EXECUTIVE BOARD MEETING

EBS/20/186
Supplement 1

December 10, 2020

To: Members of the Executive Board

From: The Secretary

Subject: **Benin—Requests for Disbursement Under the Rapid Credit Facility and Purchase Under the Rapid Financing Instrument—Debt Sustainability Analysis**

Board Action:	Executive Directors' **consideration** (Formal)
Prepared By:	The staffs of the Fund and the International Development Association
Tentative Board Date:	**Monday, December 21, 2020**
Publication:	Yes*
Questions:	Ms. Lahreche, AFR (ext. 36643) Mr. Nguyen-Duong, AFR (ext. 36296) Mr. Amidzic, AFR (ext. 38069) Mr. Pouhe, AFR (ext. 37274) Mr. Ramarozatovo, FAD (ext. 38680) Ms. Arellano Banoni, AFR (ext. 39011) Ms. Jain, AFR (ext. 36286)
Document Transmittal in the Absence of an Objection and in accordance with Board policy:	After Board Consideration—African Development Bank, Islamic Development Bank, West African Economic and Monetary Union, World Trade Organization

***The authorities have indicated that they consent to the Fund's publication of this paper.**

INTERNATIONAL MONETARY FUND

BENIN

REQUESTS FOR DISBURSEMENT UNDER THE RAPID CREDIT FACILITY AND PURCHASE UNDER THE RAPID FINANCING INSTRUMENT—DEBT SUSTAINABILITY ANALYSIS

December 10, 2020

Approved By
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Prepared by the staffs of the International Monetary Fund (IMF) and the International Development Association (IDA).

Benin: 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 shock
Application of judgement	Yes

__Benin remains at moderate risk of external and overall debt distress__. The rating is unchanged from the previous May 2020 Debt Sustainability Analysis (DSA), but risks to debt sustainability have increased. All the projected external debt burden indicators but one are below their thresholds under the baseline.[1] The debt service-to-revenue ratio temporarily exceeds its threshold under the baseline (in 2024 and 2025). The breach is short-lived and small, but would also mechanically signal a high risk of debt distress. Nevertheless, given the breaches of the other thresholds (PV of debt-to-exports and debt service-to-exports) under the extreme shock scenarios and Benin's fiscal path, staff assess the risk of external debt distress to remain at moderate. Benin's spread is no longer above the market financing module's benchmark. The issuance of the COVID-19 T-Bill has increased rollover risk. Policy slippages and vulnerabilities due to the COVID-19 and the Nigeria border closure shocks are downside risks to the baseline. Public and publicly guaranteed (PPG) debt (external plus domestic) remains at moderate risk of distress. Nonetheless, the PV of public debt-to-GDP ratio remains below its prudent benchmark in both the baseline and shock scenarios.

[1] The DSA follows the IMF and World Bank Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework (DSF) for Low-Income Countries (LICs) (February 2018). Benin retains a medium-rated debt-carrying capacity, given the 2.9 Composite Indicator, which is based on the 2020 October WEO and the 2019 CPIA released in July 2020 (Text Table 9). Benin's CPIA rating improved due to higher economic and public sector management ratings.

PUBLIC DEBT COVERAGE

1. In the Debt Sustainability Analysis (DSA) of Benin, public debt covers both the debt of the central government as well as the guarantees provided by the central government (Text Table 1).[2] The DSA classifies external and domestic debt based on the currency criterion, given data constraints that prevent the use of the residency criterion. Debt to the IMF owed by the Central Bank is included in external debt.[3]

2. The authorities completed an audit of the stock of unpaid claims held by the private sector on the government in January 2019. They identified a stock of arrears to suppliers of 0.2 percent GDP, incurred before 2016. This amount of arrears was added to the 2019 debt stock. The current fiscal projections also assume a gradual clearance of the arrears over 2020-22 at a pace of 0.1 percent of GDP per year.

3. The guaranteed debt of state-owned enterprises (SOEs) is included in the baseline analysis. Because SOEs can entail contingent liabilities for the government and create fiscal risks, it is important to have an exhaustive overview of their financial situation.[4] The authorities have made progress in the area of monitoring in past years, by collecting financial information on SOEs. In early 2019, they produced an estimate of 0.6 percent of GDP for the non-guaranteed commercial debt of 13 state-owned companies at end-2018.[5] For end-2019, SOE non-guaranteed commercial debt is estimated at 0.5 percent of GDP. To address contingent liability risks, the authorities adopted a new law on SOEs in July 2020, which was promulgated on September 2, 2020.[6] The new law aimed at improving SOE's governance and indirectly economic and financial performance. In the context of the current DSA, the following approach is taken:

- *All guaranteed SOE* debt is included in the debt stock in the baseline.
- *Non-guaranteed SOE debt* is captured as contingent liability shock (Text Table 2). This shock is set at 0.5 percent of GDP (to reflect the information collected on SOE debt).
- Further work is needed to properly and fully incorporate SOEs in the DSA baseline, including consolidating the general government fiscal accounts with the financial statements of the SOEs (both on the revenue and expenditure sides).[7] The authorities see this consolidation as a prerequisite before incorporating SOE debt into total debt (in the baseline) and are working with AFRITAC WEST to establish a work program.

[2] Government domestic arrears are also included, see below.

[3] This refers to Benin's share of IMF debt owed by Central Bank.

[4] In the context of the Government Action Program, the authorities are contemplating several key projects of infrastructure, including some conducted through SOEs.

[5] Guarantees on SOE debt provided by the central government are already included in public debt.

[6] As part of the Sustainable Development Policy Framework of IDA19, the authorities have agreed to publish the commercial debt outstanding of SOEs annually, and no later than by June 30 of the following year.

[7] While the stock of non-guaranteed debt has been estimated at 0.5 percent of GDP at end-2019, further work is necessary to fully capture the terms.

Text Table 1. Benin: Public Sector Coverage

	Subsectors of the public sector	Sub-sectors covered
1	Central government	X
2	State and local government	
3	Other elements in the general government	
4	o/w: Social security fund	
5	o/w: Extra budgetary funds (EBFs)	
6	Guarantees (to other entities in the public and private sector, including to SOEs)	X
7	Central bank (borrowed on behalf of the government)	X
8	Non-guaranteed SOE debt	

Text Table 2. Benin: Magnitude of the Contingent Liability Tailored Stress Test

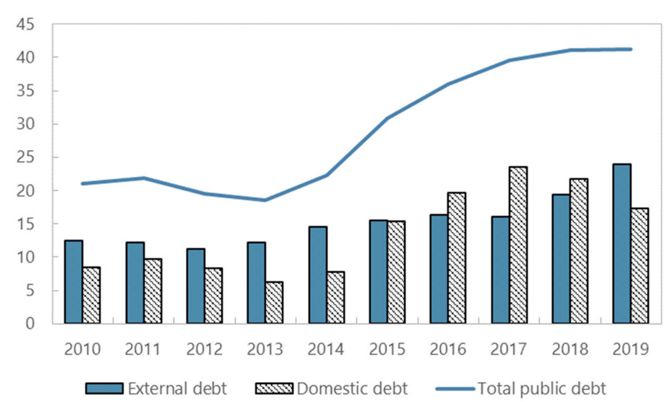
1	**The country's coverage of public debt**	The central government, central bank, government-guaranteed debt			
		Default		**Used for the analysis**	**Reasons for deviations from the default settings**
2	Other elements of the general government not captured in 1.	0	percent of GDP	0.0	
3	SoE's debt (guaranteed and not guaranteed by the government) 1/	2	percent of GDP	0.5	The stock of SOE's debt not captured in the central government sector is estimated at 0.5 percent of GDP at end-2019.
4	PPP	35	percent of PPP stock	2.4	
5	Financial market (the default value of 5 percent of GDP is the minimum value)	5	percent of GDP	5.0	
	Total (2+3+4+5) (in percent of GDP)			7.9	

1/ The default shock of 2% 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%.

BACKGROUND ON DEBT

4. **Benin's public debt has increased rapidly since 2014.** Total public debt (external plus domestic) increased from 22.3 percent in 2014 to 30.9 percent in 2015 and, at a slower pace subsequently, to 41.2 percent in 2019 (Text Figure1).[8] The increase was primarily due to higher domestic debt, which tripled over three years, growing from 7.8 percent of GDP in 2014 to 23.7 percent of GDP in 2017. This rise was partly driven by the scaling-up of public investment. Over 2015-17, the authorities have increasingly relied on the domestic and regional financial market to finance public investment projects at non-concessional terms.

Text Figure 1. Benin: Total Public Debt, 2010-19
(Percent of GDP)



5. **The increase in Benin's public debt has accelerated during the first three quarters of 2020 in response to the COVID-19 shock and the border closure with Nigeria**. Total public debt increased from 41.2 percent of GDP at end-2019 to 48.7 percent of GDP at end-September 2020 (Text Table 3). Customs revenue dropped significantly in 2020 due to the border closure with Nigeria, lower trade due to the

[8] In this paper, debt stocks are measured at the end of the year. For instance, 2019 debt refers to the debt stock at the end of 2019.

impact of the pandemic, and tax measures to support the economy. At the same time, public expenditure increased to accommodate the health response to COVID-19 and spending measures to support vulnerable households and businesses. Consequently, the fiscal deficit (commitment basis, including grants) has increased compared to pre-COVID-19 target at end-December 2020 (1.8 percent of GDP) and the sixth review under the ECF-support arrangement (3.5 percent of GDP). It is estimated at 4.1 percent of GDP at end-September 2020.

Text Table 3. Benin: Evolution of public outstanding debt, March 2018 to September 2020
(CFAF billion, unless otherwise specified)

	2018				2019				2020		
	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.
External debt	**1,222**	**1,275**	**1,411**	**1,532**	**2,016**	**2,110**	**2,074**	**2,021**	**2,162**	**2,263**	**2,293**
Bilateral debt	222	225	234	242	253	264	261	245	260	281	324
Multilateral debt	975	1,004	960	1,021	1,145	1,207	1,202	1,151	1,222	1,258	1,290
Commercial debt	26	46	217	269	290	311	284	296	352	396	351
Eurobond	0	0	0	0	328	328	328	328	328	328	328
Domestic debt	**1,761**	**1,797**	**1,680**	**1,720**	**1,748**	**1,785**	**1,660**	**1,456**	**1,696**	**1,988**	**1,997**
Treasury bonds	1,162	1,260	1,263	1,267	1,256	1,289	1,262	1,190	1,425	1,529	1,553
Treasury bills	171	115	160	160	160	170	49	22	0	142	142
Local banks	428	423	257	293	332	326	348	244	271	317	302
Total public debt	**2,983**	**3,072**	**3,091**	**3,252**	**3,764**	**3,895**	**3,734**	**3,477**	**3,858**	**4,251**	**4,290**
Total public debt (percent of GDP)	37.7	38.8	39.0	41.1	44.6	46.2	44.3	41.2	43.8	48.2	48.7

Source: Beninese authorities; IMF staff calculations.

6. **The debt service burden is relatively high in Benin**. The external debt service to revenue ratio stood at 6.9 percent in 2019 but is expected to steeply increase to nearly 20 percent in 2024 (because of the amortization of the Eurobond), before declining to around 7 percent in the long-term. The ratio of debt service-to-revenue stood at 49.9 percent in 2019 and is expected to increase to around 74 percent on average in the medium term, before declining to around 46 percent on average in the long term (2030-40).

7. **Conditions on the regional and sovereign security markets have remained broadly favorable as the BCEAO took preemptive measures to limit the impact of the COVID-19 pandemic**. Broad money growth had remained buoyant in 2019 on the back of a pickup of net foreign assets while credit to the private sector outpaced nominal GDP. The weighted average auction rate on the money market remained at the top of the BCEAO's monetary policy corridor (4.5 percent) in the first quarter of 2019 before hovering around 3 percent during the rest of the year, in part due to a small increase in liquidity supply by the BCEAO. Meanwhile access on the regional sovereign security market remained good with some lowering of yields and lengthening of the average maturity in 2019. These broadly favorable liquidity conditions have persisted year-to-date as the BCEAO took preemptive steps to better satisfy banks' demand for liquidity and mitigate the negative impact of the pandemic on economic activity. In late March, the BCEAO further raised the amount of liquidity auctioned to banks before adopting a fixed-rate full-allotment strategy thereby allowing banks to satisfy their liquidity needs fully at the minimum policy rate of 2.5 percent, that is about 25 basis points lower than hitherto.

8. Benin issued a 3-month COVID-19 T-Bill amounting to CFAF 133 billion (1.5 percent of GDP) in May 2020. In April 2020, the BCEAO launched a special 3-month refinancing window at a fixed rate of 2.5 percent for limited amounts of 3-month "COVID-19 T-Bills" to be issued by each WAEMU sovereign to help meet immediate funding needs related to the current pandemic without creating undue pressures on the regional market. Benin was able to roll over its original COVID-19 T-Bills issuance in July 2020 through a new 3-months COVID-19 T-Bills that banks may refinance with the BCEAO for their term to maturity at 2 percent , and then in November 2020 through a one-month COVID-19 T-Bills. (Text Table 4).

Text Table 4. Benin: COVID-19 T-Bill Issuances, 2020

	Maturity (months)	Amounts (CFAF billion)			Average interest rate (percent)
		Sought	Proposed	Raised	
May 6, 2020	3	130	583.2	133	3.1
July 30, 2020	3	133	368.8	133	2.2
November 4, 2020	1	133	229	133	2.6

Source: UMOA-Titres

STRUCTURE OF DEBT

9. The 2019 Eurobond, combined with the 2018 debt reprofiling, has tilted the composition of the public debt towards external debt. In 2016 and 2017, Benin's domestic debt accounted for more than half of total debt (about 60 percent of total debt at end-2017). The October 2018 debt reprofiling operation, which issued cheaper and long-term external debt to buy back more expensive and shorter maturity domestic debt, started to rebalance the composition of the debt stock.[9] In addition, Benin issued its first Eurobond in March 2019. The Eurobond amounted to EUR 500 million (equivalent to 3.9 percent of 2019 GDP). The issuance was done at favorable terms. As of end-December 2019, external debt represented 58.1 percent of the total debt.

10. Benin's external public debt is essentially owed to multilateral and commercial creditors. As of end-2019, Benin's external debt owed to multilateral creditors represented around 57 percent of total external debt against about 31 percent and 12 percent held by commercial and bilateral creditors respectively. However, the share of the multilateral debt decreased after the issuance of the Eurobond (which is commercial debt) in March 2019. The share of concessional loans represented 54 percent of total external debt at end-2019. Total external debt amounted to CFAF 2,021 billion (about US$ 3.4 billion) and CFAF 2,293 billion (about US$ 4 billion) at end-2019 and end-September 2020 respectively (Text Table 5).

11. Domestic public debt is dominated by government securities issued on the regional bond market. Benin's domestic public debt has increased significantly between 2014 and 2017, driven mainly by the increasing reliance on the regional bond markets. About 82 percent of domestic liabilities consisted of government securities issued on the regional financial market at end-2019. Such debt is non-concessional and is associated with roll-over and interest rate risks. Total domestic debt amounted to CFAF 1,455.9 billion as of end-2019 (Text Table 6).

12. The structure of Benin's debt portfolio has not fundamentally changed at end-September 2020. The share of external debt to total debt stood at 53.4 percent at end-September 2020 compared to

[9] The World Bank's Policy-Based Guarantee (PBG) used US$ 45 million of IDA funds to secure commercial loans for EUR 387 million at favorable terms (about 4 percent and a maturity of about 12 years), of which EUR 260 million were used to replace short-term domestic debt.

55.6 percent at end-September 2019. The issuance of the 3-month COVID-19 T-Bill (CFAF 133 billion) has shortened the average maturity of Benin's domestic debt portfolio, thus increasing rollover risk.

Text Table 5. Benin: Structure of External Debt at end-2019 and end-September 2020
(CFAF billion)

Creditors	Dec. 2019	Sep. 2020
Multilateral creditors	**1,151**	**1,290**
IDA	574	620
FAD (African Development Fund)	262	248
IMF	88	160
Other	227	262
Bilateral creditors	**245**	**324**
People's Republic of China	171	171
Other	74	153
Commercial creditors	**624**	**679**
Eurobond	328	328
Other	296	351
Total external debt	**2,021**	**2,293**

Source: Beninese authorities; IMF staff calculation.

Text Table 6. Benin: Structure of Domestic debt at end-2019 and end-September 2020
(CFAF billion)

By creditors	Dec. 2019	Sep. 2020
Treasury bonds	1,190	1,553
Treasury bills	22	142
Other local banks	244	302
By maturity	**Dec. 2019**	**Sep. 2020**
Less than one year	22	142
One to three years	297	454
Three to Seven years	783	982
Greater than seven years	353	419
Total domestic debt	**1,456**	**1,997**

Source: Beninese authorities; IMF staff calculation.

BACKGROUND ON MACROECONOMIC FORECASTS

13. **Macroeconomic assumptions have been updated compared to the May 2020 DSA** (Text Table 7)**.**

- Benin's GDP growth was revised from 3.2 to 2 percent as a result of the slowdown of the economic activity due to COVID-19, and, to a lesser extent, the prolonged border closure with Nigeria. Medium-term prospects are favorable, driven by the growth in agricultural and cotton exports, improvement in business climate, and development of new sectors such as tourism and digital economy.

- The primary fiscal balance[10] was revised down from -1.6 percent of GDP to -3 percent of GDP in 2020 because of the extended border closure and the COVID-19 pandemic on revenue collection as well as an increase in public expenditure to support the health sector and affected households and businesses. However, the fiscal position will gradually improve after the shock, with the primary balance estimated at around 0.2 percent of GDP in 2025.

- The non-interest current account deficit is expected to stabilize in the medium to long term, thanks to the implementation of the fiscal consolidation plan and structural reforms to boost competitiveness. Higher exports would result from larger cotton production. Imports should also

[10] Including grants.

remain contained due to the scaling-down of public investment and the increase in agricultural production, which should reduce food imports.

- The grant assistance for debt relief under the Catastrophe Containment and Relief Trust (CCRT) has been reflected in the DSA.[11] The eligible debt service for relief from the CCRT amounts to SDR 13.8 million (about CFAF 11 billion), covering the period between April 14, 2020 and April 13, 2021. The CCRT debt relief is reflected under exceptional financing in Table 1 and under debt relief (HIPC and other) in Table 2.

- To date, the authorities declined to participate in the Debt Service Suspension Initiative (DSSI). Debt service relief covered by the DSSI amounts to US$ 16.1 million (0.1 percent of GDP) for the period end-April to end-December 2020 and to US$ 15 million (0.1 percent of GDP) for the eligible period of 2021.[12]

- World Bank financial support to the COVID-19 crisis has also been reflected in the DSA. On April 27, 2020 the World Bank Board adopted the Benin COVID-19 Preparedness and Response project of US$ 10.4 million under the Fast-Track COVID-19 Facility. The Bank also approved a Supplemental Financing DPO (US$50 million) to support the health sector on June 26, 2020.

14. The perimeter of exports has been expanded in the context of this DSA.[13] As a result of statistical improvements carried out by the BCEAO, including a new survey on cross-border trade activities in 2019, the measurement of informal trade has been enhanced. As a result, informal exports are now included in the perimeter of exports in the DSA and the Balance of Payments. This is consistent with the recently published Balance of Payments data.[14]

15. Risks to the baseline are tilted to the downside. A deeper and more severe COVID-19 shock, an extended closure of the border with Nigeria, unresolved banking sector problems, and a possible contagion of security risks could all worsen Benin's fiscal position. Other risks include extra spending pressures and lower revenue collection related to the political cycle. On growth, achieving the expected performance will require that the authorities rigorously implement measures that intent to increase the agricultural production capacity and structural reforms that aim at improving business environment and governance.

16. The fiscal policy path is assessed to be realistic (Figure 4). The fiscal path is in the middle of the historical distribution. The change with respect to the previous DSA is due to the fact that the fiscal deficit is revised upwards to accommodate the impact of the COVID-19 pandemic.

17. The growth projection for 2020 is below the path predicted by the growth and fiscal adjustment tool (Figure 4). The deviation between baseline projections and the growth path with LIC's

[11] See IMF Policy Paper No. 20/022 and IMF Policy Paper No. 20/045.

[12] The eligible period is defined as January 1, 2021 to end-June 2021.

[13] The change of perimeter was implemented in the previous DSA (May 2020), but not in the DSA of the fifth review under the ECF-supported arrangement (December 2019).

[14] « Balance des Paiements et Position Extérieure Globale », December 2019.

typical multiplier of 0.4 is explained by the negative effect of the COVID-19 on the economic activity. However, GDP growth is expected to rebound in 2021.

Text Table 7. Benin: Macroeconomic Projections

	DSA 2020 - 6th review					DSA 2020 - RCF/RFI				
	2019	2020	Average 2021-24	2029	2039	2019	2020	Average 2021-24	2029	2039
	(Percent of GDP, unless otherwise indicated)					*(Percent of GDP, unless otherwise indicated)*				
GDP growth (percent)	6.9	3.2	6.7	6.4	5.7	6.9	2.0	6.5	6.4	5.7
GDP deflator (percent)	-0.3	1.0	2.0	1.8	1.9	-0.3	2.5	1.8	1.9	1.9
Non-interest current account deficit	3.9	4.1	3.8	3.6	3.7	2.6	3.2	3.4	3.4	3.6
Primary deficit	-1.1	1.6	0.3	0	0	-1.1	3.0	0.9	-0.3	0.0
Exports	24	21.8	24.8	24.7	24.7	24.3	18.5	22.7	22.8	22.8
Revenues and grants	14.1	13.9	14.3	14.3	14.3	14.1	13.8	13.4	14.7	15.7

Sources: Beninese authorities; IMF staff calculations and projections.

18. The contribution of public investment to real GDP growth is also realistic. The current projection of the contribution of public investment to growth is in par with the previous DSA's projections.

COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

19. Benin's debt carrying capacity remains medium. The values of the components of the Composite Indicator (CI) score are based on the October 2020 WEO (Text Table 9). Thus, the thresholds to assess debt sustainability have remained unchanged compared to the previous DSA. The main contributors to the score are the CPIA value, which measures the quality of institutions and policies, as well as the import coverage of reserves.

20. Stress tests follow standardized settings, with the addition of a market financing shock. The standardized stress tests apply the default settings (Text Table 8). The market financing shock is the only tailored stress test that applies to Benin due to the existence of an outstanding Eurobond. The test assumes a temporary increase in the cost of new commercial external borrowing by 400 basis points combined with a nominal depreciation of 15 percent of the CFAF vis-à-vis the US$ and a shortening of maturities and of grace periods.[15]

EXTERNAL DEBT SUSTAINABILITY RESULTS

21. All the external debt burden indicators but one remain below the policy-dependent thresholds in the baseline scenario. A temporary small breach (two years) is observed in the case of the debt service-to-revenue ratio in 2024 and 2025. This is mainly explained by the repayment of the Eurobond in 2024 onwards. The PV of total PPG external debt is expected to stabilize at about 18.9 percent of GDP on average over 2021–25, reaching 5.3 percent of GDP in 2039. It would remain below the corresponding threshold of 40 percent of GDP throughout the projection period.

[15] The considered shortening of maturities of commercial external borrowing are as follows; (i) if the original maturity is greater than 5 years, the new maturity is set to 5 years; (ii) if the original maturity is less than 5 years, the new maturity is shortened by 0.7 years.

22. The ratio of debt service-to-revenue, debt service-to-exports, and PV of debt-to-exports exceed their threshold in the case of a shock (Text table 8), implying a moderate risk of external debt distress. The PV of debt-to-export ratio breaches its threshold in 2022-27 in case of shock on exports. This reflects the recent shock to exports due to the border closure with Nigeria and trade disruptions cause by the pandemic. Similarly, the debt service-to-export ratio breaches its threshold in 2024 onward in case of a shock to exports or a combination of shocks. The debt service-to-revenue ratio breaches its threshold in 2024-26 for all shocks. This is mainly explained by the repayment of the Eurobond in 2024-26 and lower revenue mobilization in 2019 and 2020. Finally, the PV of debt-to-GDP remains well below its threshold under the extreme shock scenarios. Breaches of the PV of debt-to-exports, debt service-to-exports, and debt service-to-revenue ratio under stress tests are the reasons behind the assessment of moderate risk for external debt.

Text Table 8. Benin: Standardized Stress Tests

Shock	Description
B1. Real GDP growth	Real GDP growth set to its historical average minus one SD, or baseline projection minus one SD, whichever is lower for the second and third years of the projection period.
B2. Primary balance	Primary balance-to-GDP ratio set to its historical average minus one SD, or baseline projection minus one SD, whichever is lower in the second and third years of the projection period.
B3. Export	Nominal export growth (in USD) set to its historical average minus one SD, or baseline projection minus one SD, whichever is lower in the second and third years of the projection period.
B4. Other (non-debt creating) flows	Current transfers-to-GDP and FDI-to-GDP ratios set to their historical average minus one SD, or baseline projection minus one SD, whichever is lower in the second and third years of the projection period.
B5. Depreciation	One-time 30 percent nominal depreciation of the domestic currency in the first year of the projection period, or the size needed to close the estimated real exchange rate overvaluation gap, whichever is large.
B6. Combination	Apply all individual shocks (B1 through B5) at half their magnitudes in the second and third years of the projection period.

23. The supplementary module, which allows qualifying the moderate category for the debt distress risk, indicates that Benin has very limited space to absorb shocks (Figure 5). To add granularity to the moderate risk rating, Benin is assessed as having "limited space" to absorb shocks in the current DSA because at least one baseline debt burden indicator is close enough to its respective threshold that occurrence of the median observed shock would result in a downgrade to high risk. There is a deterioration compared to the May 2020 DSA report, even though Benin was already assessed as having ''limited space'' to absorb shocks.

Text Table 9. Benin: Debt Carrying Capacity and Thresholds

Country	Benin
Country Code	**638**

Debt Carrying Capacity	**Medium**

Final	Classification based on current vintage	Classification based on the previous vintage	Classification based on the two previous vintages
Medium	Medium 2.90	Medium 2.96	Medium 2.98

Calculation of the CI Index

Applicable Threshold

Components	Coefficients (A)	10-year average values (B)	CI Score components (A*B) = (C)	Contribution of components
CPIA	0.385	3.547	1.37	47%
Real growth rate (in percent)	2.719	5.233	0.14	5%
Import coverage of reserves (in percent)	4.052	39.093	1.58	55%
Import coverage of reserves^2 (in percent)	-3.990	15.283	-0.61	-21%
Remittances (in percent)	2.022	0.884	0.02	1%
World economic growth (in percent)	13.520	2.928	0.40	14%
CI Score			2.90	100%
CI rating			**Medium**	

Cut-off Values of the CI

APPLICABLE	
EXTERNAL debt burden thresholds	
PV of debt in % of	
Exports	180
GDP	40
Debt service in % of	
Exports	15
Revenue	18

APPLICABLE	
TOTAL public debt benchmark	
PV of total public debt in percent of GDP	55

New framework

Cut-off values			
Weak	CI <	2.69	
Medium	2.69	≤ CI ≤	3.05
Strong	CI >	3.05	

OVERALL RISK OF PUBLIC DEBT DISTRESS

24. **Total PPG debt (external plus domestic) remains below its respective benchmark under the baseline and shock scenarios.** The overall risk of debt distress remains moderate. Total debt does not show any breach in the baseline and shock scenarios.

25. **Despite the absence of breaches, the moderate risk rating for PPG external debt motivates the moderate risk rating for total debt**. Other factors of vulnerability include: the higher uncertainty surrounding the projections against the background of the COVID-19 pandemic; the fast increase in

domestic debt in past years; the relatively high ratio of debt service to revenue; the increase in spreads; the possibility of contingent liabilities related to SOEs; revenue losses induced by the effect of the COVID-19 on the economic activity.

MARKET MODULE

26. **The market-financing module shows a small and temporary breach of the policy-dependent thresholds (Figure 6)**. The external debt service-to-revenue ratio breaches the threshold under the baseline in 2024 and 2025. In the macroeconomic framework presented in the RCF/RFI request staff report, it is assumed that the 2019 Eurobond will be partially rolled over with commercial external borrowing. Benin's EMBI spread (estimated at around 438 bps. as of November 23, 2020) no longer breaches the benchmark of 570 bps.[16] Benin's spread was nearly always above the market financing module's benchmark between March 9, 2020 and November 1, 2020, which means that Benin remains vulnerable to liquidity pressures. Benin's spread peaked on March 23, 2020 at around 944 bps.

CONCLUSION

27. **The updated DSA finds that Benin stands at moderate risk of external and overall public debt distress, despite a small and temporary breach of a threshold in the baseline scenario**. The ratings are unchanged relative to the May 2020 Staff Report. While the model mechanically signals a high risk to debt distress rating, staff assesses that it is appropriate to discount the breach because of its temporary (two years) and small nature and given Benin's fiscal path. Moreover, Benin's solid debt management capacity, including on asset and liability management operations, and public debt reporting, are significant mitigating factors. However, marginal breaches should be viewed as indicating risk. In this case, the breach highlights Benin's low revenue collection path and emphasizes the need for the authorities to continue and accelerate the implementation of structural reforms in the area of tax policy and tax and customs administration. It is also important that the authorities prioritize external financing with longer maturities and on concessional terms to reduce the debt service burden. Medium-term fiscal consolidation and improved debt management are needed to maintain debt sustainability.

28. **The macroeconomic and fiscal projections are subject to a high degree of uncertainty**. The DSA results could change given the rapidly evolving developments related to the COVID-19 shock. If the pandemic persists and spreads further, the 2020 and 2021 macroeconomic and budgetary performances may worsen further.

29. **The authorities concur broadly with staff's assessment**. The authorities remain committed to strengthening debt sustainability by adhering to medium-term fiscal consolidation, conducting sound public investment management, and enhancing debt management capacity, including on the establishment of a framework to manage risks stemming from government guarantees.[17]

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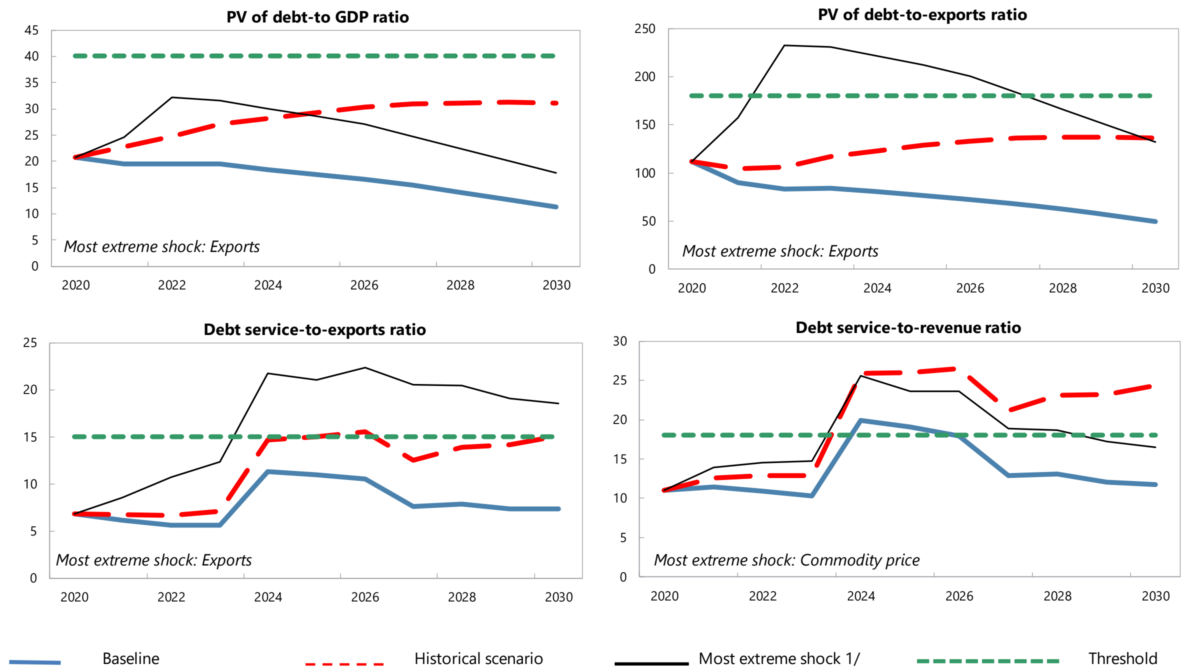
[16] Benin's spread was nearly always above the market financing module's benchmark between March 9, 2020 and November 1, 2020. Its peak was reached on March 23, 2020 (944 bps.).

[17] The World Bank is providing technical assistance on the establishment of a framework to manage risks stemming from government guarantees.

Figure 1. Benin: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2020-2030



Customization of Default Settings		
	Size	Interactions
Tailored Stress		
Combined CL	Yes	
Natural disaster	n.a.	n.a.
Commodity price	No	No
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.

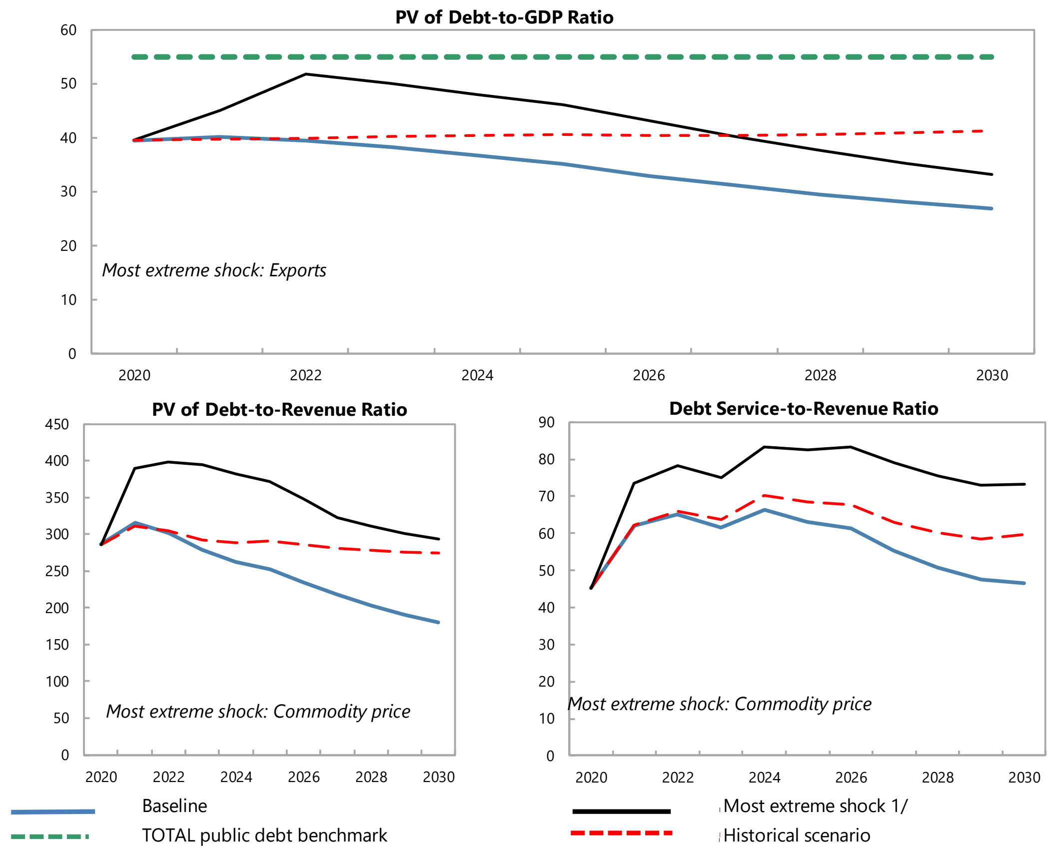
Borrowing assumptions on additional financing needs resulting from the stress tests*		
	Default	User defined
Shares of marginal debt		
External PPG MLT debt	100%	
Terms of marginal debt		
Avg. nominal interest rate on new borrowing in USD	2.5%	2.5%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	18	18
Avg. grace period	4	4

* 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 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 on-off breach, only that stress test (with a one-off breach) would be presented.

Figure 2. Benin: Indicators of Public Debt Under Alternative Scenarios, 2020-2030



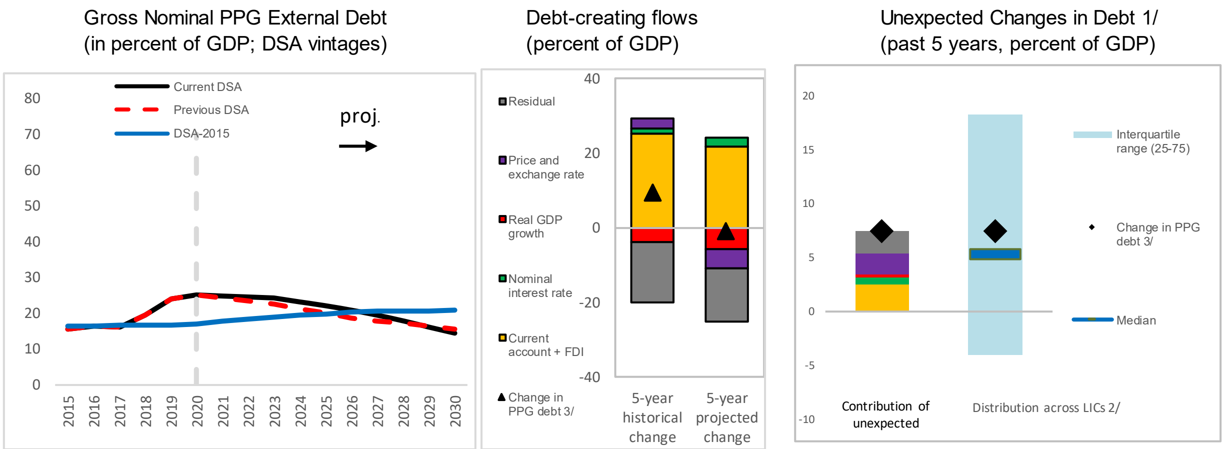
Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
Shares of marginal debt		
External PPG medium and long-term	26%	26%
Domestic medium and long-term	59%	59%
Domestic short-term	15%	15%
Terms of marginal debt		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	2.5%	2.5%
Avg. maturity (incl. grace period)	18	18
Avg. grace period	4	4
Domestic MLT debt		
Avg. real interest rate on new borrowing	4.7%	4.7%
Avg. maturity (incl. grace period)	4	4
Avg. grace period	1	1
Domestic short-term debt		
Avg. real interest rate	4.4%	4.4%

* 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.

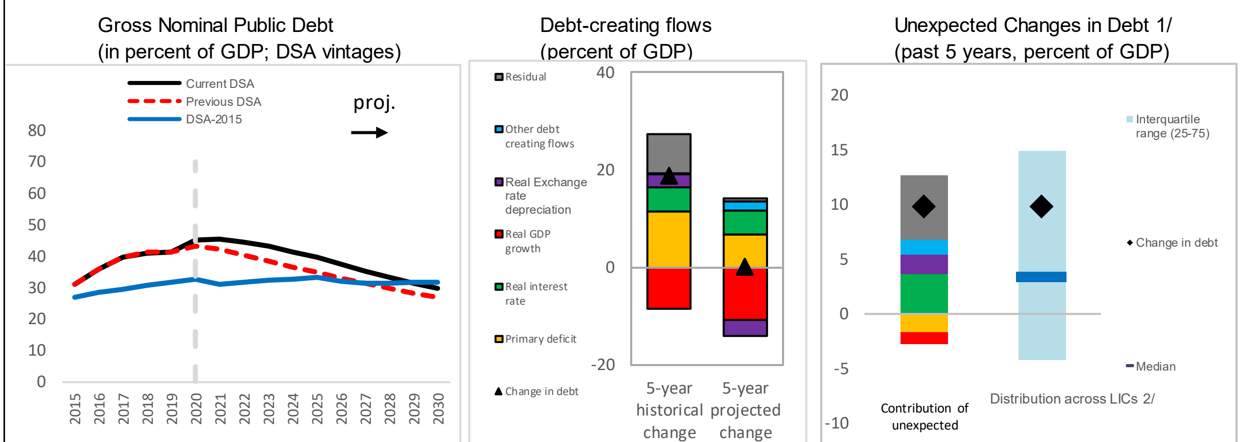
Sources: Country authorities; and staff estimates and projections.

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 exterme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

Figure 3. Benin: Driver of Debt Dynamics – Baseline Scenario



Public debt



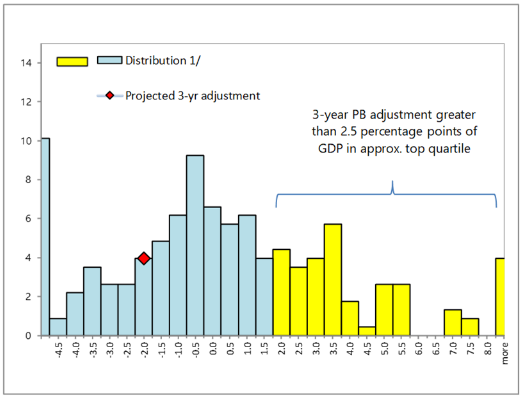
Sources: Country authorities; and staff estimates and projections.

1/ Difference between anticipated and actual contributions on debt ratios.

2/ Distribution across LICs for which LIC DSAs were produced.

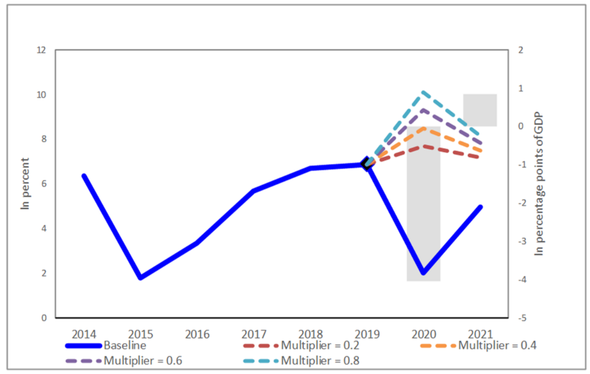
Figure 4. Benin: Realism Tools

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



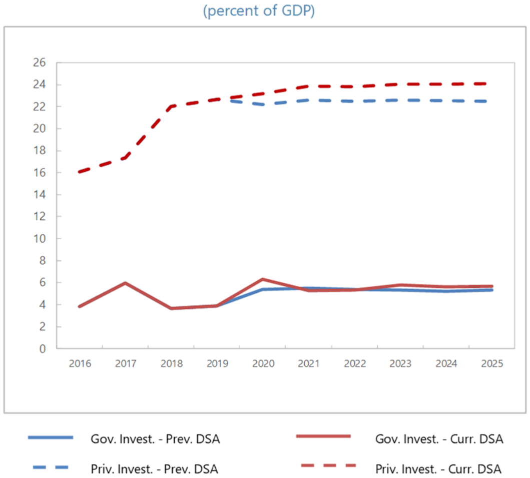
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

Fiscal Adjustment and Possible Growth Paths 1/

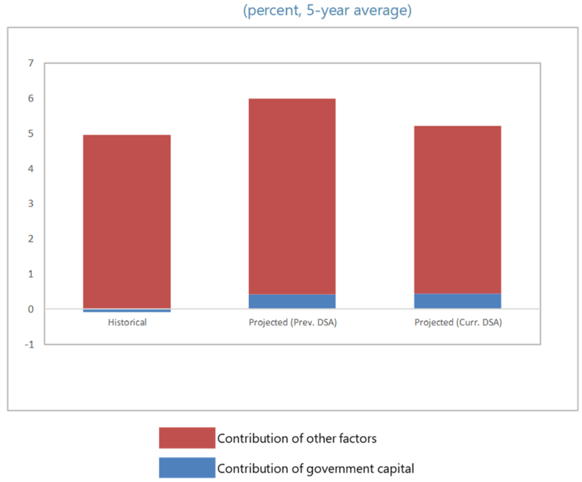


1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).

Public and Private Investment Rates
(percent of GDP)

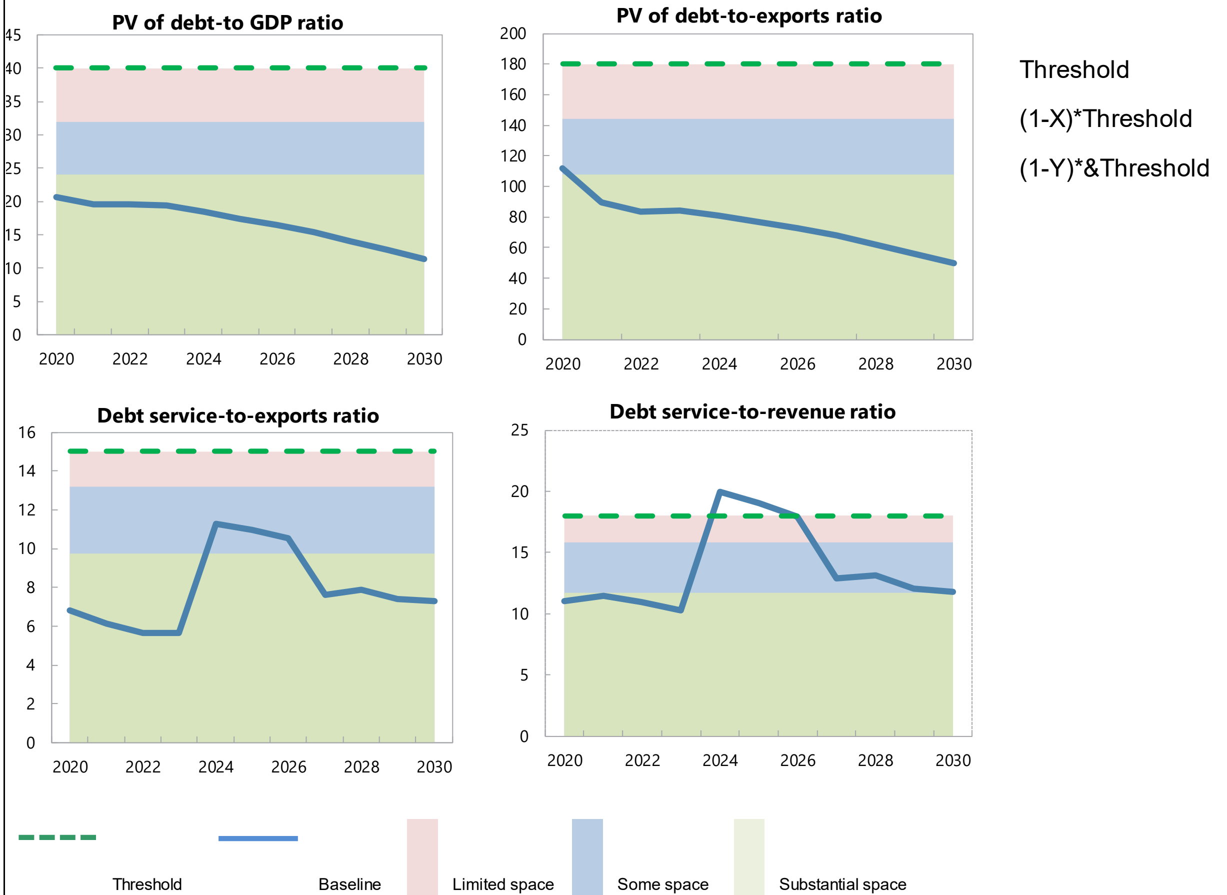


Contribution to Real GDP growth
(percent, 5-year average)



Sources: Country authorities; and staff estimates and projections.
Note: the nominal private investment-to-GDP rate increase (relative to the previous DSA) is mainly due to a change in methodology for the projection of the private investment deflator.

Figure 5. Benin: Qualification of the Moderate Category, 2020–30 1/



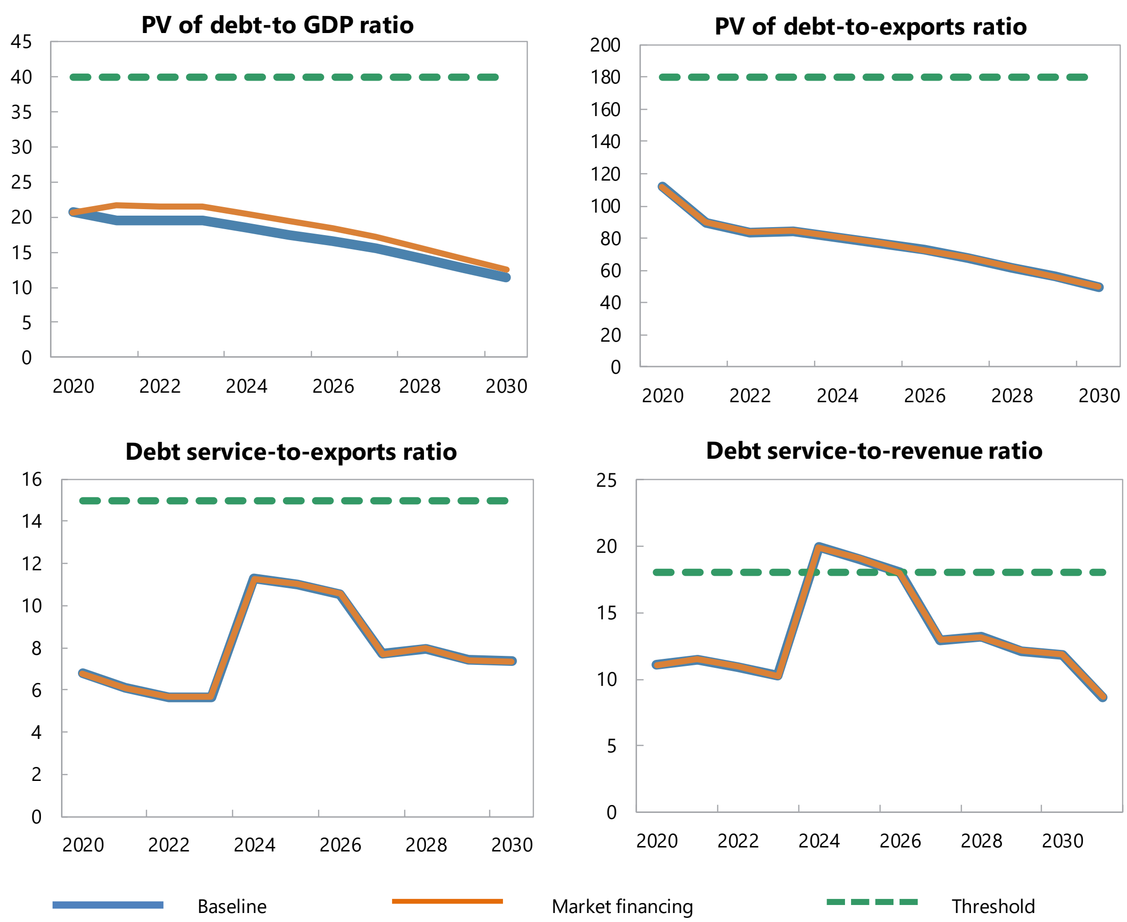
Sources: Country authorities; and staff estimates and projections.

1/ For the PV debt/GDP and PV debt/exports thresholds, x is 20 percent and y is 40 percent. For debt service/Exports and debt service/revenue thresholds, x is 12 percent and y is 35 percent.

Figure 6. Benin: Market-Financing Risk Indicators

	GFN 1/	EMBI 2/
Benchmarks	14	570
Values	11	438
Breach of benchmark	No	No
Potential heightened liquidity needs	Low	

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

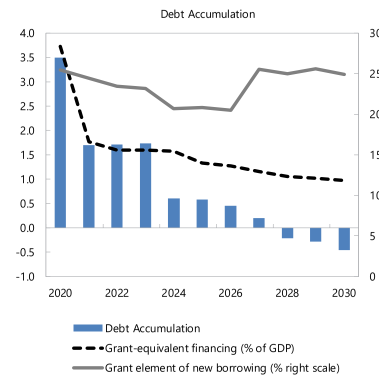


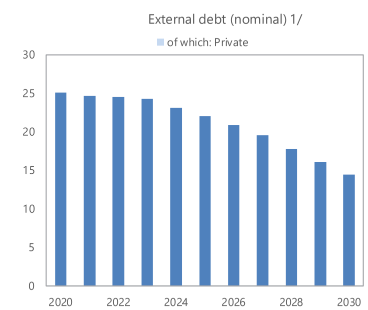
Sources: Country authorities; and staff estimates and projections.

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

	Actual			Projections								Average 8/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
External debt (nominal) 1/	16.1	19.4	24.0	25.1	24.7	24.5	24.3	23.1	22.0	14.4	6.1	15.4	21.1
of which: public and publicly guaranteed (PPG)	16.1	19.4	24.0	25.1	24.7	24.5	24.3	23.1	22.0	14.4	6.1	15.4	21.1
Change in external debt	-0.3	3.3	4.6	1.1	-0.4	-0.2	-0.2	-1.2	-1.1	-1.7	-0.5		
Identified net debt-creating flows	4.4	4.1	4.2	3.9	3.8	3.8	3.5	3.5	3.5	3.9	4.5	6.0	3.7
Non-interest current account deficit	3.9	4.2	2.6	3.2	3.4	3.6	3.3	3.3	3.3	3.5	3.7	4.6	3.4
Deficit in balance of goods and services	0.1	0.4	0.4	2.8	1.0	-0.8	-0.5	-0.3	-0.2	-0.2	-0.2	0.7	0.1
Exports	26.1	27.0	24.3	18.5	21.7	23.3	23.0	22.9	22.8	22.8	22.8		
Imports	26.2	27.4	24.7	21.2	22.7	22.5	22.5	22.5	22.6	22.6	22.6		
Net current transfers (negative = inflow)	-1.6	-1.6	-1.3	-1.8	-1.2	-1.3	-1.3	-1.3	-1.4	-1.4	-1.4	-2.3	-1.4
of which: official	-0.6	-0.7	-0.4	-0.8	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1		
Other current account flows (negative = net inflow)	5.5	5.4	3.5	2.3	3.7	5.6	5.1	5.0	4.8	5.0	5.2	6.3	4.6
Net FDI (negative = inflow)	1.3	1.3	1.3	0.7	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.0
Endogenous debt dynamics 2/	-0.9	-1.4	0.3	0.0	-0.6	-0.9	-1.0	-0.9	-0.9	-0.6	-0.2		
Contribution from nominal interest rate	0.2	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.1		
Contribution from real GDP growth	-0.9	-1.0	-1.3	-0.4	-1.1	-1.4	-1.5	-1.5	-1.4	-0.9	-0.3		
Contribution from price and exchange rate changes	-0.3	-0.8	1.1	...	...	...	...	...	...	...	...		
Residual 3/	-4.6	-0.8	0.5	-2.8	-4.2	-4.0	-3.7	-4.7	-4.6	-5.6	-5.0	-4.7	-4.6
of which: exceptional financing	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Sustainability indicators													
PV of PPG external debt-to-GDP ratio	...	...	18.6	20.7	19.5	19.5	19.4	18.4	17.5	11.4	4.9		
PV of PPG external debt-to-exports ratio	...	...	76.4	112.0	89.8	83.5	84.3	80.6	76.9	49.9	21.6		
PPG debt service-to-exports ratio	4.1	3.5	5.0	6.8	6.1	5.7	5.7	11.3	11.0	7.4	2.8		
PPG debt service-to-revenue ratio	8.3	7.4	9.4	11.1	11.5	10.9	10.3	19.9	19.1	11.8	4.2		
Gross external financing need (Billion of U.S. dollars)	0.8	0.9	0.7	0.8	1.0	1.1	1.2	1.6	1.7	2.3	4.3		
Key macroeconomic assumptions													
Real GDP growth (in percent)	5.7	6.7	6.9	2.0	5.0	6.0	6.5	6.5	6.5	6.2	5.5	4.8	5.8
GDP deflator in US dollar terms (change in percent)	1.7	5.2	-5.5	4.6	9.1	2.8	2.4	2.1	2.0	1.9	1.9	-0.5	3.0
Effective interest rate (percent) 4/	1.6	2.5	2.3	2.2	2.3	2.2	2.3	2.3	2.3	2.1	1.9	1.6	2.2
Growth of exports of G&S (US dollar terms, in percent)	3.9	16.2	-9.2	-18.9	34.9	16.9	7.8	7.9	8.1	8.2	7.5	10.0	9.0
Growth of imports of G&S (US dollar terms, in percent)	12.8	17.4	-8.8	-8.4	22.5	8.1	9.1	8.8	9.0	8.2	7.5	8.2	8.3
Grant element of new public sector borrowing (in percent)	...	...	...	25.5	24.4	23.5	23.2	20.7	20.9	24.9	21.2	...	23.6
Government revenues (excluding grants, in percent of GDP)	12.8	13.0	12.9	11.3	11.6	12.1	12.7	12.9	13.1	14.1	14.9	12.4	12.9
Aid flows (in Billion of US dollars) 5/	0.1	0.1	0.2	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.6		
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	3.7	1.8	1.6	1.6	1.6	1.3	1.0	0.9	...	1.6
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	50.4	48.1	44.5	44.4	41.2	37.9	59.7	69.6	...	47.8
Nominal GDP (Billion of US dollars)	13	14	14	15	18	19	21	23	25	37	79		
Nominal dollar GDP growth	7.4	12.3	0.9	6.7	14.5	9.0	9.1	8.8	8.6	8.2	7.5	4.3	9.0
Memorandum items:													
PV of external debt 7/	...	...	18.6	20.7	19.5	19.5	19.4	18.4	17.5	11.4	4.9		
In percent of exports	...	...	76.4	112.0	89.8	83.5	84.3	80.6	76.9	49.9	21.6		
Total external debt service-to-exports ratio	4.1	3.5	5.0	6.8	6.1	5.7	5.7	11.3	11.0	7.4	2.8		
PV of PPG external debt (in Billion of US dollars)			2.7	3.2	3.4	3.7	4.1	4.2	4.3	4.2	3.9		
(PVt-PVt-1)/GDPt-1 (in percent)				3.5	1.7	1.7	1.7	0.6	0.6	-0.5	0.0		
Non-interest current account deficit that stabilizes debt ratio	4.2	0.9	-2.0	2.1	3.8	3.7	3.5	4.5	4.4	5.2	4.2		

Definition of external/domestic debt	Currency-based
Is there a material difference between the two criteria?	Yes





Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

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

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

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.

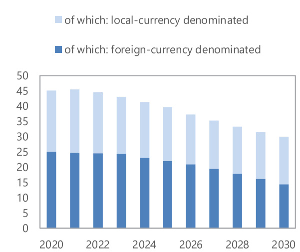
8/ Historical averages are generally derived over the past 10 years, subject to data availability, whereas projections averages are over the first year of projection and the next 10 years.

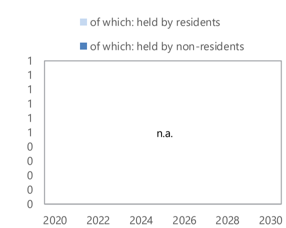
Table 2. Benin: Public Sector Debt Sustainability Framework, Baseline Scenario, 2017-40
(in percent of GDP, unless otherwise indicated)

	Actual			Projections								Average 6/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2040	Historical	Projections
Public sector debt 1/	39.6	41.1	41.2	45.0	45.4	44.5	43.0	41.3	39.6	29.9	22.0	29.2	38.7
of which: external debt	16.1	19.4	24.0	25.1	24.7	24.5	24.3	23.1	22.0	14.4	6.1	15.4	21.1
Change in public sector debt	3.7	1.5	0.1	3.7	0.4	-0.9	-1.5	-1.8	-1.7	-1.5	-0.5		
Identified debt-creating flows	0.7	1.0	-1.4	4.9	1.1	-0.5	-1.2	-1.6	-1.5	-2.2	-0.8	1.0	-1.1
Primary deficit	2.8	1.3	-1.1	3.0	2.1	1.0	0.5	0.1	0.2	-0.2	0.0	1.5	0.5
Revenue and grants	13.6	13.6	14.1	13.8	12.7	13.1	13.7	13.9	13.9	14.9	15.7	13.3	14.0
of which: grants	0.8	0.6	1.2	2.5	1.2	1.0	1.0	1.0	0.8	0.8	0.8		
Primary (noninterest) expenditure	16.3	14.9	13.0	16.8	14.9	14.1	14.2	14.0	14.1	14.7	15.7	14.7	14.5
Automatic debt dynamics	-2.1	-0.4	-0.4	0.0	-1.1	-1.5	-1.8	-1.7	-1.7	-2.1	-0.8		
Contribution from interest rate/growth differential	-0.6	-1.1	-1.2	0.0	-1.1	-1.5	-1.8	-1.7	-1.7	-2.1	-0.8		
of which: contribution from average real interest rate	1.3	1.3	1.5	0.8	1.1	1.0	1.0	0.9	0.9	-0.2	0.4		
of which: contribution from real GDP growth	-1.9	-2.5	-2.6	-0.8	-2.1	-2.6	-2.7	-2.6	-2.5	-1.8	-1.2		
Contribution from real exchange rate depreciation	-1.4	0.8	0.8	...	...	...	...	...	...	...	...		
Other identified debt-creating flows	0.0	0.1	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
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	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Other debt creating or reducing flow (please specify)	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Residual	3.0	0.5	1.6	-1.2	-0.6	-0.3	-0.2	-0.2	-0.2	0.7	0.3	1.2	0.1
Sustainability indicators													
PV of public debt-to-GDP ratio 2/	...	...	36.0	39.5	40.1	39.5	38.2	36.6	35.1	26.8	20.8		
PV of public debt-to-revenue and grants ratio	...	...	255.7	285.9	315.1	302.1	278.5	263.0	252.7	180.1	132.6		
Debt service-to-revenue and grants ratio 3/	40.2	67.2	45.8	45.2	62.2	65.1	61.5	66.4	63.2	46.6	36.6		
Gross financing need 4/	8.2	10.5	5.4	11.2	10.0	9.5	9.0	9.4	9.0	6.8	5.7		
Key macroeconomic and fiscal assumptions													
Real GDP growth (in percent)	5.7	6.7	6.9	2.0	5.0	6.0	6.5	6.5	6.5	6.2	5.5	4.8	5.8
Average nominal interest rate on external debt (in percent)	1.7	2.3	2.4	2.2	2.2	2.2	2.3	2.3	2.3	2.1	1.9	1.7	2.2
Average real interest rate on domestic debt (in percent)	6.8	5.6	6.5	3.4	4.7	4.4	4.3	4.4	4.4	4.5	4.7	2.4	4.4
Real exchange rate depreciation (in percent, + indicates depreciation)	-9.3	5.1	4.3	...	...	...	...	...	...	...	...	2.9	...
Inflation rate (GDP deflator, in percent)	-0.4	0.6	-0.3	2.5	1.4	1.8	1.9	1.9	1.9	1.9	1.9	1.5	1.9
Growth of real primary spending (deflated by GDP deflator, in percent)	18.9	-2.9	-6.6	31.8	-7.0	0.1	8.0	5.0	6.8	8.6	5.5	2.8	7.4
Primary deficit that stabilizes the debt-to-GDP ratio 5/	-0.9	-0.2	-1.2	-0.7	1.7	1.9	2.0	1.9	1.9	1.3	0.5	-0.8	1.5
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?	**Yes**

Public sector debt 1/





Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The central government, central bank, government-guaranteed 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 stabilizes 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.

Table 3. Benin: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2020–30

(Percent)

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of debt-to GDP ratio											
Baseline	21	20	19	19	18	17	17	15	14	13	11
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	21	23	25	27	28	29	30	31	31	31	31
B. Bound Tests											
B1. Real GDP growth	21	20	21	21	20	19	18	17	15	14	12
B2. Primary balance	21	20	21	21	20	19	18	17	16	14	13
B3. Exports	21	25	32	32	30	29	27	25	22	20	18
B4. Other flows 3/	21	21	23	23	22	21	19	18	16	15	13
B5. Depreciation	21	24	22	22	21	20	19	17	16	14	13
B6. Combination of B1-B5	21	27	27	27	26	24	23	21	19	17	15
C. Tailored Tests											
C1. Combined contingent liabilities	21	21	21	22	21	20	19	18	17	16	15
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	21	24	28	28	27	26	25	23	21	19	16
C4. Market Financing	21	20	19	19	18	17	17	15	14	13	11
Threshold	40	40	40	40	40	40	40	40	40	40	40
PV of debt-to-exports ratio											
Baseline	112	90	84	84	81	77	73	68	62	56	50
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	112	104	106	117	123	129	133	136	137	137	136
B. Bound Tests											
B1. Real GDP growth	112	90	84	84	81	77	73	68	62	56	50
B2. Primary balance	112	92	88	89	86	83	79	74	68	62	56
B3. Exports	112	158	**233**	**231**	**222**	**212**	**200**	**184**	166	149	132
B4. Other flows 3/	112	98	98	99	95	90	85	79	72	65	58
B5. Depreciation	112	90	76	77	74	70	66	62	57	51	46
B6. Combination of B1-B5	112	149	104	155	148	142	133	123	111	100	89
C. Tailored Tests											
C1. Combined contingent liabilities	112	97	91	93	91	89	85	81	75	70	64
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	112	145	148	144	134	124	112	104	94	85	75
C4. Market Financing	112	90	84	84	81	77	73	68	62	56	50
Threshold	180	180	180	180	180	180	180	180	180	180	180
Debt service-to-exports ratio											
Baseline	7	6	6	6	11	11	11	8	8	7	7
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	7	7	7	7	15	**15**	**16**	13	14	14	**15**
B. Bound Tests											
B1. Real GDP growth	7	6	6	6	11	11	11	8	8	7	7
B2. Primary balance	7	6	6	6	12	11	11	8	8	8	8
B3. Exports	7	9	11	12	**22**	**21**	**22**	**21**	**20**	**19**	**19**
B4. Other flows 3/	7	6	6	6	12	11	11	9	9	8	8
B5. Depreciation	7	6	6	5	11	11	10	7	7	7	7
B6. Combination of B1-B5	7	8	9	9	**18**	**17**	**18**	14	14	13	13
C. Tailored Tests											
C1. Combined contingent liabilities	7	6	6	6	12	11	11	8	8	8	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	7	8	8	8	15	14	14	12	12	11	11
C4. Market Financing	7	6	6	6	11	11	11	8	8	7	7
Threshold	15	15	15	15	15	15	15	15	15	15	15
Debt service-to-revenue ratio											
Baseline	11	11	11	10	**20**	**19**	18	13	13	12	12
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	11	13	13	13	**26**	**26**	**27**	**21**	**23**	**23**	**24**
B. Bound Tests											
B1. Real GDP growth	11	12	12	11	**22**	**21**	**20**	14	14	13	13
B2. Primary balance	11	11	11	11	**20**	**19**	**19**	14	14	13	13
B3. Exports	11	12	12	13	**23**	**22**	**23**	**21**	**20**	**18**	18
B4. Other flows 3/	11	11	11	11	**21**	**20**	**19**	15	15	14	13
B5. Depreciation	11	14	14	12	**24**	**23**	**22**	15	15	14	14
B6. Combination of B1-B5	11	12	14	13	**24**	**22**	**24**	18	18	16	16
C. Tailored Tests											
C1. Combined contingent liabilities	11	11	11	11	**20**	**20**	**19**	13	14	13	12
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	11	14	15	15	**26**	**24**	**24**	**19**	**19**	17	17
C4. Market Financing	11	11	11	10	**20**	**19**	18	13	13	12	12
Threshold	18	18	18	18	18	18	18	18	18	18	18

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the threshold.
2/ 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.
3/ Includes official and private transfers and FDI.

Table 4. Benin: Sensitivity Analysis for Key Indicators of Public Debt, 2020–30
(Percent)

	Projections 1/										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PV of Debt-to-GDP Ratio											
Baseline	39	40	39	38	37	35	33	31	29	28	27
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	39	40	40	40	40	41	40	40	41	41	41
B. Bound Tests											
B1. Real GDP growth	39	42	44	44	43	43	41	40	40	39	38
B2. Primary balance	39	42	43	42	40	38	36	34	32	31	30
B3. Exports	39	45	52	50	48	46	43	40	38	35	33
B4. Other flows 3/	39	42	43	42	40	38	36	34	32	30	29
B5. Depreciation	39	44	42	40	37	34	31	28	26	24	22
B6. Combination of B1-B5	39	40	41	40	38	37	34	33	31	29	28
C. Tailored Tests											
C1. Combined contingent liabilities	39	48	47	45	43	42	39	37	35	34	32
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	39	43	45	47	48	48	48	46	45	44	44
C4. Market Financing	39	40	39	38	37	35	33	31	29	28	27
TOTAL public debt benchmark	55	55	55	55	55	55	55	55	55	55	55
PV of Debt-to-Revenue Ratio											
Baseline	286	315	302	278	263	253	234	218	204	191	180
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	286	311	305	292	289	290	285	281	278	276	274
B. Bound Tests											
B1. Real GDP growth	286	328	338	320	310	306	293	281	272	263	257
B2. Primary balance	286	329	330	305	288	277	257	239	224	210	199
B3. Exports	286	354	397	365	345	331	306	282	259	239	222
B4. Other flows 3/	286	329	329	303	286	275	254	236	219	204	192
B5. Depreciation	286	348	323	290	265	246	221	199	180	163	148
B6. Combination of B1-B5	286	312	313	289	274	264	244	228	213	200	188
C. Tailored Tests											
C1. Combined contingent liabilities	286	374	357	329	311	299	278	260	243	228	216
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	286	390	399	394	381	372	347	323	311	301	293
C4. Market Financing	286	315	302	278	263	253	234	218	204	191	180
Debt Service-to-Revenue Ratio											
Baseline	45	62	65	61	66	63	61	55	51	47	47
A. Alternative Scenarios											
A1. Key variables at their historical averages in 2020-2030 2/	45	62	66	64	70	68	68	63	60	58	60
B. Bound Tests											
B1. Real GDP growth	45	64	71	69	76	75	75	70	67	65	65
B2. Primary balance	45	62	68	68	73	71	68	61	56	52	51
B3. Exports	45	62	66	64	69	65	66	62	57	53	52
B4. Other flows 3/	45	62	65	62	67	64	63	57	53	49	48
B5. Depreciation	45	60	64	60	68	65	63	55	51	47	47
B6. Combination of B1-B5	45	60	66	64	69	66	65	58	53	49	48
C. Tailored Tests											
C1. Combined contingent liabilities	45	62	76	75	81	80	72	65	60	56	54
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	45	74	78	75	83	82	83	79	75	73	73
C4. Market Financing	45	62	65	61	66	63	61	55	51	47	47

Sources: Country authorities; and staff estimates and projections.
1/ A bold value indicates a breach of the benchmark.
2/ Variables include real GDP growth, GDP deflator and primary deficit in percent of GDP.
3/ Includes official and private transfers and FDI.