1	-8.4	-4.8
<i>of which: official</i>	-6.6	-6.6	-6.6	-6.5	-5.6	-5.0	-5.0	-4.5	-4.1	-2.6	-1.1		
Other current account flows (negative = net inflow)	2.3	2.1	2.1	2.3	2.3	2.2	2.1	1.8	1.9	2.4	2.6	1.3	2.1
Net FDI (negative = inflow)	-2.6	-2.8	-3.0	-2.9	-2.8	-2.1	-1.8	-1.9	-2.1	-3.2	-4.5	-2.6	-2.5
Endogenous debt dynamics 2/	0.7	-1.8	-0.3	-2.2	-2.4	-2.6	-2.6	-2.5	-2.4	-2.4	-1.9		
Contribution from nominal interest rate	1.3	1.4	1.5	1.4	1.4	1.4	1.4	1.3	1.4	1.6	2.2		
Contribution from real GDP growth	-1.7	-2.5	-3.8	-3.6	-3.8	-4.0	-4.0	-3.7	-3.8	-4.0	-4.1		
Contribution from price and exchange rate changes	1.1	-0.7	2.0	...	...	...	...	...	...	...	...
Residual 3/	1.3	0.8	0.6	-1.7	-1.1	-0.5	-1.8	-1.2	-0.3	0.7	2.6	-2.0	-0.5
<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		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	29.0	29.4	29.6	29.4	29.6	29.9	30.7	33.0	34.6		
PV of PPG external debt-to-exports ratio	...	...	135.2	138.4	138.0	132.9	133.6	132.1	133.4	126.2	106.1		
PPG debt service-to-exports ratio	6.3	7.2	7.8	9.0	10.5	13.0	8.4	19.3	7.2	7.0	11.3		
PPG debt service-to-revenue ratio	6.2	8.6	8.6	10.5	12.3	15.8	10.1	23.6	8.9	9.3	16.6		
Gross external financing need (Billion of U.S. dollars)	1.2	0.6	0.6	0.9	1.0	1.1	1.1	1.5	1.2	1.7	4.4		
Key macroeconomic assumptions													
Real GDP growth (in percent)	6.0	6.1	8.6	7.8	8.1	8.2	8.0	7.5	7.5	7.2	6.5	7.1	7.6
GDP deflator in US dollar terms (change in percent)	-3.6	1.6	-4.2	-0.4	0.2	0.5	1.3	2.0	2.0	2.0	2.0	-0.2	1.4
Effective interest rate (percent) 4/	4.5	3.4	3.3	3.1	2.9	2.8	2.8	2.6	2.8	2.9	3.5	3.1	2.8
Growth of exports of G&S (US dollar terms, in percent)	4.4	29.0	3.0	6.2	9.3	12.4	9.3	12.3	11.3	11.6	11.6	14.0	11.1
Growth of imports of G&S (US dollar terms, in percent)	2.4	-4.4	4.8	10.5	5.6	5.4	10.0	8.8	9.4	9.9	10.7	9.3	9.3
Grant element of new public sector borrowing (in percent)	...	...	...	46.4	44.4	42.7	40.4	24.3	36.7	38.7	28.9	...	39.6
Government revenues (excluding grants, in percent of GDP)	18.4	18.1	19.3	18.3	18.2	18.2	18.4	18.6	18.8	19.7	22.3	16.1	18.8
Aid flows (in Billion of US dollars) 5/	0.7	0.8	1.1	0.9	0.8	0.9	0.8	0.8	0.9	1.3	2.1		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	7.3	6.6	6.2	5.8	5.6	5.5	4.5	3.1	...	5.6
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	71.4	66.4	62.3	64.5	48.3	60.2	56.5	38.6	...	61.0
Nominal GDP (Billion of US dollars)	8	9	10	10	11	12	13	14	16	25	59		
Nominal dollar GDP growth	2.2	7.8	4.1	7.4	8.3	8.7	9.4	9.6	9.6	9.3	8.6	6.9	9.1
Memorandum items:													
PV of external debt 7/	...	...	37.4	37.3	37.9	38.2	38.7	39.4	40.6	45.2	53.8		
In percent of exports	...	...	174.2	175.9	177.1	172.5	175.0	174.1	176.4	173.0	165.1		
Total external debt service-to-exports ratio	12.7	13.2	15.4	16.6	17.5	20.1	15.9	26.9	15.0	15.4	21.9		
PV of PPG external debt (in Billion of US dollars)	...	...	2.8	3.0	3.3	3.5	3.9	4.3	4.9	8.2	20.3		
(PVt-PVt-1)/GDPT-1 (in percent)	...	...	...	2.5	2.7	2.4	2.9	3.2	3.7	3.4	3.1		
Non-interest current account deficit that stabilizes debt ratio	0.6	3.8	2.8	6.8	6.3	5.3	6.2	5.6	4.7	4.9	3.8		

Definition of external/domestic debt	Currency-based
Is there a material difference between the two criteria?	No



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 ρ = growth rate of GDP deflator in U.S. dollar terms.

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

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

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

6/ 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).

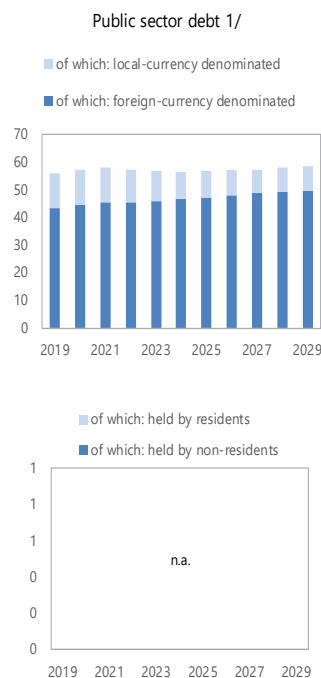
7/ Assumes that PV of private sector debt is equivalent to its face value.

8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

Annex Table 2. Rwanda: Public Sector Debt Sustainability Framework, Baseline Scenario, 2016–39
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 6/	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
Public sector debt 1/	44.2	48.9	53.1	55.8	57.3	58.2	57.2	56.7	56.5	58.4	62.8	32.4	57.2
of which: external debt	35.0	37.9	41.6	43.4	44.6	45.5	45.6	45.8	46.7	49.6	50.7	24.7	46.8
Change in public sector debt	8.8	4.6	4.2	2.7	1.5	0.9	-0.9	-0.6	-0.1	0.5	0.4		
Identified debt-creating flows	2.3	0.4	2.9	2.7	1.6	1.1	-0.6	-0.4	0.0	0.4	0.4	1.3	0.6
Primary deficit	2.7	3.6	3.5	4.9	5.0	4.8	3.6	3.6	4.1	4.3	3.8	2.6	4.3
Revenue and grants	23.5	22.9	24.1	23.1	22.2	21.6	22.0	22.2	22.1	22.0	23.4	24.0	22.1
of which: grants	5.1	4.7	4.9	4.8	3.9	3.4	3.6	3.7	3.4	2.3	1.1		
Primary (noninterest) expenditure	26.2	26.5	27.6	28.0	27.2	26.4	25.6	25.8	26.3	26.3	27.2	26.6	26.5
Automatic debt dynamics	-0.4	-3.1	-0.6	-2.3	-3.4	-3.7	-4.3	-4.0	-3.9	-3.8	-3.4		
Contribution from interest rate/growth differential	-1.7	-2.2	-3.0	-3.5	-4.1	-4.2	-4.2	-4.0	-3.9	-3.8	-3.5		
of which: contribution from average real interest rate	0.3	0.4	0.8	0.4	0.1	0.1	0.1	0.0	0.1	0.0	0.4		
of which: contribution from real GDP growth	-2.0	-2.6	-3.9	-3.8	-4.2	-4.3	-4.3	-4.0	-4.0	-3.9	-3.8		
Contribution from real exchange rate depreciation	1.3	-1.0	2.4	...	...	...	...	...	...	...	...
Other identified debt-creating flows	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.1	-0.1
Privatization receipts (negative)	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recognition of contingent liabilities (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		
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 debt creating or reducing flow (use of earmarked fund)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0		
Residual	6.4	4.2	1.3	1.3	0.6	0.3	-0.3	-0.2	-0.2	0.1	0.1	2.1	0.1
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	...	...	41.1	42.5	42.9	42.7	41.6	41.2	41.0	42.2	47.2		
PV of public debt-to-revenue and grants ratio	...	...	170.2	184.3	193.7	197.6	189.0	185.4	185.0	191.6	201.8		
Debt service-to-revenue and grants ratio 3/	28.6	29.3	29.5	17.5	23.1	32.1	30.7	39.5	27.5	26.8	34.1		
Gross financing need 4/	8.4	9.0	10.6	9.0	10.1	11.7	10.4	12.4	10.0	10.2	11.8		
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	6.0	6.1	8.6	7.8	8.1	8.2	8.0	7.5	7.5	7.2	6.5	7.1	7.6
Average nominal interest rate on external debt (in percent)	2.2	2.5	2.3	2.2	2.1	1.9	1.8	1.5	1.7	1.7	1.8	1.8	1.8
Average real interest rate on domestic debt (in percent)	0.4	-0.8	7.2	4.2	0.9	1.0	1.1	1.7	1.7	2.3	3.9	1.6	2.0
Real exchange rate depreciation (in percent, + indicates depreciation)	5.1	-2.9	6.9	...	...	...	...	...	...	...	...	1.9	...
Inflation rate (GDP deflator, in percent)	5.5	7.3	-0.8	4.2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.4	5.0
Growth of real primary spending (deflated by GDP deflator, in percent)	-2.1	7.3	13.2	9.3	5.0	5.2	4.7	8.4	9.2	7.4	7.2	8.9	7.1
Primary deficit that stabilizes the debt-to-GDP ratio 5/	-6.0	-1.0	-0.7	2.2	3.5	3.9	4.6	4.2	4.3	3.8	3.4	-2.6	3.8
PV of contingent liabilities (not included in public sector debt)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Definition of external/domestic debt	Currency-based
Is there a material difference between the two criteria?	No



Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The central government plus social security and extra budgetary funds, central bank, government-guaranteed debt, non-guaranteed SOE debt. Definition of external debt is Currency-based.

2/ The underlying PV of external debt-to-GDP ratio under the public DSA differs from the external DSA with the size of differences depending on exchange rates projections.

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

4/ 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 and other debt creating/reducing flows.

5/ Defined as a primary deficit minus a change in the public debt-to-GDP ratio (-): a primary surplus, which would stabilize the debt ratio only in the year in question.

6/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

Annex Table 3. Rwanda: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019–29 (In percent)

	Projections										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of debt-to-GDP ratio											
Baseline	29.4	29.6	29.4	29.6	29.9	30.7	31.1	31.6	32.1	32.6	33.0
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	29.4	30.6	31.9	33.5	35.6	38.4	40.5	43.0	45.6	48.2	50.8
A2. Alternative Scenario :[COVID-19 pandemic] 3/	29.4	32.5	31.3	30.8	30.8	31.6	32.1	33.1	33.7	34.1	34.4
B. Bound Tests											
B1. Real GDP growth	29.4	30.7	31.8	31.9	32.3	33.1	33.6	34.2	34.7	35.2	35.6
B2. Primary balance	29.4	30.2	31.6	31.9	32.2	33.0	33.3	33.8	34.2	34.5	34.8
B3. Exports	29.4	31.2	33.8	33.8	33.9	34.5	34.7	35.1	35.4	35.5	35.6
B4. Other flows 2/	29.4	31.6	32.9	32.9	33.1	33.7	33.9	34.4	34.7	34.9	35.0
B6. One-time 30 percent nominal depreciation	29.4	37.4	34.0	34.4	35.0	36.1	36.7	37.6	38.3	39.1	39.8
B6. Combination of B1-B5	29.4	33.5	34.0	34.0	34.3	35.1	35.4	36.0	36.4	36.7	37.0
C. Tailored Tests											
C1. Combined contingent liabilities	29.4	31.4	31.7	31.9	32.4	33.1	33.4	33.9	34.4	34.7	35.0
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	29.4	33.0	32.9	33.0	33.4	34.3	34.7	35.3	35.9	36.4	36.8
Threshold	55	55	55	55	55	55	55	55	55	55	55
PV of debt-to-exports ratio											
Baseline	138.5	138.1	132.9	133.7	132.1	133.4	131.1	129.8	128.4	127.5	126.2
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	138.5	142.8	144.4	151.3	157.2	166.7	170.9	176.7	182.3	188.4	194.5
A2. Alternative Scenario :[COVID-19 pandemic] 3/	138.6	277.9	138.6	138.0	141.8	143.1	140.3	138.1	135.2	133.0	130.8
B. Bound Tests											
B1. Real GDP growth	138.5	138.1	132.9	133.7	132.1	133.4	131.1	129.8	128.4	127.5	126.2
B2. Primary balance	138.5	140.8	143.0	144.0	142.2	143.3	140.4	138.5	136.5	134.9	133.1
B3. Exports	138.5	163.0	191.6	191.4	187.7	187.9	183.4	180.5	177.2	174.1	171.0
B4. Other flows 2/	138.5	147.5	148.8	148.8	146.1	146.5	143.1	141.0	138.5	136.3	134.1
B6. One-time 30 percent nominal depreciation	138.5	138.1	121.5	122.8	122.0	124.0	122.4	121.8	121.0	120.9	120.5
B6. Combination of B1-B5	138.5	156.3	140.6	157.6	155.3	156.2	153.1	151.2	148.8	147.1	145.2
C. Tailored Tests											
C1. Combined contingent liabilities	138.5	146.7	143.1	144.0	142.8	144.0	141.1	139.3	137.3	135.9	134.1
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	138.5	138.1	132.9	133.7	132.1	133.4	131.1	129.8	128.4	127.5	126.2
Threshold	240	240	240	240	240	240	240	240	240	240	240
Debt service-to-exports ratio											
Baseline	9.0	10.5	13.0	8.4	19.3	7.2	6.8	6.1	6.3	6.6	7.0
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	9.0	10.6	13.5	9.1	21.2	8.4	8.2	7.6	8.3	9.1	9.9
A2. Alternative Scenario :[COVID-19 pandemic] 3/	9.0	19.5	13.3	8.7	20.0	7.7	7.3	6.5	7.4	7.5	7.8
B. Bound Tests											
B1. Real GDP growth	9.0	10.5	13.0	8.4	19.3	7.2	6.8	6.1	6.3	6.6	7.0
B2. Primary balance	9.0	10.5	13.2	8.9	19.8	7.7	7.2	6.4	6.7	7.1	7.5
B3. Exports	9.0	11.8	16.6	11.2	24.8	9.6	9.0	8.0	8.6	9.4	9.9
B4. Other flows 2/	9.0	10.5	13.2	8.8	19.7	7.6	7.1	6.3	6.9	7.3	7.7
B6. One-time 30 percent nominal depreciation	9.0	10.5	13.0	8.1	19.1	7.0	6.6	5.9	6.1	6.1	6.6
B6. Combination of B1-B5	9.0	11.1	14.8	9.6	21.8	8.3	7.8	6.9	7.5	7.8	8.2
C. Tailored Tests											
C1. Combined contingent liabilities	9.0	10.5	13.2	8.7	19.6	7.5	7.0	6.3	6.5	6.8	7.2
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	9.0	10.5	13.0	8.4	19.3	7.2	6.8	6.1	6.3	6.6	7.0
Threshold	21	21	21	21	21	21	21	21	21	21	21
Debt service-to-revenue ratio											
Baseline	10.5	12.3	15.8	10.2	23.6	8.9	8.5	7.7	8.2	8.7	9.3
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	10.5	12.5	16.4	10.9	25.8	10.3	10.2	9.6	10.7	11.9	13.2
A2. Alternative Scenario :[COVID-19 pandemic] 3/	10.4	12.5	16.5	10.5	23.4	9.1	8.8	8.1	9.5	9.8	10.4
B. Bound Tests											
B1. Real GDP growth	10.4	12.5	16.5	10.5	23.4	9.1	8.8	8.1	9.5	9.8	10.4
B2. Primary balance	10.5	12.8	17.1	11.0	25.5	9.6	9.2	8.3	8.8	9.4	10.1
B3. Exports	10.5	12.3	16.1	10.7	24.1	9.4	9.0	8.2	8.7	9.3	9.9
B4. Other flows 2/	10.5	12.3	16.1	10.6	24.0	9.3	8.9	8.0	8.9	9.6	10.2
B6. One-time 30 percent nominal depreciation	10.5	15.6	20.0	12.4	29.4	10.8	10.4	9.4	10.1	10.1	11.0
B6. Combination of B1-B5	10.5	13.0	17.5	11.3	26.0	9.9	9.5	8.6	9.5	10.0	10.6
C. Tailored Tests											
C1. Combined contingent liabilities	10.5	12.3	16.1	10.5	23.9	9.2	8.8	8.0	8.4	8.9	9.6
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	10.5	12.3	15.8	10.2	23.6	8.9	8.5	7.7	8.2	8.7	9.3
Threshold	23	23	23	23	23	23	23	23	23	23	23

Sources: Country authorities; and staff estimates and projections.

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

2/ Includes official and private transfers and FDI.

3/ COVID-19 Pandemic scenario is the customized shocks approximating the stress event and their impact captured in the Staff Report, while other scenarios are based on the baseline in the previous DSA (Country Report No. 19/211).

Annex Table 4. Rwanda: Sensitivity Analysis for Key Indicators of Public Debt, 2019–29
(In percent)

	Projections										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PV of Debt-to-GDP Ratio											
Baseline	42.5	42.9	42.7	41.6	41.2	41.0	40.9	41.2	41.4	41.8	42.2
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	43	42	41	40	39	38	38	37	37	37	36
A2. Alternative Scenario :(COVID-19 pandemic) 3/	43	45	45	43	42	42	43	44	45	45	45
B. Bound Tests											
B1. Real GDP growth	43	45	48	47	48	49	49	50	51	52	54
B2. Primary balance	43	44	46	45	44	44	43	43	44	44	44
B3. Exports	43	44	47	46	45	45	44	45	45	45	45
B4. Other flows 2/	43	45	46	45	44	44	44	44	44	44	44
B6. One-time 30 percent nominal depreciation	43	48	45	42	40	38	37	36	35	35	34
B6. Combination of B1-B5	43	42	44	42	42	42	41	41	42	42	42
C. Tailored Tests											
C1. Combined contingent liabilities	43	47	46	45	44	44	43	44	44	44	44
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	43	43	43	42	41	41	41	41	41	42	42
Public debt benchmark	70	70	70	70	70	70	70	70	70	70	70
PV of Debt-to-Revenue Ratio											
Baseline	184.3	193.7	197.6	189.0	185.5	185.0	185.2	186.6	188.0	189.7	191.6
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	184	189	189	179	175	171	168	167	165	164	163
A2. Alternative Scenario :(COVID-19 pandemic) 3/	181	201	198	193	195	196	200	205	207	207	207
B. Bound Tests											
B1. Real GDP growth	184	202	218	213	213	216	220	225	231	236	241
B2. Primary balance	184	199	213	203	198	197	196	197	198	199	200
B3. Exports	184	201	218	208	203	202	201	202	202	203	203
B4. Other flows 2/	184	203	214	204	200	199	198	199	200	200	201
B6. One-time 30 percent nominal depreciation	184	218	211	195	182	176	170	166	162	159	157
B6. Combination of B1-B5	184	192	202	193	189	188	187	188	189	190	192
C. Tailored Tests											
C1. Combined contingent liabilities	184	211	214	204	199	197	197	197	198	199	201
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	184	194	198	189	185	185	185	187	188	190	192
Debt Service-to-Revenue Ratio											
Baseline	17.5	23.1	32.1	30.7	39.5	27.5	26.3	25.0	25.3	25.8	26.8
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2019-2039 1/	18	23	33	32	41	29	27	26	26	27	28
A2. Alternative Scenario :(COVID-19 pandemic) 3/	17	23	34	33	42	30	29	28	29	29	29
B. Bound Tests											
B1. Real GDP growth	18	24	35	35	45	33	32	31	32	33	34
B2. Primary balance	18	23	34	34	42	30	28	26	26	27	28
B3. Exports	18	23	32	31	40	28	27	25	26	27	28
B4. Other flows 2/	18	23	32	31	40	28	27	25	26	27	28
B6. One-time 30 percent nominal depreciation	18	23	34	31	43	28	27	25	25	26	27
B6. Combination of B1-B5	18	23	32	32	40	28	27	25	26	26	27
C. Tailored Tests											
C1. Combined contingent liabilities	18	23	38	33	43	29	27	26	26	26	27
C2. Natural disaster	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C3. Commodity price	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C4. Market Financing	18	23	32	31	39	28	26	25	25	26	27

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.

2/ Includes official and private transfers and FDI.

3/ COVID-19 Pandemic scenario is the customized shocks approximating the stress event and their impact captured in the Staff Report, while other scenarios are based on the baseline in the previous DSA (Country Report No. 19/211).