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To: Members of the Executive Board

From: The Secretary

Subject: **Rwanda—Third Review Under the Policy Coordination Instrument—Debt Sustainability Analysis**

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Prepared by:	The staffs of the Fund and the International Development Association
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Questions:	Ms. Teferra, AFR (ext. 37301) Mr. Duarte Lledo, AFR (ext. 36748) Mr. Kaihatsu, SPR (ext. 37175) Mr. Gyesaw, AFR (ext. 35544) Mr. Mbaye, AFR (202-812-7127) Ms. Woldemichael, AFR (ext. 38909)
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RWANDA

THIRD REVIEW UNDER THE POLICY COORDINATION INSTRUMENT—DEBT SUSTAINABILITY ANALYSIS¹

December 1, 2020

Approved By

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The Debt Sustainability Analysis (DSA) was prepared jointly by the staffs of the International Monetary Fund and the International Development Association.

Rwanda: Joint Bank-Fund Debt Sustainability Analysis	
Risk of external debt distress	Moderate
Overall risk of debt distress	Moderate
Granularity in the risk rating	Limited space to absorb shocks
Application of judgment	No

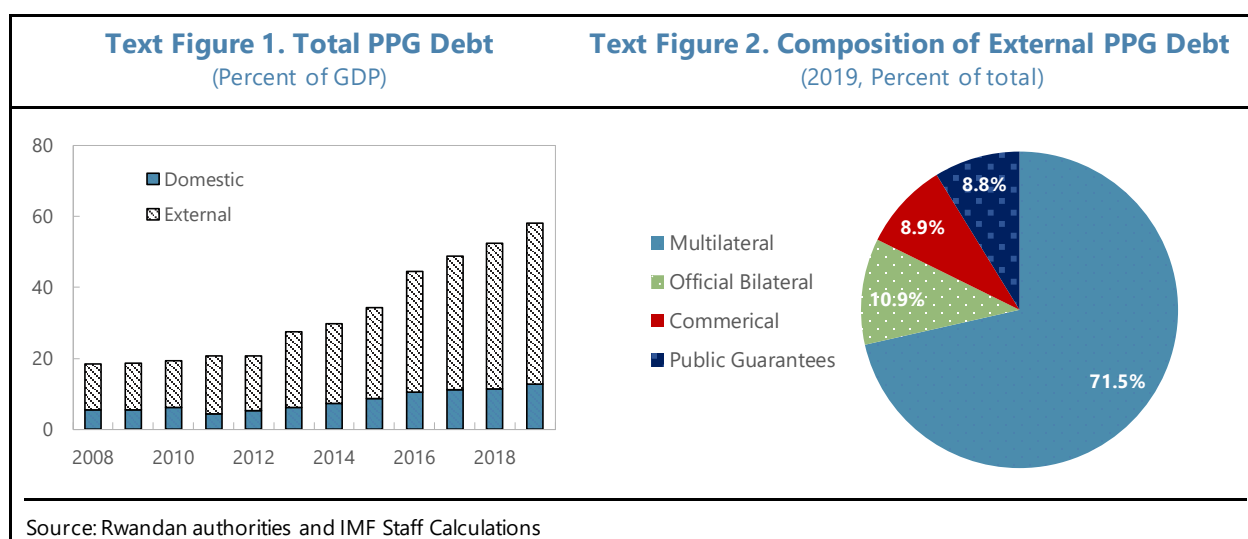
The present Bank/Fund assessment of Rwanda's debt sustainability analysis indicates a moderate risk of external and overall public debt distress. The current debt-carrying capacity is consistent with a classification of 'strong'.² The baseline macroeconomic scenario reflects the negative effect of the COVID-19 pandemic on growth, exports, and revenues, which sharply raises external and domestic financing needs in 2020. The adverse economic impact of the pandemic, coupled with higher loans, though mostly concessional from multilateral and bilateral partners, is expected to entail a higher pace of accumulation of public and publicly-guaranteed debt. The stress tests highlight that Rwanda is more susceptible to external shocks compared to the pre-pandemic period even after the initial impact of the COVID-19 dissipates. The authorities are encouraged to further enhance their debt management capacity to mitigate heightened risks in the context of the COVID-19 crisis; adopt a credible fiscal consolidation path to facilitate a return to the pre-pandemic debt trajectory, and strengthen the oversight and management of state-owned enterprises (SOEs) and public-private partnerships (PPPs) to reduce fiscal risks. In this context, a fiscal consolidation following the temporary and necessary pandemic support, together with the improved concessionality of debt, is expected to bring the PV of public debt-to-GDP ratio down to below the EAC's fiscal anchor of 50 percent in 2025.

¹ This debt sustainability analysis was conducted using the Joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (LIC-DSF) that was approved in 2017. The fiscal year for Rwanda is from July–June; however, this DSA is prepared on a calendar year basis.

² Rwanda's debt-carrying capacity remains strong as its Composite Indicator is 3.16, which is based on the 2020 October WEO and the 2019 CPIA that was released in July 2020, remains above the upper threshold value of 3.05.

BACKGROUND

1. Rwanda's public and publicly-guaranteed (PPG) external debt-to-GDP ratio has increased by 24 percentage points of GDP in the past 6 years to meet development needs envisaged in the National Strategy for Transformation (NST). The increase reflects a long-planned comprehensive public investment strategy, including three large projects to support trade and tourism, which are being completed through a series of public-private partnerships (PPPs) and external guarantees outside the budgetary central government. The three large projects include the construction of the Kigali Convention Center (KCC), completed in 2016, the ongoing expansion of the national airline, RwandAir, and the construction of a new airport in the Bugesera district of eastern Rwanda. As a result, external PPG debt has risen from 21.1 percent of GDP in 2013 to 45.4 percent in 2019 (Text Figure 1). It continues to be dominated by multilateral lending (Text Figure 2), resulting in a present value (PV) of external PPG debt-to-GDP ratio of 29.3 percent in 2019. Total PPG debt stood at 58.1 percent of GDP in 2019, which is higher than the 2019 DSA projections (estimated at 55.8 percent of GDP) due to higher fiscal deficit than projected at the time of the previous full DSA. About two-thirds of external debt remains concessional. The yield on the outstanding Eurobond has increased to around 5.6 percent, reflecting adverse global liquidity conditions due to the COVID-19 pandemic, while rates on domestic T-bills and T-bonds range from 5.5 percent (28 days) to 12.7 percent (15 years).



2. The DSA covers the central government, guarantees, and state-owned enterprises (Text Table 1). The Ministry of Finance and Economic Planning publishes annual debt data, covering domestic and external debt of the central government, broken down by multilateral, bilateral and commercial debt, as well as information on both domestic and external guarantees and external debt held by all state-owned enterprises (SOEs). There is no debt stemming from extra budgetary funds, long term central bank financing of the government, nor the state-owned social security fund. The local government debt is not covered but the existing stock to date is marginal and, its contracting is subject to approval by the Ministry of Finance and Economic Planning. External debt is defined on a currency basis. The contingent liabilities shock accounts for the realization of liabilities from corporations where the government has a minority stake (i.e., 2 percent of GDP) and the possible incidence of a financial crisis.

Text Table 1. Rwanda: Coverage of Public and Publicly-Guaranteed Debt and Parameters for Contingent Liability Shocks for the Tailored Stress Test

Subsectors of the Public Sector		Check Box
1	Central Government	X
2	State and Local Government	
3	Other Elements in the General Government 1/	X
4	o/w: Social Security Fund	X
5	o/w: Extra Budgetary Funds (EBFs)	X
6	Guarantees (to Other Entities in the Public and Private Sector, Including to SOEs)	X
7	Central Bank (Borrowed on Behalf of the Government) 2/	X
8	Non-Guaranteed SOE Debt	X

1	The Country's Coverage of Public Debt	The Central Government plus Social Security and Extra Budgetary Funds, Central Bank, Government-Guaranteed Debt, Non-Guaranteed SOE Debt		
		Default	Used for the Analysis	Reasons for Deviations from Default Settings
2	Other Elements of the General Government not Captured in 1.	0 percent of GDP	0	
3	SOE's Debt (Guaranteed and not Guaranteed by the Government) 3/	2 percent of GDP	2	
4	PPP 4/	35 percent of PPP stock	0	
5	Financial Market (the Default Value of 5 Percent of GDP is the Minimum Value)	5 percent of GDP	5	
	Total (2 + 3 + 4 + 5) (in Percent of GDP)		7.0	

1/ The state-owned social security fund (Rwanda Social Security Board, RSSB) has no outstanding debt and there are no extra-budgetary funds (EBFs).
2/ There is no short-term financing from the central bank (BNR) to the government.
3/ The default shock of 2 percent of GDP will be triggered for countries whose government-guaranteed debt is not fully captured under the country's public debt definition (1.). If it is already included in the government debt (1.) and risks associated with SOE's debt not guaranteed by the government is assessed to be negligible, a country team may reduce this to 0 percent.
4/ When PPP stock is less than 3 percent of GDP, as reflected in the World Bank's database, then test is set to zero. Rwanda's PPP stock is shown as 2.6 percent of GDP.

Source: Rwandan authorities and World Bank's Private Participation in Infrastructure Database.

UNDERLYING ASSUMPTIONS

3. The macroeconomic assumptions underlying the baseline scenario reflect recent economic developments and policies, including the impact of the COVID-19 pandemic, consistent with the staff report for the third PCI review. The major differences between the current assumptions and those underlying the last full DSA in 2019 are as follows: (i) higher-than-projected 2019 GDP growth and FY2018/19 fiscal deficit, followed by the medium-term fiscal consolidation agreed with the authorities for the third review of the PCI; (ii) significant downward revisions in 2020 growth, current account and fiscal balances due to the COVID-19 pandemic; and (iii) the scaling up of the Bugesera international airport project.³ Compared to the second RCF request,⁴ the fiscal deterioration for FY2019/20 was lower than projected because revenue outturn surprised on the upside, helped by sustained tax collections and a rebound on VAT revenues. The main assumptions and projections for key macroeconomic variables are summarized in Box 1 and Text Table 2.

4. The fiscal stance under the DSA accommodates a temporary deviation from the PCI-supported operational deficit ceiling of 5.5 percent of GDP due to the impact of COVID-19. The fiscal framework is designed to support spending for the implementation of NST, while providing operational

³ The government also plans a new energy project financed concessionally by several multilateral and bilateral partners to achieve universal energy access by 2024.

⁴ The streamlined DSA update under the second RCF request in 2020 (June 2020, [IMF Country Report 20/114](#)).

guidance to the budget and maintaining debt sustainability. The fiscal path under the current DSA accommodates a temporary increase in the fiscal deficit, followed by a gradual consolidation to bring the total PPG debt back to the 65 percent of GDP in 2028, as described in staff report for the third review of the PCI. Gross financing needs of the public sector have increased over the medium-term compared to the previous DSA, with the assumption that the majority of additional financing would be accessed on concessional terms and used for investment spending against the background of an increased support from official bilateral and multilateral partners.

5. The baseline macroeconomic assumptions reflect the negative effect of the COVID-19 pandemic on growth, exports, and revenues, which sharply raises external and domestic financing needs in 2020. The DSA incorporates the expected impact of the COVID-19 pandemic, including a sharp decline in real GDP growth (revised down by 8 percentage points relative to the pre-pandemic projection), exports of goods and services (20 percent decline), tax revenues (13 percent decline), and a widening of the fiscal deficit (revised up by about 4 percentage points of GDP) in 2020. Following the COVID-19 shock in 2020, the DSA assumes economic recovery from the end of 2021, with GDP growth gradually reverting to its pre-pandemic trend in the medium term. The DSA also assumes that the Rapid Credit Facility (RCF), debt service relief under the IMF's Catastrophe Containment and Relief Trust (CCRT), World Bank financial support,⁵ and prospective concessional financing from other development partners would fill the external financing gap created by the shock. The DSA baseline does not include any debt service suspension from official bilateral creditors as envisaged under the Debt Service Suspension Initiative, supported by the G-20 and Paris Club, as the authorities are still considering whether to participate.⁶

6. The total cost of the Bugesera international airport is projected to increase from US\$1.3 billion at the time of RCF request to US\$1.5 billion under the planned scaling up.⁷ In line with agreements signed between the government and Qatar Airways in December 2019, the DSA assumes that the government will take on 40 percent of the total cost as guaranteed debt on commercial terms, while Qatar Airlines will take on 60 percent as foreign direct investment (FDI).⁸ Growth is expected to increase at the start of the project reflecting the additional investment and then decline as the project phases down, subject to possible delays due to the COVID-19 pandemic.⁹

⁵ To support the Government of Rwanda in the implementation of the COVID-19 National Preparedness and Response Plan, the World Bank has prepared a US\$14.25 million COVID-19 Emergency Response Project. In addition, as part of its support to Rwanda's anti-crisis resource mobilization, the World Bank prepared and delivered a supplemental DPO based on the series of Rwanda Energy DPOs in an amount of US\$100 million, and a US\$9.72 million Additional Financing for the Rwanda Quality Basic Education for Human Capital Development Project from the Global Partnership for Education (GPE).

⁶ Participation in the DSSI, which provides a time-bound suspension of official bilateral debt service payments to IDA-eligible and least developed countries as defined by the UN, would free up additional resources in the near term.

⁷ The 2019 DSA incorporated the first phase of the Bugesera airport project, totaling US\$397.5 million through 2021.

⁸ The specific financing details of the project are still under negotiation.

⁹ The Bugesera growth impact is calculated by applying a fiscal multiplier of 0.3 to the total cost of the Bugesera airport project (US\$1.5 billion) over the whole life of the project (2021–25), with a persistence parameter of 0.6, consistent with the LIC DSF framework. The choice of the fiscal multiplier is based on IMF (2014) "[Fiscal Multipliers: Size, Determinants, and Use in Macroeconomic Projections](#)" and IMF (2017) "[Sub-Saharan Africa Regional Economic Outlook: Fiscal Adjustment and Economic Diversification](#)." In the previous 2019 DSA, the total cost of the project was assumed to be US\$397.5 million over the 3-year life of the project (2019–21).

Text Table 2. Key Macroeconomic and Debt Assumptions—Comparison with the Previous Full Debt Sustainability Analysis

Calendar year	2019	2020	2025	2030	2035	2040	2025-40
Projections							
<i>Selected indicators from the macro-framework and debt data</i>							
<i>(Percent, unless otherwise indicated)</i>							
PV of PPG External Debt to GDP Ratio							
2019 DSA	29.4	29.6	31.1	33.2	33.8	...	33.3
2020 DSA	29.3	34.1	39.2	37.1	31.9	26.5	34.1
PV of Public Debt to GDP Ratio							
2019 DSA	42.5	42.9	40.9	42.7	45.1	...	43.8
2020 DSA	42.8	45.5	49.3	44.4	46.9	49.4	46.6
Grant Element of New External Borrowing							
2019 DSA	46.4	44.4	41.4	38.0	33.8	...	35.6
2020 DSA	-	48.3	30.6	42.0	33.2	24.3	35.2
Stock of New Commercial Loan (billions of U.S. dollars)							
2019 DSA	0.0	0.0	0.4	0.6	1.1	...	0.9
2020 DSA	0.0	0.0	0.9	0.9	0.9	1.7	1.1
Real GDP Growth (annual percent change)							
2019 DSA	7.8	8.1	7.4	7.2	6.9	...	7.0
2020 DSA	9.4	-0.2	7.5	7.2	6.9	6.5	6.8
Current Account Balance (percent of GDP)							
2019 DSA	-9.6	-9.4	-7.7	-8.0	-7.2	...	-8.0
2020 DSA	-12.4	-12.2	-8.0	-8.0	-7.7	-6.6	-7.5
Exports of goods and services (percent of GDP)							
2019 DSA	21.2	21.4	23.7	26.6	29.4	...	27.8
2020 DSA	22.2	18.2	27.9	30.1	31.8	33.8	31.0
Fiscal balance ¹ (percent of GDP)							
2019 DSA	-6.1	-6.4	-5.4	-5.3	-5.3	...	-5.3
2020 DSA	-7.3	-9.7	-4.4	-5.3	-5.2	-4.8	-4.7

1/ Fiscal balance excludes debt assumption for Marriott loan.

Sources: Rwandan authorities; IMF and World Bank staff estimates and projections.

7. The DSA assumes continued support from bilateral and multilateral development partners over the medium term. The current fiscal framework provides space to support NST implementation, while maintaining macroeconomic stability. Over the first 5 years of the forecast horizon, larger financing needs of the government are expected to be met by increased support from official bilateral and multilateral partners, compared to the previous DSA, leading to improvements in debt concessionality relative to the previous DSA. From 2025 onwards, the financing mix is assumed to (i) shift gradually away from external concessional financing to market-based financing, as income levels rise, and (ii) shift from external to domestic financing and rely progressively more on long-term debt instruments, as the local bond markets develop. Over the entire forecast horizon, the concessionality of Rwanda's debt has also improved compared with the previous DSA, reflecting an increase in the share of concessional resources from development partners.

8. The grant component of new external financing is assumed to decline as Rwanda develops. (Text Table 3). As a result, grant-equivalent external financing¹⁰ is projected to decline from 66 percent of total external financing in 2020 to 59 percent in 2030 and 37 percent by 2040, while average effective real interest rates on domestic debt are expected to rise from 2.4 percent in 2010–19 to 4.1 percent in 2031–40. A grant ratio in budgetary ODA flows is higher than envisaged at the time of the second RCF request because the current DSA incorporates a change in the share of IDA grants and highly concessional IDA credits based on the streamlined DSA at the time of the second RCF request in June 2020, in which the risk of overall debt distress has moved from low to moderate: the moderate risk categorization comes with 50 percent grants and 50 percent credits, while low risk is associated with 100 percent credits and zero grants.

Text Table 3. Financing Mix (2020–40)

	2020	2030	2040	Average	
				2020–29	2020–40
	(in percent)				
Grant equivalent financing ¹	65	59	37	64	55
Grant element in new disbursement	48	42	24	40	36
Grant ratio in budgetary ODA flows ²	29	28	13	43	30
Grant ratio in ODA project finance flows ³	48	31	19	42	33
Notes:					
¹ In percent of external financing.					
² Calculated as the ratio of budgetary grants in total budgetary grants and loans in budgetary central government.					
³ Calculated as the ratio of project grants in total project grants and loans in budgetary central government.					
Sources: Rwandan authorities; IMF and World Bank staff estimates and projections.					

9. Public debt dynamics have been driven by external shocks and the materialization of fiscal risks outside the budgetary central government (Figure 3). Changes in total public debt over the past five years have been driven by higher-than-anticipated primary deficits and a faster exchange rate depreciation agreed under the PSI/SCF-supported program to correct the resulting external imbalances. In addition, unanticipated developments of the debt contracted or guaranteed outside the budgetary central government also led to a higher-than-expected debt accumulation of 8.9 percentage points of GDP. Looking ahead, higher primary deficit due to the COVID-19 shock is expected to raise public debt. The DSA considers customized stress scenarios to capture the fiscal risks regarding debt accumulation outside the budgetary central government.

10. Realism tools show a relatively strong fiscal adjustment and a conservative baseline growth path (Figure 4). During the post-pandemic fiscal consolidation, a 3-year fiscal consolidation in the primary balance is expected to reach up to 3.0 percentage of GDP from 2023 to 2028. The projected 3-year fiscal adjustment of 3.0 percentage of GDP lies in the top quartile of the distribution of past adjustments for a sample of LICs, signaling that the envisaged post-pandemic fiscal adjustment in the baseline scenario is relatively strong based on past experiences in LICs. The unprecedented fiscal expansion from the COVID-19

¹⁰ This includes grants provided directly to the government as well as the grant element of new borrowing (difference between the face value and the PV of new debt).

pandemic necessitates the large fiscal adjustment compared to the past adjustments for LICs.¹¹ The projected growth path in 2020 deviates from the path derived using a typical multiplier due to the large real shock in the economy from the COVID-19 shock. Compared to the 2019 DSA, the current DSA assumes higher private investment-to-GDP ratio for 2021–25 due to the scaling-up of the Bugesera airport project and lower public investment-to-GDP ratio mainly due to the envisaged post-pandemic fiscal consolidation which would constrain discretionary expenditure including domestic capital investment.¹²

11. Rwanda's debt-carrying capacity continues to be assessed as "strong" (Text Tables 4a and 4b). The composite index (CI) for Rwanda, which measures the debt-carrying capacity in the new LIC-DSF, stands at 3.16, above the cut-off value of 3.05 for strong capacity countries. The underlying inputs for the calculation of the CI were sourced from the IMF's October 2020 WEO, and an update of the World Bank Country Policy and Institutional Assessment (CPIA) to 2019 levels. The CI score is largely driven by Rwanda's high CPIA score and adequate reserve coverage.¹³

Text Table 4a. Rwanda: Debt-Carrying Capacity

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.39	4.04	1.55	49%
Real growth rate (in percent)	2.72	6.87	0.19	6%
Import coverage of reserves (in percent)	4.05	39.99	1.62	51%
Import coverage of reserves*2 (in percent)	-3.99	15.99	-0.64	-20%
Remittances (in percent)	2.02	2.08	0.04	1%
World economic growth (in percent)	13.52	2.93	0.40	13%
CI Score			3.16	100%
CI rating			Strong	

Source: Staff calculations.

Text Table 4b. Rwanda: Applicable Thresholds, and Benchmarks

EXTERNAL debt burden thresholds	Weak	Medium	Strong	TOTAL public debt benchmark	Weak	Medium	Strong
PV of debt in % of				PV of total public debt in percent of GDP	35	55	70
Exports	140	180	240				
GDP	30	40	55				
Debt service in % of							
Exports	10	15	21				
Revenue	14	18	23				

¹¹ Given that Rwanda has faced shocks every 2–3 years in the last ten years, a stronger adjustment is warranted to bring debt to safe levels to provide room in case of shocks.

¹² Changes of historical ratios of private and public investment-to-GDP relative to the 2019 DSA are attributable to the recent GDP rebasing from 2014 to 2017, in which there are substantial methodological changes in the compilation of the national accounts as well as the coverage of economic activities.

¹³ This is based on the IMF's assessment of reserve adequacy.

Box 1. Macroeconomic Framework for the DSA

The medium- and long-term framework underpinning the DSA assumes that Rwanda continues to enjoy robust growth, with low and stable inflation. Key highlights are described below.

Growth: Following the COVID-19 shock in 2020, the economy gradually reverts to its pre-pandemic trend. The scaling-up of the Bugesera airport project raises near-term growth rate to 6–8 percent around 2022–25, followed by a short-term lower growth period of 6–7 percent. Public sector investment and the Bugesera airport project are expected to remain the main drivers of growth in the medium term with the private sector gradually taking over in the long run. Long-term growth is expected to reach 6.5 percent by 2040. This growth projection over the medium- to long-term is consistent with an economy where population growth is slowing over time.

External sector: Following the 20 percent decline due to the COVID-19 shock, exports of goods and services are expected to revert back to their pre-pandemic growth trend gradually (11 percent on average during 2020–40 vs 13 percent over 2009–19), roughly in line with historical rates, but below recent very rapid growth. This reflects, in part, strategic public investment and export promotion, and development plans. Import needs are expected to remain high, particularly in the short and medium term, as high public and private investment rates are maintained. Consequently, developments on the export side are expected to contribute to lower current account deficit over the DSA horizon, reaching 6.6 percent by around 2040.

Inflation: Inflation is expected to remain at the authorities' target of 5 percent over the medium to long run.

Reserves: Reserves coverage is expected to remain in the range of 4–5 months of prospective imports over 2021–25 and in the outer years.

Domestic revenue mobilization. The DSA assumes a gradual recovery in domestic revenues, from 17 percent in 2020 to 24 percent by 2040, reflecting the gradual fading of the COVID-19 crisis and tax revenue measures already in the pipeline (e.g. fixed asset taxes, electronic billing machines), as well as additional measures agreed under the PCI (e.g. tax expenditure analysis aimed to streamline incentives, additional administrative measures).

Grants. The DSA assumes a tapering of external assistance from development partners over the projection period. Grants decline steadily from 4 percent of GDP in 2019 to 2 percent by 2030, and less than 1 percent by 2040.

Public spending and Deficit: The COVID-19 shock entails a widening of the fiscal deficit by about 4 percentage points of GDP in 2020, which is followed by the gradual fiscal consolidation and assumed to revert to 5.3 percent of GDP around 2030, and stay around 5.3 percent until 2035, and then go down and stay around 4.8 percent over the duration of the forecast horizon. Compared to the 2019 DSA, the higher fiscal deficit in the pandemic period results in higher gross borrowing needs of the public sector.

External borrowing. The assumptions for new external borrowing vary over the projection period. In the short and medium term, the financing mix is assumed to tilt toward concessional external financing reflecting more concessional borrowing including COVID-19 supports. With the development of local bond markets and some improvement in the current account position, reliance on external borrowing is expected to moderate in the long term. From 2028 onward, after the end of fiscal consolidation, the framework assumes that external borrowing needs will be financed with a progressively larger share of non-concessional borrowing. The share of external financing relative to total medium- to long-term financing is expected to remain around 80 percent through 2030 before declining to 42 percent by 2040. The Eurobond is assumed to be rolled over in 2023 and 2033, at an interest rate of 8 percent and a maturity of 10 years in which the principal is repaid in the last year.

Domestic borrowing. The framework assumes that, over the DSA horizon, net domestic borrowing will increase with a gradual lengthening of maturities, as Rwanda intensifies efforts to develop the domestic bond market. New domestic borrowing is expected to be contracted at an average nominal interest rate of 8.7 percent over the next five years, rising gradually to 9.5 percent in the long run as the government shifts to longer maturities.

Foreign Direct Investment (FDI). The framework assumes an increase in FDI, driven by the NST, Compact with Africa, and other efforts to provide incentives to attract foreign direct investors. FDI is projected to increase from 3.8 percent of GDP in 2019 to 4.5 percent by around 2040. The current DSA assumes higher medium-term FDI due to Qatar Airways' investments in the Bugesera airport project, compared to the 2019 DSA.

DEBT SUSTAINABILITY ANALYSIS

External Debt

12. The debt indicators highlight that Rwanda is more susceptible to external shocks compared to the pre-pandemic period even after the initial impact of the COVID-19 shock dissipates (Tables 1 and 3; Figures 1 and 2).¹⁴ The PV of external debt-to-GDP ratio remains below the indicative threshold under both the baseline scenario and the most extreme shock. However, the sharp decline in exports due to the COVID-19 shock and its protracted recovery make one solvency indicator (PV of external debt-to-export ratio) temporarily breach thresholds in 2022 and 2023 under the most extreme shock. This is mitigated by adequate reserves and available external financing.

13. Rwanda may face liquidity pressures due to adverse market conditions (Figures 1 and 6). The spike in external debt service in 2023 (due to rolling over the 10-year Eurobond issued in 2013) causes a one-off breach to the debt service-to-revenue ratio under the baseline scenario.¹⁵ There are also multiple breaches to this indicator under the alternative scenario assuming a one-time depreciation. A breach of the market-financing risk indicator (being the gross financing need indicator) also signals market financing pressures, which means that Rwanda may face liquidity pressures due to deteriorating market sentiment (Figure 6). Higher gross financing needs for 2020-25 compared to the previous full DSA in 2019 also pose a medium-term liquidity risk.

14. Customized stress tests suggest that Rwanda has some room to absorb contingent liability shocks (Figure 7). The customized risk scenarios aim at assessing the impact of fiscal risks stemming from contingent liabilities outside the budgetary central government. The first customized scenario assumes a higher cost of the Bugesera airport project of US\$1.8 billion over the same period. The second customized scenario assumes an unidentified contingent liability shock with a one-off increase in the debt-to-GDP ratio of 8.9 percentage points in the second year of the projection. The size of the contingent liability shock is calibrated based on the realism tool examining changes in public debt over the past five years (see paragraph 9). The third customized scenario is the combination of the first and second risk scenarios. All the customized stress tests find that the solvency indicators remain well below their respective thresholds, while the debt service-to-revenue ratio shows the same one-period breach in 2023 when the Eurobond issued in 2013 matures. This single one-year breach is discounted in setting the risk ratings in line with the LIC-DSF guidance note. Overall, these results imply that Rwanda has some room to absorb contingent liability shocks.

15. The PV of external debt-to-GDP ratio increases sharply under the historical scenario since the latter assumes the recurrence of several large external shocks as well as large external balances occurred in the past (Table 3). Both solvency indicators (PV of debt-to-GDP ratio and PV of debt-to-export ratio) rise sharply under the historical scenario. This is primarily due to the large current account

¹⁴ The LIC-DSF assesses the risk of debt distress by observing the evolution of selected indicators against predetermined thresholds that are set according to countries' debt-carrying capacities.

¹⁵ According to the LIC DSF guidance note, single short-lived breaches (1-year) are assumed not to affect the risk rating.

deficit and negative GDP deflator calibrated using historical averages, which covered a period including several large shocks (donor withdrawal, commodity prices, and drought) as well as large external imbalances, which were corrected over 2015-17, primarily through a large exchange rate adjustment, as envisaged under the PSI/SCF-supported program. The large current account deficit and negative GDP deflator account for almost all of the divergence between the baseline and historical scenarios for these solvency indicators.

Public Debt

16. The PV of public debt-to-GDP ratio remains below the LIC DSA benchmark of 70 percent (Tables 2 and 4; Figures 2 and 8). The evolution of both solvency and liquidity indicators for public debt follows broadly that of external debt. Public debt remains below its benchmark even under the most extreme shock scenario (exports shock) and the additional customized stress tests. The PV of public debt-to-revenue ratio and the debt service-to-revenue ratio are expected to decline steadily over the forecast horizon, in line with an increase in total revenue.

17. The COVID-19 shock raises the PV of public debt-to-GDP ratio above the EAC's debt convergence criterion in 2022. Compared to the 2019 DSA, the COVID-19 shock coupled with higher loans, though mostly concessional from multilateral and bilateral donors, are expected to entail a higher pace of accumulation of PPG debt in the medium term, leading the PV of public debt to breach the 50 percent of GDP ceiling under the EAC debt convergence criterion in 2022 (Table 2). Post-pandemic fiscal consolidation under the PCI and concomitant higher share of external concessional borrowings are expected to bring the PV of public debt-to-GDP ratio down to below the EAC's debt convergence criterion in 2025 and after, which is 5 years earlier than projected at the time of the second RCF request.

ASSESSMENT

18. Rwanda's debt is assessed to be sustainable with a moderate risk of external and overall public debt distress.¹⁶ Relative to the last full DSA in 2019, the risk of debt distress has moved to moderate from low due to the impact of the global COVID-19 crisis. While each solvency and liquidity indicator have at most only one short-lived breach under the baseline scenario and the customized stress tests, some indicators have multiple breaches under the most extreme shock in the standardized stress tests, which indicates a moderate risk of debt distress. Furthermore, a granular assessment of the moderate risk rating shows that Rwanda has limited space to absorb shocks (Figure 5). Since this granular assessment reflects one-off breaches to the liquidity indicators in 2023, staff views that Rwanda still has some room to absorb solvency shocks such as a realization of a contingent liability, as shown in the customized stress tests capturing fiscal risks. Given the moderate risk of debt distress assessment, a limit on the stock of new external PPG debt is introduced under the PCI, which is expected to preserve debt sustainability. The current macroeconomic framework which underpins this DSA reflects currently available information. However, updates with respect to the economic impact and policy response to the COVID-19 crisis are

¹⁶ This assessment is in line with the streamlined DSA update under the second RCF request in 2020 (June 2020, [IMF Country Report 20/114](#)).

rapidly evolving and risks to the debt outlook and sustainability are heavily tilted to the downside considering the potential of a more prolonged and deeper pandemic shock.

19. The authorities are encouraged to further strengthen their debt management capacity to mitigate heightened risks in the context of the COVID-19 crisis and implement post-pandemic fiscal consolidation under the PCI to facilitate a return to the pre-pandemic debt trajectory. The baseline scenario assumes Rwanda gradually reverts to its pre-pandemic trend and continues to achieve robust growth over the medium term, while concessional financing is expected to decline gradually in the long term. Main risks to this outlook are external shocks to growth and/or exports, and worse-than-expected external financing conditions. A series of stress tests conducted in this DSA shows that Rwanda is more susceptible to external shocks, including market financing risks, compared to the pre-pandemic period even after the initial impact of COVID-19 dissipates. In this context, the authorities are encouraged to enhance their debt management capacity to reduce rollover risks by holding enough liquidity buffers and smoothing out the debt servicing profile. The government also needs to adopt a credible fiscal consolidation as soon as the COVID-19 crisis abates, to facilitate a return to the pre-pandemic debt trajectory, together with the efforts to contain contingent liability risks. Under the post-pandemic fiscal consolidation envisaged in the 3rd PCI review, the PV of public debt-to-GDP ratio would reach the EAC's debt convergence criterion of 50 percent 5 years earlier than projected at the time of the second RCF request, which would bring down risks to debt sustainability. Strengthening the identification, assessment and management of fiscal risks is also one of the pillars under the PCI. With technical support from staff, the authorities have shown progress in these areas and have indicated their commitment to the required reforms going forward, including those to strengthen the oversight and management of SOEs and PPPs.¹⁷

Authorities' Views

20. The authorities broadly agree with the results of this DSA and the overall conclusion of a moderate risk of external debt distress. The authorities continue to place a high priority on debt sustainability and carry out their own analysis on a regular basis. Their debt management strategy continues to be based on maximizing external concessional funding to avoid pressure on its debt repayment profile, while developing their domestic capital market. The authorities acknowledge that the main risk to debt sustainability continues to be from external shocks. In order to reduce the rollover risk of the 10-year Eurobond in 2023, the authorities have already started discussions about mitigating measures such as pre-financing of debt and buyback of debt falling due.

¹⁷ The authorities plan to compile a financial balance sheet of the non-financial public sector as part of the overall efforts to expand the coverage of GFSM2014 reporting with support from the IMF.

Table 1. Rwanda: External Debt Sustainability Framework, Baseline Scenario, 2017–40
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 8/ Historical Projections	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
External debt (nominal) 1/	45.8	49.4	53.6	63.8	66.8	69.5	70.2	70.7	70.8	69.9	59.1	32.7	69.5
<i>of which: public and publicly guaranteed (PPG)</i>	37.4	41.1	45.4	55.6	58.4	60.7	61.0	61.1	60.8	57.3	39.2	27.2	59.3
Change in external debt	3.3	3.6	4.3	10.2	3.0	2.7	0.6	0.5	0.1	-0.4	-1.0		
Identified net debt-creating flows	4.4	5.0	6.2	9.9	5.5	3.6	1.1	0.2	-0.1	0.2	-1.6	6.0	2.0
Non-interest current account deficit	8.3	8.9	10.9	10.7	11.1	10.0	8.3	6.8	6.4	6.2	4.5	9.3	7.5
Deficit in balance of goods and services	12.8	13.7	14.7	16.3	17.1	16.1	14.8	13.4	11.9	9.7	5.4	15.7	12.6
Exports	20.6	21.2	22.2	18.2	22.7	26.2	26.8	27.7	27.9	30.1	33.8		
Imports	33.4	34.9	36.9	34.4	39.8	42.3	41.7	41.1	39.8	39.8	39.1		
Net current transfers (negative = inflow)	-6.4	-6.9	-5.8	-7.0	-7.2	-7.2	-7.6	-7.3	-6.1	-4.0	-1.6	-7.7	-5.9
<i>of which: official</i>	-6.5	-6.5	-5.5	-7.0	-6.9	-6.6	-7.0	-6.8	-5.6	-3.1	-1.2		
Other current account flows (negative = net inflow)	1.9	2.2	1.9	1.4	1.2	1.2	1.1	0.7	0.5	0.5	0.7	1.3	0.8
Net FDI (negative = inflow)	-2.8	-3.6	-3.8	-2.4	-3.5	-3.5	-3.4	-3.3	-3.3	-3.2	-4.5	-2.7	-3.1
Endogenous debt dynamics 2/	-1.2	-0.3	-0.9	1.6	-2.1	-2.9	-3.7	-3.2	-3.2	-2.8	-1.5		
Contribution from nominal interest rate	1.2	1.5	1.5	1.5	1.5	1.4	1.3	1.6	1.7	1.8	2.1		
Contribution from real GDP growth	-1.6	-3.8	-4.4	0.1	-3.5	-4.3	-5.0	-4.8	-4.8	-4.6	-3.6		
Contribution from price and exchange rate changes	-0.8	2.0	2.0	...	...	...	...	...	...	...	...
Residual 3/	-1.0	-1.4	-1.9	0.3	-2.5	-0.9	-0.5	0.3	0.2	-0.6	0.6	-2.2	-0.5
<i>of which: exceptional financing</i>	0.0	0.0	0.0	-0.2	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	29.3	34.1	35.2	36.7	37.5	38.4	39.2	37.1	26.5		
PV of PPG external debt-to-exports ratio	...	...	132.1	187.8	154.7	139.9	139.9	138.9	140.3	123.4	78.5		
PPG debt service-to-exports ratio	6.8	7.8	7.2	12.1	14.6	7.9	19.1	7.3	6.9	7.0	9.4		
PPG debt service-to-revenue ratio	7.8	8.7	8.2	12.7	18.6	11.5	28.4	11.0	10.2	10.4	13.4		
Gross external financing need (Billion of U.S. dollars)	0.8	0.8	1.0	1.3	1.3	1.2	1.4	1.0	1.0	1.7	3.6		
Key macroeconomic assumptions													
Real GDP growth (in percent)	4.0	8.6	9.4	-0.2	5.7	6.8	8.0	7.5	7.5	7.2	6.5	7.2	6.3
GDP deflator in US dollar terms (change in percent)	1.9	-4.2	-3.9	2.7	-3.0	-0.6	2.0	1.9	1.9	2.0	2.0	-1.1	1.3
Effective interest rate (percent) 4/	3.0	3.3	3.2	2.8	2.3	2.2	2.1	2.5	2.6	2.8	3.7	3.3	2.6
Growth of exports of G&S (US dollar terms, in percent)	25.5	7.3	10.0	-16.1	28.3	22.3	12.7	13.0	10.5	9.4	9.9	14.9	11.2
Growth of imports of G&S (US dollar terms, in percent)	1.1	8.9	11.1	-4.4	18.5	12.8	8.4	8.0	6.1	8.3	8.6	9.9	8.5
Grant element of new public sector borrowing (in percent)	...	...	...	48.3	47.5	42.6	24.3	32.3	30.6	42.0	24.3	...	40.3
Government revenues (excluding grants, in percent of GDP)	17.9	19.0	19.5	17.3	17.8	18.0	18.1	18.3	19.0	20.2	23.6	16.4	18.9
Aid flows (in Billion of US dollars) 5/	0.4	0.5	0.4	1.3	1.1	1.1	1.1	1.1	0.9	1.1	1.1		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	11.7	8.7	8.1	8.2	7.7	6.2	4.3	1.7	...	6.9
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	65.0	71.3	67.4	51.5	63.8	60.1	59.5	37.5	...	63.4
Nominal GDP (Billion of US dollars)	9	10	10	10	11	11	12	14	15	23	54		
Nominal dollar GDP growth	5.9	4.1	5.1	2.5	2.5	6.2	10.1	9.6	9.5	9.3	8.6	6.0	7.7
Memorandum items:													
PV of external debt 7/	...	...	37.6	42.3	43.7	45.5	46.7	48.0	49.1	49.7	46.5		
In percent of exports	...	...	169.3	232.8	191.9	173.7	174.1	173.5	176.0	165.2	137.6		
Total external debt service-to-exports ratio	13.0	15.4	14.5	21.2	21.7	14.2	25.3	13.5	13.3	14.5	20.0		
PV of PPG external debt (in Billion of US dollars)	...	...	3.0	3.5	3.7	4.1	4.7	5.2	5.8	8.5	14.2		
(Pvt-Pvt-1)/GDPt-1 (in percent)	...	...	...	5.7	1.9	3.7	4.7	4.6	4.5	2.9	1.1		
Non-interest current account deficit that stabilizes debt ratio	5.0	5.4	6.6	0.5	8.1	7.3	7.6	6.3	6.2	6.6	5.5		

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

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

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

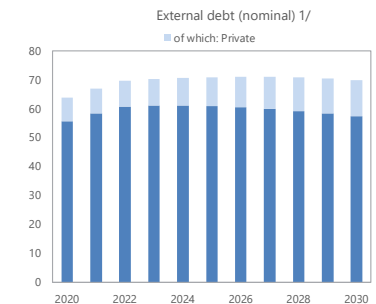
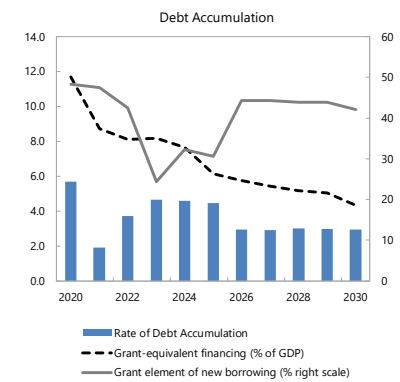


Table 2. Rwanda: Public Sector Debt Sustainability Framework, Baseline Scenario, 2017–40
(In percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 6/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
Public sector debt 1/	48.7	52.4	58.1	65.9	71.1	73.7	73.3	72.0	70.0	63.6	61.4	35.6	68.4
of which: external debt	37.4	41.1	45.4	55.6	58.4	60.7	61.0	61.1	60.8	57.3	39.2	27.2	59.3
Change in public sector debt	4.3	3.7	5.7	7.9	5.2	2.6	-0.4	-1.3	-2.1	-0.4	0.0		
Identified debt-creating flows	0.8	2.8	5.5	7.8	5.4	2.9	-0.1	-1.1	-2.0	-0.2	0.0	2.0	0.7
Primary deficit	3.6	3.5	6.8	8.0	6.0	5.8	5.2	4.0	2.8	4.0	3.0	3.1	4.2
Revenue and grants	22.6	23.8	23.6	23.1	23.4	23.2	23.8	23.9	23.3	22.4	24.4	23.4	23.1
of which: grants	4.7	4.8	4.2	5.8	5.6	5.2	5.7	5.6	4.3	2.2	0.8		
Primary (noninterest) expenditure	26.2	27.3	30.5	31.1	29.4	29.0	29.0	27.9	26.1	26.4	27.3	26.5	27.4
Automatic debt dynamics	-2.6	-0.6	-1.4	-0.2	-0.6	-2.9	-5.3	-4.8	-4.6	-4.2	-3.0		
Contribution from interest rate/growth differential	-1.6	-2.7	-3.8	-0.3	-3.2	-4.3	-5.3	-4.8	-4.7	-4.2	-3.0		
of which: contribution from average real interest rate	0.1	1.1	0.7	-0.4	0.4	0.3	0.2	0.4	0.4	0.1	0.7		
of which: contribution from real GDP growth	-1.7	-3.8	-4.5	0.1	-3.6	-4.6	-5.4	-5.1	-5.0	-4.3	-3.7		
Contribution from real exchange rate depreciation	-1.0	2.1	2.5	...	...	...	...	...	...	...	...
Other identified debt-creating flows	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.2	0.0	0.0	-0.1	-0.1
Privatization receipts (negative)	-0.1	0.0	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	-0.3	-0.2	0.0	0.0		
Residual	3.4	0.9	0.2	0.2	2.3	1.1	-0.3	-0.2	0.0	-0.1	0.0	2.0	0.2
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	...	...	42.8	45.5	48.8	50.6	50.9	50.4	49.3	44.4	49.4		
PV of public debt-to-revenue and grants ratio	...	...	181.0	196.7	208.8	218.0	213.8	210.5	211.6	198.1	203.0		
Debt service-to-revenue and grants ratio 3/	26.5	29.3	27.0	37.2	36.3	37.7	49.3	35.9	32.2	23.6	45.1		
Gross financing need 4/	8.4	9.0	13.2	16.6	14.5	14.5	16.9	12.2	10.1	9.2	14.0		
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	4.0	8.6	9.4	-0.2	5.7	6.8	8.0	7.5	7.5	7.2	6.5	7.2	6.3
Average nominal interest rate on external debt (in percent)	2.0	2.3	2.3	1.9	1.6	1.4	1.3	1.7	1.8	1.8	1.8	1.9	1.7
Average real interest rate on domestic debt (in percent)	-1.9	6.9	5.2	-1.9	7.1	4.4	4.0	4.1	4.4	4.2	4.2	2.4	4.0
Real exchange rate depreciation (in percent, + indicates depreciation)	-3.2	6.0	6.5	...	...	...	...	...	...	...	...	3.0	...
Inflation rate (GDP deflator, in percent)	7.6	-0.8	0.4	8.3	2.3	4.3	5.0	5.0	5.0	5.0	5.0	3.5	5.0
Growth of real primary spending (deflated by GDP deflator, in percent)	7.1	13.2	22.2	1.9	0.0	5.2	8.1	3.4	0.6	5.5	8.3	10.4	4.9
Primary deficit that stabilizes the debt-to-GDP ratio 5/	-0.7	-0.2	1.2	0.1	0.9	3.2	5.6	5.2	4.9	4.3	3.0	0.1	3.7
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		

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.

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

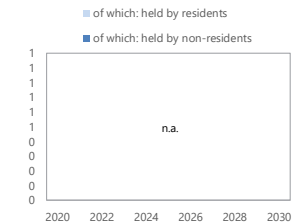
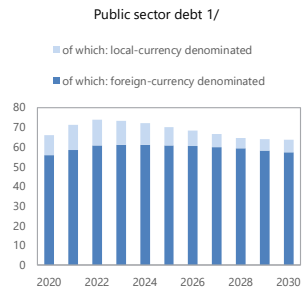


Figure 1. Rwanda: Indicators of Public and Publicly-Guaranteed External Debt Under Alternative Scenarios, 2020–30 ^{1/2/}



Customization of Default Settings		
	Size	Interactions
Tailored Tests		
Combined CLs	No	
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.

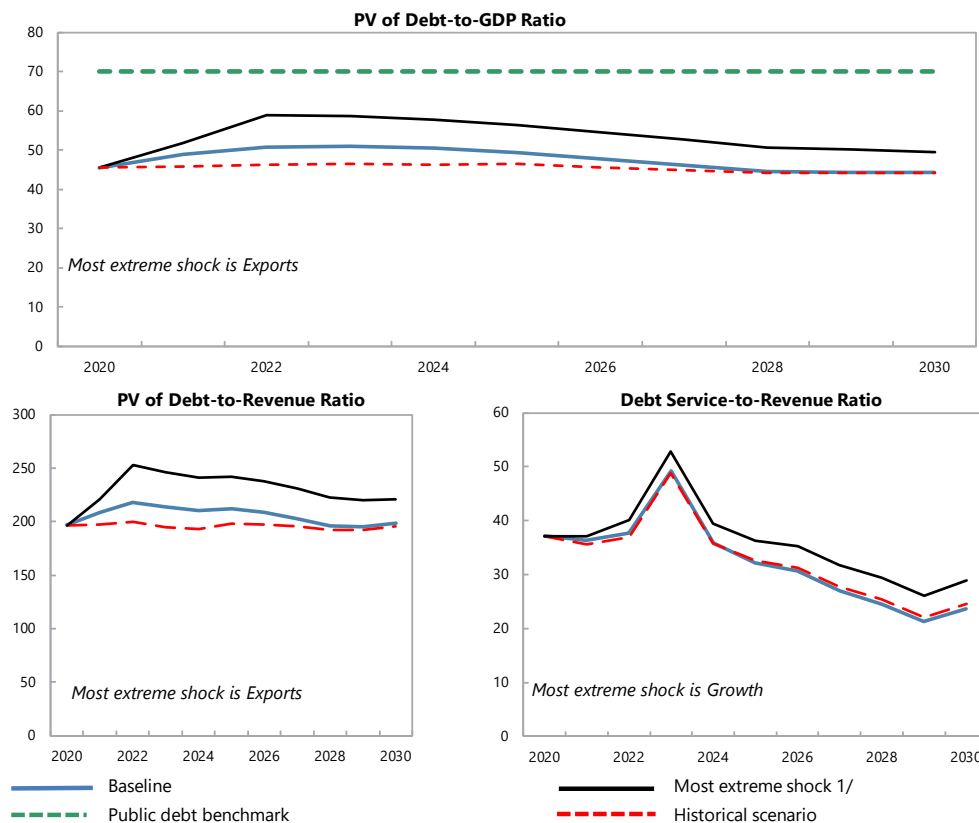
Borrowing Assumptions for Stress Tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	1.9%	1.9%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	29	29
Avg. grace period	7	7

* 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 2030. 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.

Figure 2. Rwanda: Indicators of Public Debt Under Alternative Scenarios, 2020–30^{1/}

Borrowing Assumptions for Stress Tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	59%	59%
Domestic medium and long-term	14%	14%
Domestic short-term	26%	26%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.9%	1.9%
Avg. maturity (incl. grace period)	29	29
Avg. grace period	7	7
Domestic MLT debt		
Avg. real interest rate on new borrowing	5.4%	5.4%
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 2030. 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.

Table 3. Rwanda: Sensitivity Analysis for Key Indicators of Public and Publicly-Guaranteed External Debt, 2020–30
(In percent)

	Projections										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of debt-to GDP ratio											
Baseline	34.1	35.2	36.7	37.5	38.4	39.2	38.9	38.6	38.1	37.6	37.1
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	34.1	33.4	35.1	38.4	42.5	46.5	48.9	51.7	54.8	56.9	59.2
B. Bound Tests											
B1. Real GDP growth	34.1	36.2	38.9	39.8	40.7	41.5	41.2	40.9	40.4	39.8	39.3
B2. Primary balance	34.1	35.9	39.4	40.4	41.2	42.0	41.7	41.3	40.7	40.0	39.4
B3. Exports	34.1	37.8	44.2	44.6	45.1	45.5	45.0	44.4	43.7	42.7	41.7
B4. Other flows 2/	34.1	37.6	41.4	42.0	42.6	43.2	42.8	42.3	41.7	40.8	40.0
B6. One-time 30 percent nominal depreciation	34.1	44.9	42.1	43.5	44.8	46.0	45.8	45.6	45.2	44.6	44.3
B6. Combination of B1-B5	34.1	40.8	43.1	43.8	44.6	45.1	44.8	44.3	43.7	42.8	42.0
C. Tailored Tests											
C1. Combined contingent liabilities	34.1	37.9	40.0	40.9	41.9	42.7	42.4	42.0	41.4	40.7	40.1
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	34.1	39.5	41.1	42.1	43.2	44.2	44.0	43.6	41.9	41.3	40.7
Threshold	55	55	55	55	55	55	55	55	55	55	55
PV of debt-to-exports ratio											
Baseline	187.8	154.7	139.9	139.9	138.9	140.3	136.4	133.0	130.1	125.2	123.4
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	187.8	147.0	133.8	143.2	153.6	166.8	171.5	178.1	186.9	189.6	196.9
B. Bound Tests											
B1. Real GDP growth	187.8	154.7	139.9	139.9	138.9	140.3	136.4	133.0	130.1	125.2	123.4
B2. Primary balance	187.8	157.9	150.5	150.4	149.1	150.3	146.0	142.1	138.8	133.2	131.0
B3. Exports	187.8	206.2	248.0	244.6	239.9	239.7	231.9	225.1	219.1	209.4	204.1
B4. Other flows 2/	187.8	165.1	157.8	156.4	154.1	154.6	149.9	145.7	142.1	136.0	133.2
B6. One-time 30 percent nominal depreciation	187.8	154.7	125.8	126.9	127.0	129.0	125.8	123.0	120.6	116.4	115.5
B6. Combination of B1-B5	187.8	201.2	154.9	201.8	199.1	199.9	193.9	188.6	184.0	176.0	172.5
C. Tailored Tests											
C1. Combined contingent liabilities	187.8	166.4	152.4	152.2	151.6	152.8	148.5	144.6	141.2	135.6	133.4
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	187.8	154.7	139.9	140.0	139.4	141.1	137.5	133.8	127.5	122.6	120.7
Threshold	240	240	240	240	240	240	240	240	240	240	240
Debt service-to-exports ratio											
Baseline	12.1	14.6	7.9	19.1	7.3	6.9	7.6	7.4	7.1	6.9	7.0
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	12.1	14.1	7.6	19.2	7.7	7.7	8.8	8.9	9.0	9.1	9.6
B. Bound Tests											
B1. Real GDP growth	12.1	14.6	7.9	19.1	7.3	6.9	7.6	7.4	7.1	6.9	7.0
B2. Primary balance	12.1	14.6	8.2	19.6	7.8	7.4	8.0	7.8	7.5	7.4	7.5
B3. Exports	12.1	18.0	12.0	29.0	11.7	11.0	12.0	11.7	11.1	11.3	12.2
B4. Other flows 2/	12.1	14.6	8.2	19.6	7.7	7.3	8.0	7.8	7.4	7.5	7.8
B6. One-time 30 percent nominal depreciation	12.1	14.6	7.9	18.8	7.0	6.6	7.3	7.2	6.9	6.7	6.4
B6. Combination of B1-B5	12.1	17.1	10.9	25.6	10.1	9.5	10.4	10.1	9.7	10.0	10.1
C. Tailored Tests											
C1. Combined contingent liabilities	12.1	14.6	8.2	19.4	7.6	7.2	7.9	7.7	7.4	7.2	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	12.1	14.6	7.9	19.2	8.0	7.5	8.2	9.3	17.1	6.4	6.5
Threshold	21	21	21	21	21	21	21	21	21	21	21
Debt service-to-revenue ratio											
Baseline	12.7	18.6	11.5	28.4	11.0	10.2	11.2	11.0	10.5	10.4	10.4
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	12.7	18.0	11.1	28.5	11.6	11.3	12.9	13.2	13.3	13.7	14.3
B. Bound Tests											
B1. Real GDP growth	12.7	19.1	12.2	30.1	11.7	10.8	11.8	11.7	11.2	11.0	11.0
B2. Primary balance	12.7	18.6	11.9	29.1	11.7	10.8	11.8	11.6	11.1	11.0	11.1
B3. Exports	12.7	18.5	11.8	29.2	12.0	11.0	11.9	11.7	11.2	11.5	12.3
B4. Other flows 2/	12.7	18.6	11.9	29.1	11.7	10.7	11.7	11.5	11.0	11.3	11.6
B6. One-time 30 percent nominal depreciation	12.7	23.7	14.7	35.5	13.4	12.4	13.7	13.6	13.0	12.9	12.1
B6. Combination of B1-B5	12.7	19.4	12.9	30.8	12.3	11.3	12.3	12.1	11.6	12.2	12.1
C. Tailored Tests											
C1. Combined contingent liabilities	12.7	18.6	11.9	28.8	11.5	10.6	11.6	11.5	10.9	10.8	10.8
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	12.7	18.6	11.5	28.5	12.0	11.1	12.0	13.7	25.4	9.6	9.6
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.

Table 4. Rwanda: Sensitivity Analysis for Key Indicators of Public Debt, 2020–30
(In percent)

	Projections										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of Debt-to-GDP Ratio											
Baseline	45.5	48.8	50.6	50.9	50.4	49.3	47.7	46.2	44.4	44.3	44.4
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	45	46	46	46	46	46	46	45	44	44	44
B. Bound Tests											
B1. Real GDP growth	45	51	55	56	56	55	54	53	52	53	53
B2. Primary balance	45	50	55	55	54	52	51	49	47	47	47
B3. Exports	45	52	59	59	58	56	54	53	51	50	50
B4. Other flows 2/	45	51	55	55	55	53	52	50	48	48	47
B6. One-time 30 percent nominal depreciation	45	55	54	52	50	48	45	42	40	39	38
B6. Combination of B1-B5	45	48	51	51	50	49	47	45	43	43	43
C. Tailored Tests											
C1. Combined contingent liabilities	45	54	56	55	55	53	51	50	48	48	47
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	45	49	51	51	51	50	48	46	44	44	44
Public debt benchmark	70	70	70	70	70	70	70	70	70	70	70
PV of Debt-to-Revenue Ratio											
Baseline	196.7	208.8	218.0	213.8	210.5	211.6	208.3	202.9	195.6	194.8	198.1
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	197	197	200	195	193	198	198	196	193	192	196
B. Bound Tests											
B1. Real GDP growth	197	215	233	231	230	235	235	233	228	229	236
B2. Primary balance	197	215	235	229	225	225	221	215	207	206	209
B3. Exports	197	221	253	246	241	242	238	231	223	220	221
B4. Other flows 2/	197	219	239	233	229	229	226	220	212	210	212
B6. One-time 30 percent nominal depreciation	197	239	238	223	214	209	200	189	177	171	169
B6. Combination of B1-B5	197	207	221	216	211	211	207	200	192	190	192
C. Tailored Tests											
C1. Combined contingent liabilities	197	232	239	233	228	228	224	218	210	209	212
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	197	209	218	214	211	213	210	204	192	191	194
Debt Service-to-Revenue Ratio											
Baseline	37.2	36.3	37.7	49.3	35.9	32.2	30.7	27.1	24.5	21.3	23.6
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2040 1/	37	36	37	49	36	33	31	28	25	22	25
B. Bound Tests											
B1. Real GDP growth	37	37	40	53	39	36	35	32	29	26	29
B2. Primary balance	37	36	40	53	38	35	32	28	26	22	25
B3. Exports	37	36	38	50	37	33	31	28	25	22	25
B4. Other flows 2/	37	36	38	50	36	33	31	28	25	22	25
B6. One-time 30 percent nominal depreciation	37	36	38	53	37	32	32	28	26	22	24
B6. Combination of B1-B5	37	35	38	51	36	33	31	27	25	21	24
C. Tailored Tests											
C1. Combined contingent liabilities	37	36	46	52	40	35	32	28	26	22	24
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	37	36	38	49	37	33	31	29	38	21	23

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.

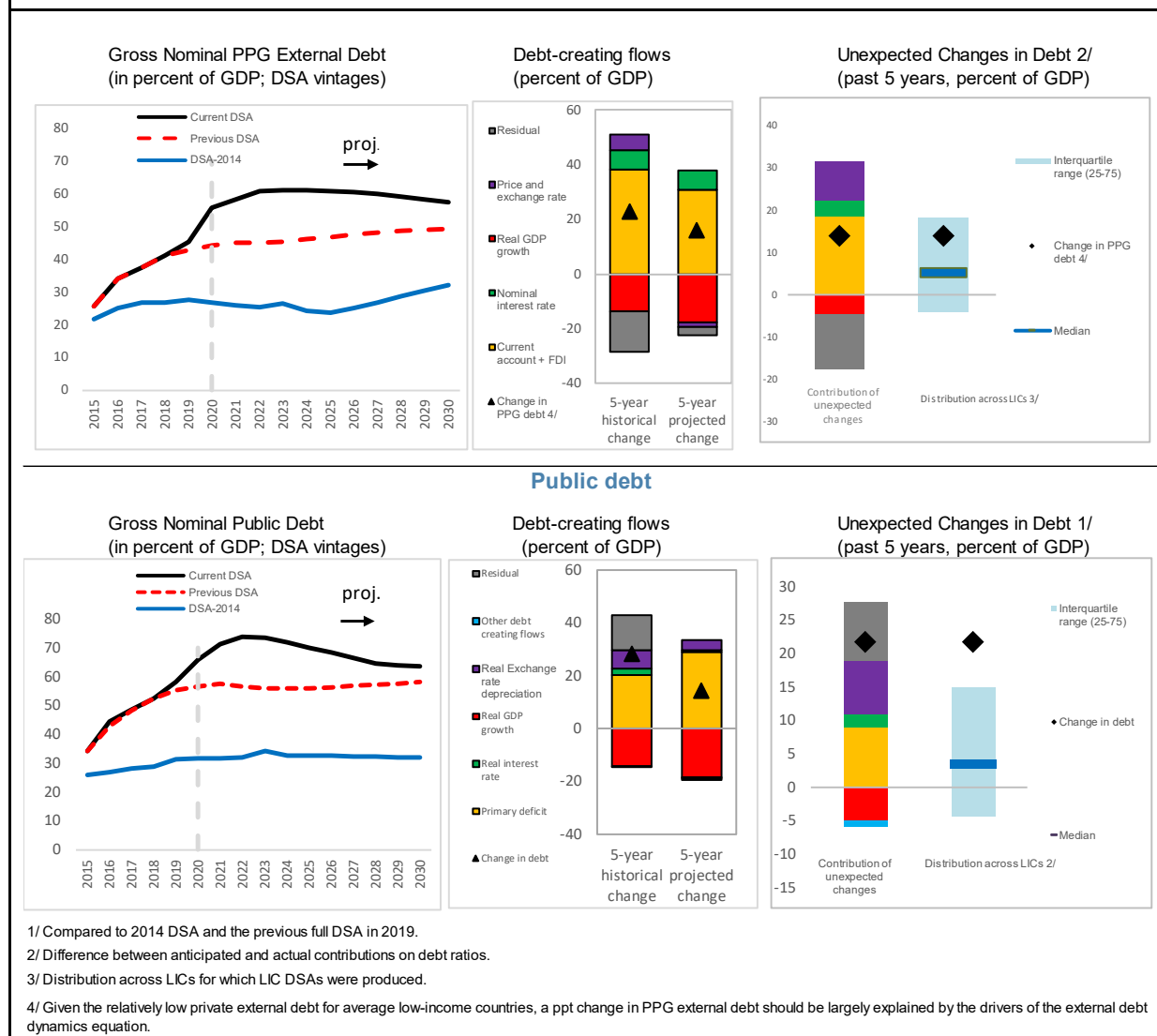
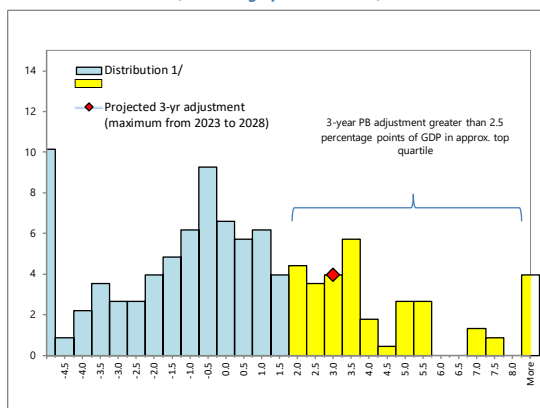
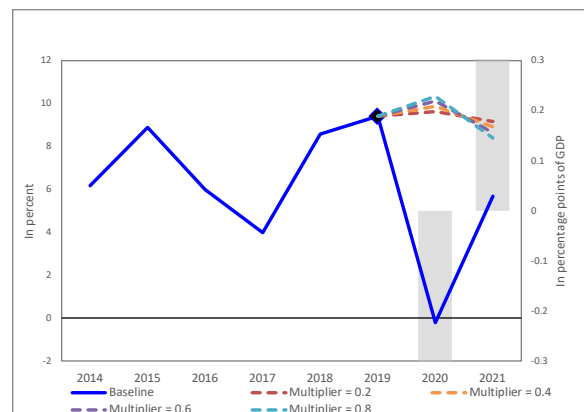
Figure 3. Rwanda: Drivers of Debt dynamics—Baseline Scenario^{1/}

Figure 4. Rwanda: Realism Tools

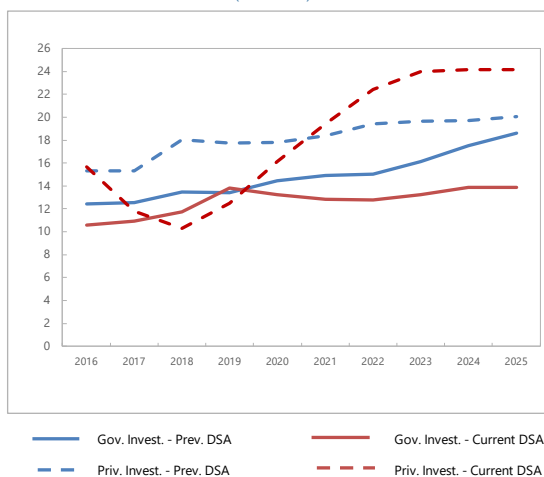
3-Year Adjustment in Primary Balance (Percentage points of GDP)



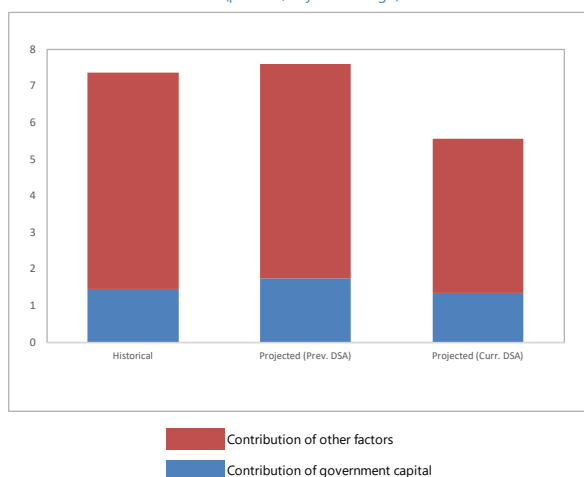
Fiscal Adjustment and Possible Growth Paths 1/



Public and Private Investment Rates 1/ (% of GDP)



Contribution to Real GDP growth (percent, 5-year average)



Contribution of other factors
Contribution of government capital

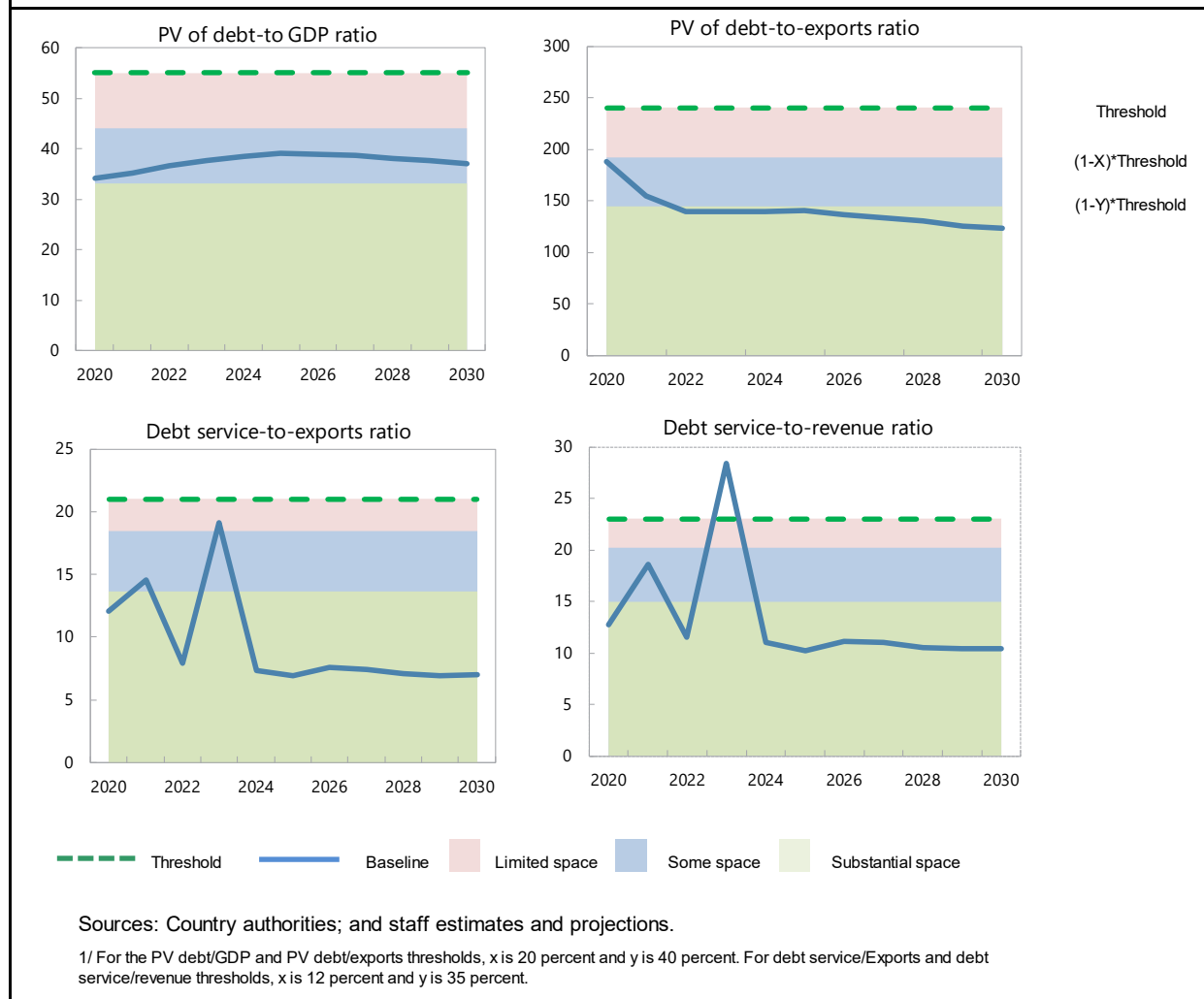
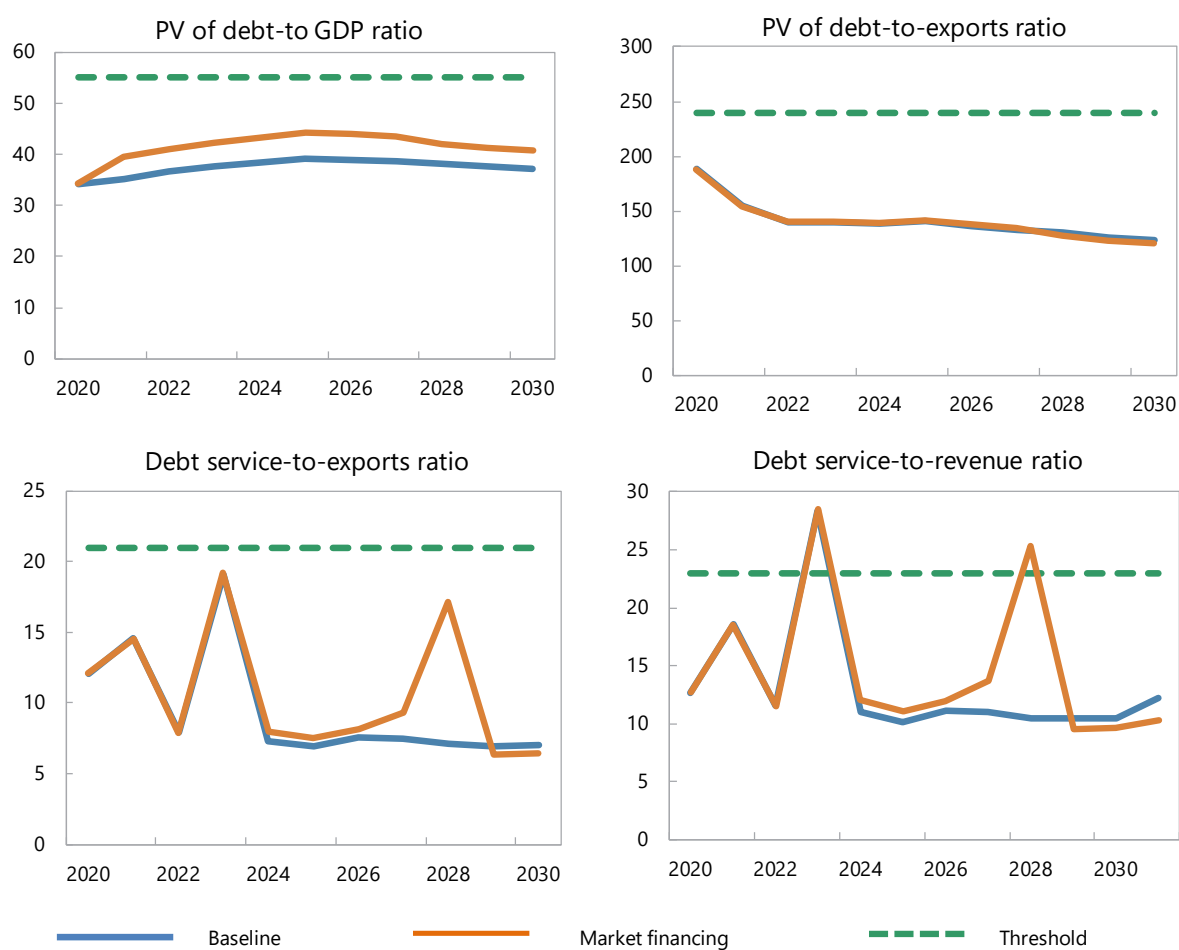
Figure 5. Rwanda: Qualification of the Moderate Category, 2020–2030^{1/}

Figure 6. Rwanda: Market-Financing Risk Indicators

	GFN	1/	EMBI	2/
Benchmarks	14		570	
Values	17		n.a.	
Breach of benchmark	Yes		n.a.	
Potential heightened liquidity needs	High			

1/ Maximum gross financing needs (GFN) over 3-year baseline projection horizon.
2/ EMBI spreads correspond to the latest available data.



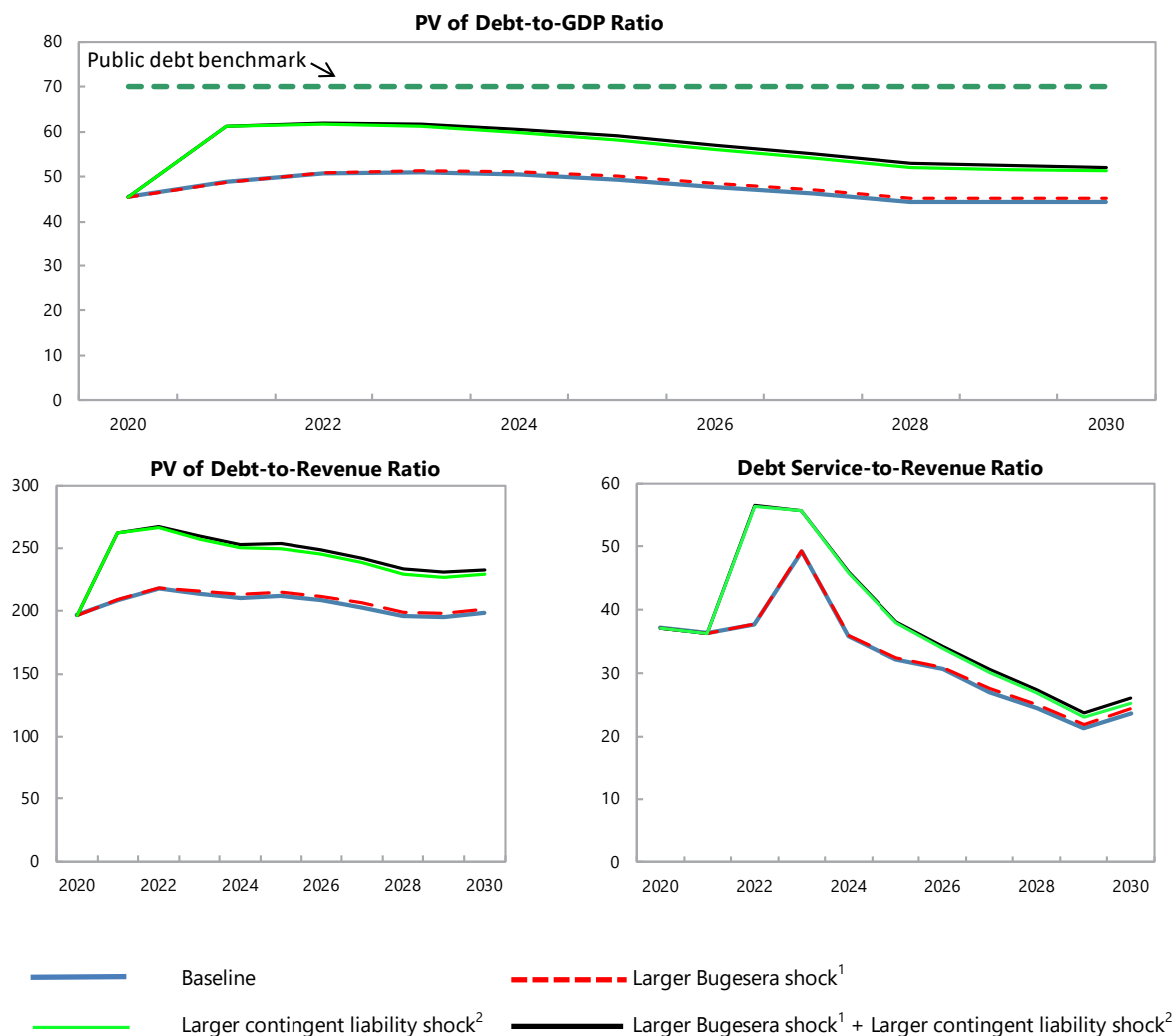
Sources: Country authorities; and staff estimates and projections.

Figure 7. Rwanda: Indicators of Public and Publicly-Guaranteed External Debt Under Customized Risk Scenarios^{1/}



1/ "Larger Bugesera scenario" is the stress test under which the total cost of the project is raised to US\$1.8 billion from US\$1.5 billion in the baseline scenario.

2/ "Larger contingent liability scenario" is the stress test which involves a one-off additional increase in the debt-to-GDP ratio of 8.9 percentage points in the second year of the projection compared to the baseline scenario.

Figure 8. Rwanda: Indicators of Public Debt Under Customized Scenarios^{1/}

1/ "Larger Bugesera scenario" is the stress test under which the total cost of the project is raised to US\$1.8 billion from US\$1.5 billion in the baseline scenario.

2/ "Larger contingent liability scenario" is the stress test which involves a one-off additional increase in the debt-to-GDP ratio of 8.9 percentage points in the second year of the projection compared to the baseline scenario.