



# NICARAGUA

## STAFF REPORT FOR THE 2019 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

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

*Under the updated LIC debt sustainability assessment framework, Nicaragua's risk of external debt distress is assessed as moderate with limited space to absorb shocks. Over the 10-year projection horizon, all external debt burden indicators under the baseline scenario remain below the threshold, but the present value (PV) of public and publicly guaranteed debt (PPG) external debt-to-GDP ratio breaches the threshold under three standardized stress scenarios: an export contraction shock, a depreciation shock and a combination of external shocks; and the realization of a contingent liability tailored shock related to the external cooperation with Venezuela. The overall risk of public debt distress is also assessed as moderate. The PV of public debt-to-GDP ratio is projected to be below the threshold under the baseline scenario, but it is projected to surpass the threshold under most standardized stress scenarios, notably lower GDP growth, and realization of contingent liability shocks. Therefore, strengthening both external and fiscal buffers is highly desirable.*

## PUBLIC DEBT COVERAGE

**1. Nicaragua's debt statistics are reported at the consolidated public sector (CPS) level.** The public debt definition used in this debt sustainability analysis (DSA) covers the consolidated debt of the budgetary central government, decentralized entities, the state-owned enterprises guaranteed debt, and the Central Bank of Nicaragua (CBN) (Text Table 1).<sup>1,2</sup> Consistent with previous DSAs in 2013, 2015 and 2017, this DSA assumes the delivery of expected Heavily Indebted Poor Countries (HIPC) debt relief by Non-Paris club creditors that have yet to deliver it (see Paragraph 5).

**2. The DSA is conducted on a residency basis.** Pursuant to the LIC DSF Guidance Note, foreign holdings of local currency debt issued domestically are now treated as external debt because servicing and repaying this debt requires net resource transfers abroad. In the case of Nicaragua, there are no foreign holdings of local currency debt issued domestically as in the 2017 DSA.

**Text Table 1. Nicaragua: Public Debt Coverage Under the Baseline Scenario**

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	X
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	

1 The country's coverage of public debt	The central government plus social security, 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	2.0	
4 PPP	35 percent of PPP stock	1.6	
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)		8.6	

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%.

Sources: National authorities and IMF staff calculations.

## BACKGROUND ON DEBT

**3. The deterioration in the economic outlook, compared to the 2017 DSA (Text Table 2), resulted in an increase in the debt trajectory.** In particular, the stock of public debt increased by 3.6 percentage points in 2018, to 47.8 percent of GDP (Text Table 2). Social unrest in 2018 caused a sharp contraction in real GDP that widened the fiscal primary deficit and resulted in higher debt-to-GDP ratio.

<sup>1</sup> The CBN holds non-Paris Club official external debt which amounts to around US\$350 million as of December 2018. There is no non-guaranteed state-owned-enterprises' (SOE) debt recorded in Nicaragua.

<sup>2</sup> For 2016 it includes partial data on the domestic debt of SOEs, the Municipality of Managua, and other municipalities for which debt data is available. Estimates for 2017 onwards are based on the 2016 amortization schedule, and an assumption of new domestic financing by domestic suppliers. Debt data on extra budgetary funds, non-guaranteed state-owned enterprises, and debt of all state and local governments is not available, therefore these components of the contingent liabilities are at the LIC-DSF default values. The authorities intend to strengthen their capabilities to widen the coverage of debt reporting and monitoring. In the tailored shock scenarios, contingent liability shock is set as 8.6 percent of GDP in 2020.

About 80 percent of public debt is owed to external creditors (US\$4.9 billion), of which 85 percent is owed by the Non-Financial Public Sector (NFPS), and 15 percent by the CBN. Domestic PPG debt amounts to 9.7 percent of GDP, of which 75 percent is owed by the NFPS.

**4. External PPG debt reached 38.1 percent of GDP in 2018.** All PPG external debt is placed in medium and long-term instruments. About 70 percent of PPG external debt is held by multilaterals, with the largest being the Inter-American Development Bank (IaDB), followed by the Central American Bank for Economic Integration (CABEI). Nicaragua is eligible for blended loans from both the IaDB and CABEI. In the IaDB's case, 25 percent of new funding is on a highly concessional basis and 75 percent carries a low but market-linked adjustable rate.

**5. There is a large stock of debt to non-Paris Club creditors which is still pending debt relief under the HIPC Initiative—the Decision Point and Completion Point were reached in December 2000 and January 2004, respectively.** In this report the debt stock has already been adjusted downwards to incorporate total expected debt relief amounts to about US\$740 million as of December 2018. This debt corresponds to debt of the CBN. All five non-Paris Club creditors have held negotiations with the authorities on the terms of possible debt relief agreements. The negotiation process has not been completed due to delays in the debt-reconciliation process.

**Text Table 2. Nicaragua: Public and Private Debt**

	Current DSA			DSA 2017		
	2016	2017	2018	2016	2017	2018
	(in percent of GDP)			(in percent of GDP)		
<b>Public sector debt</b>	<b>41.7</b>	<b>44.2</b>	<b>47.8</b>	<b>41.9</b>	<b>41.5</b>	<b>40.0</b>
<b>Public sector debt external debt (incl. guarantees)</b>	<b>32.2</b>	<b>34.8</b>	<b>38.1</b>	<b>32.4</b>	<b>33.5</b>	<b>34.2</b>
Medium and long-term debt	32.2	34.7	38.1	32.4	33.5	34.2
Short-term debt	0.0	0.0	0.0	0.0	0.0	0.0
<b>Public sector domestic debt</b>	<b>9.5</b>	<b>9.4</b>	<b>9.7</b>	<b>9.5</b>	<b>8.0</b>	<b>5.8</b>
Medium and long-term debt	7.5	8.1	8.1	7.8	7.3	5.6
Short-term debt	1.9	1.4	1.6	1.7	0.7	0.2
<b>Private sector debt</b>	<b>45.2</b>	<b>43.4</b>	<b>43.9</b>	<b>44.8</b>	<b>42.6</b>	<b>39.9</b>
	<b>Current DSA</b>					
	<b>2018</b>					
	<b>(in percent of PPG external debt)</b>					
<b>Public sector debt external debt (incl. guarantees)</b>	<b>100.0</b>					
<b>Multilateral</b>	<b>69.6</b>					
IaDB	33.9					
CABEI	17.1					
World Bank	10.5					
IMF	3.3					
Others	4.8					
<b>Bilateral</b>	<b>29.6</b>					
Central America	16.7					
Paris Club	3.2					
Others	9.7					
<b>Others</b>	<b>0.8</b>					

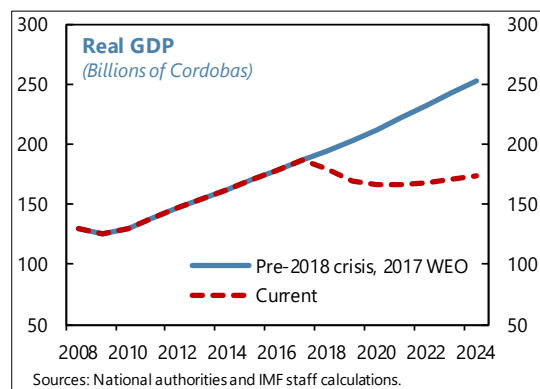
Sources: National authorities and IMF staff calculations.

**6. Public domestic debt stood at 9.7 percent of GDP in 2018.** On maturity terms, 83 percent of public domestic debt is in medium and long term, and 17 percent is in short term. On composition, the NFPS debt accounts for 75 percent, and the CBN debt accounts for 25 percent.

**7. Private external debt reached 43.9 percent of GDP in 2018.** Private external debt rose by about 8 percent of GDP between 2010 and 2013, when the flows from the oil-cooperation agreement with Venezuela—debt held by private company ALBANISA—were at their peak. Since 2013, it has been declining gradually to 43.4 percent of GDP in 2017, while it rebounded slightly to 43.9 percent of GDP in 2018 due to the sharp contraction in real GDP.

## MACROECONOMIC ASSUMPTIONS

**8. The economic outlook has deteriorated significantly, compared to the 2017 DSA (Text Table 3).** Real GDP contracted by -3.8 percent in 2018 and is projected to decline by -5.7 percent in 2019. Long term growth is estimated to have declined to 3 percent from a previous level of 4.5 percent (estimated in mid-2017).<sup>3</sup> During 2020-21, the sharp contraction in credit, limited external financing, weak FDI, and lower private portfolio flows will continue to depress investment, thus limiting recovery prospects. Subsequently, rising labor productivity and more credit availability is projected to increase exports, and private investment, fostering labor demand and private consumption, increasing real GDP growth gradually to 1.7 percent over the medium term and further to 3 percent over the long term. Tight external financing will continue to constrain public investment over 2020-24. Inflation—measured by the GDP deflator in US dollar term—is subdued to around -1.5 percent in 2018 and is assumed to remain between 0.5 and 1.4 percent over the medium term and recover to 2.3 percent over the long term. The baseline scenario assumes the current crawling peg exchange rate regime is maintained.



**Text Table 3. Nicaragua: Medium-Term Macroeconomic Framework**

	2017	2018 Prel.	2019	2020	2021 Proj.	2022	2023	2024
<b>Growth and prices</b>								
	(Percent)							
GDP growth	4.7	-3.8	-5.7	-1.2	0.0	0.8	1.4	1.7
Consumer price inflation (e.o.p.)	5.7	3.9	6.4	5.0	4.4	3.9	3.5	3.6
<b>Non-financial public sector</b>								
	(Percent of GDP)							
Revenue	29.2	27.6	30.6	30.0	30.3	30.4	30.4	30.4
Expenditure	31.4	31.7	32.7	32.5	33.4	33.6	33.7	33.5
Overall balance, after grants	-2.2	-4.1	-2.0	-2.6	-3.1	-3.2	-3.3	-3.1
Public sector debt	44.2	47.8	51.0	52.5	55.0	57.8	60.9	63.7
<b>Balance of payments</b>								
Current account (% of GDP)	-4.9	0.6	1.5	1.1	0.8	0.3	0.0	-0.5
Gross reserves (US\$million)	2,593	2,080	2,071	2,016	2,047	2,108	2,161	2,272
In months of non-maquila imports	5.3	4.8	4.9	4.8	4.7	4.8	4.7	4.7
NIR (US\$million)	1,802	1,146	1,321	1,377	1,450	1,539	1,620	1,722

Sources: National authorities and IMF staff calculations.

<sup>3</sup> The long-term growth projection is based on a growth accounting exercise, using a neoclassical production function with a labor share of 72 percent, assuming a growth rate of labor of 1.3 percent, capital of 1.8 percent and TFP growth of zero percent. The real growth of 3 percent also corresponds to the average observed rate over 2000-10.

**9. The external position is expected to strengthen gradually over the medium term.** The external financing is projected to remain below historical levels; however, the current account remains in surplus until 2023, and external financing is more than required to finance the small current account deficit in 2024.

- **The economic contraction resulted in a current account surplus in 2018 and 2019 (from a deficit of 4.9 percent of GDP in 2017).** This responds to a significant import compression, a sharp contraction in tourism receipts, and a steady inflow of remittances. Over the medium term, the current account is projected to deteriorate gradually to –0.5 percent of GDP due to recovery of non-maquila imports.
- **FDI inflows contracted to 2.2 percent of GDP in 2018 and are projected to stay low at 2.5 percent of GDP in 2019,** because of a deterioration in the business climate associated to heightened political uncertainty. Over the medium term FDI inflows are projected to increase slightly to 2.8 percent of GDP, much lower than in the recent past.
- **Gross external borrowing by the public sector declined to 1.9 percent of GDP in 2018 and is assumed to stay low at 2.4 percent of GDP in 2019.** Over the medium term gross external borrowing is assumed to be subdued at 2.0–2.3 percent of GDP mostly because of international sanctions <sup>4</sup>.

**10. On the fiscal side:**

- **The fiscal primary deficit widened in 2018, but the implementation of a fiscal policy reform package led to a marked improvement in 2019.** Facing declining revenues, the government adopted a fiscal package of tax and pension reforms in March 2019 (Text Table 4) which, despite some erosion in the tax base and declining economic activity, are projected to yield about 4.2 percentage points of GDP. Net external financing of the NFPS declined by 1.3 percentage points of GDP in 2018 (to 1.9 percent of GDP) but is projected to improve to 2.4 percent of GDP in 2019 (driven by an increase in financing from CABEL).
- **Staff projects a gradual deterioration of the fiscal position over 2020-24.** An increase in the primary deficit will be driven by:
  - A projected decline in tax revenues in 2020 responding to the economic contraction projected that year, coupled by weaker corporate profits. A modest increase in revenue collection is projected for 2021-24 as economic activity gradually improves.
  - Higher expenditures to finance persistent deficits of the Nicaraguan Institute of Social Security (INSS), which is assumed to receive less contributions because of modest growth in formal employment.
  - Consistent with the authorities' commitment to maintain fiscal prudence in line with available financing, which is much lower than in the 2017 DSA, the baseline scenario

<sup>4</sup> In December 2018, the U.S. government enacted the Nicaragua Human Rights and Anticorruption Act, which severely restricts external funding to Nicaragua. In June 2019, Canada followed suit imposing sanctions on targeted Nicaraguan nationals. In October, the European Council established a framework enabling the EU to impose targeted sanctions.

implies a reduction in expenditures over 2025-27 (and maintained thereafter). This adjustment, equivalent to about 2 percentage points cumulative over three years, is assumed to take the form of reduced current expenditures and its impact is already incorporated as one of the determinants of the protracted medium-term growth recovery.

**Text Table 4. Nicaragua: Selected Fiscal Policy Decisions Since April 2018**

Measures	Date	Description	Proj. Yield (% of GDP)
<b>2018 Budget Revision</b>	Aug-2018	Decrease expenditures (ow/70% capital)	1.4
<b>Tax Policy</b>	Mar-2019		2.7
Increased min. corporate income tax		From 1% to either 2% or 3% of gross sales	1.5
Eliminated VAT exemptions		On selected consumption goods	0.4
Increased excises		- Including on alcoholic drinks & tobacco	0.8
Eliminated import exemptions (DAI)	Jul-2019	On 16 consumption products that were exempt from import tariffs since 2008	...
<b>Pension Reform</b>	Mar-2019	Total	1.5
Increase pension contributions		-Employers by 2.5 ppts. (small firms) and by 3.5 ppts. (other firms)	...
		-Employees by 0.75 ppts, by 4 ppts self-employed	...
Increased gov. health contrib.		By 1.5 ppts.	...
Reduced replacement rate		To 70% (from 80% previously)	...
Decrease min. pension		To 75% of min. wage	...
<b>(not implemented)</b>			...
Increase contrib. required for reduced pensions <b>(not implemented)</b>		From 250 to 500 weeks	...
<b>Public Wage Freeze</b>	Aug-2019	Frozen until Feb-2020	0.3
<b>Indexation of Pensions</b>	Oct-2019	Reduction from 5% to 3%	...

Sources: National authorities and IMF staff calculations.

**Text Table 5. Nicaragua: Key Macroeconomic Assumptions Underlying the DSA**

	2020		2021-24 Avg		2025-35 Avg	
	Previous DSA	Current DSA	Previous DSA	Current DSA	Previous DSA	Current DSA
Real GDP (annual percentage change)	4.5	-1.2	4.5	1.0	4.5	2.8
Consumer prices (period average)	7.3	5.0	7.2	3.8	7.1	3.6
	(in percent of GDP)					
Total revenue and grants	28.5	30.3	28.2	30.7	28.2	30.5
Of which: Revenue	27.8	29.7	27.6	29.9	27.5	29.7
Total expenditure	30.3	33.1	30.9	34.2	32.3	32.1
Of which: Capital expenditure	7.2	6.2	7.2	6.3	7.2	5.9
Overall balance	-1.7	-2.7	-2.7	-3.5	-4.1	-1.5
Current account balance	-8.6	1.1	-8.8	0.1	-9.0	-1.9
Exports of goods and services	36.6	43.4	36.2	45.0	36.1	46.1
Imports of goods and services (excl. maquila)	47.4	41.3	47.0	40.8	47.0	43.6

Sources: National authorities; and IMF staff calculations.

Sources: National authorities and IMF staff calculations.

**11. On financing mix, the new external financing share is projected to account for about 51 percent over the medium term but decline over the long term (to about 36 percent).** Of external financing, concessional financing is projected to account for about 14 percent of total financing over

medium term and 11 percent over long term. Under current conditions, international sanctions were applied to Nicaragua in 2018, limiting the amount of new multilateral external financing available, but there is a possibility the authorities could access non-concessional financing sources.

**12. The baseline assumptions are credible.** Realism tools suggest significant deviations from recent experience of LICs and Nicaragua's historical experience, reflecting the impact of the recent social unrest on the economy.

- **Drivers of debt dynamics (Figure 3).** Changes between the sum of debt dynamics contributions of 2014–18 against 2019–23, reflect the impact of expected negative GDP growth. In the recent past, strong GDP growth helped to lower external and public debt-to-GDP ratios, but these ratios will increase with the contraction in GDP projected for 2019–23. Moreover, a projected improvement in the current account and a contraction in FDI for 2019–23 will contribute to a lower external debt-to-GDP ratio. Unexpected changes to external PPG debt have been moderate (although with significant unexplained residuals), while unexpected changes to public debt have been high, particularly due to higher than projected primary deficits and lower GDP growth. Projections for external PPG debt dynamics are upward-sloping because the impact of both, GDP growth contraction and rising nominal interest rates, dominate improvements in the current account.
- **Realism of projected fiscal adjustment (Figure 4).** The baseline projected fiscal adjustment of 0.9 percent of GDP over three years is below the top quartile for LICs. However, the current baseline reflects important measures that authorities adopted in 2019, including tax and pension reforms in last February. The baseline fiscal projections reflect the staff's estimates of a 4.2 percentage points of GDP yield from the tax and pension reforms. The projected impact of these reforms was somewhat offset in 2019 by the impact of the GDP contraction.
- **Consistency between fiscal adjustment and growth (Figure 4).** The projected growth path for 2019 deviates from the multiplier-based projections owing to the negative impact of a sharp decline in bank credit to the private sector. A faster economic recovery than suggested by the fiscal multiplier in 2020 reflects a return to positive growth in bank credit to the private sector, and an assumed stabilization of activity in most sectors of production albeit at a much-reduced level of activity.
- **Consistency between public investment and growth (Figure 4).** The tool shows a lower contribution of public investment to growth in the current DSA than that in the 2017 DSA owing to the expected adjustment in public investment from an average of 6.8 percent of GDP during 2015–18, to a projected 6.2 percent of GDP over 2019–24.

## COUNTRY CLASSIFICATION AND STRESS TESTS

**13. Nicaragua's debt-carrying capacity under the Composite Indicator (CI) rating of 2.94 is assessed as medium, unchanged from the 2017 DSA (Text Table 6).** CI rating is computed based on October 2019 IMF WEO and the World Bank's 2018 CPIA. The 2018 CPIA score of 3.5 —has been lowered

from the 2017 DSA—contributes a large portion of the CI score.<sup>5,6</sup> Accordingly, the relevant indicative threshold for the medium category are 40 percent for the PV of debt-to-GDP ratio, 180 percent for the PV of debt-to-exports ratio, 15 percent for the debt service-to-exports ratio, and 18 percent for the debt service-to-revenue ratio, respectively (Text Table 7). These thresholds are applicable to the public and publicly guaranteed external debt. The benchmark for the PV of total public debt under medium debt carrying capacity is 55 percent.

**Text Table 7. Nicaragua: Public and Publicly Guaranteed (PPG) External Debt Thresholds and Total Public Debt Benchmarks**

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

Sources: National authorities and IMF staff calculations.

- **As in 2017 DSA, a customized scenario explores the risk of the ALBANISA contingent liability over the short term.** The scenario assumes the absorption of the private debt to Venezuela by the end-2021, equivalent to an increase in public debt of 22.2 percentage points of GDP (US\$2.5 billion), which corresponds to the total projected ALBANISA's debt to Venezuela in 2021.<sup>7</sup> It is assumed that 50 percent of this is financed externally and 50 percent is financed domestically. PPG external debt is projected to increase by 10 percent in 2021. Other macro assumptions remain unchanged from the baseline scenario.

**Text Table 6. Nicaragua: Calculation of the Composite Indicator**

Components	2016	2017	2018	(A) 10-yr average	(B) Weights	(C) = (A)*(B) 10-yr average	(C) = (A)*(B) Contribution of components
CPIA	3.68	3.62	3.51	3.58	0.385	1.38	47%
Real growth rate (in percent)	4.56	4.68	-3.82	1.05	2.719	0.03	1%
Import coverage of reserves (in percent)	32.27	35.06	31.67	29.30	4.052	1.19	40%
Import coverage of reserves <sup>2</sup> (in percent)	10.41	12.29	10.03	8.58	-3.990	-0.34	-12%
Remittances (in percent)	9.51	10.05	11.44	10.80	2.022	0.22	7%
World economic growth (in percent)	3.39	3.81	3.60	3.50	13.520	0.47	16%
<b>CI Score</b>						2.94	100%

Sources: National authorities and IMF staff calculations.

<sup>5</sup> As in the previous DSF, we use the updated three-year moving average CPIA rating.

<sup>6</sup> Other components of the CI score are: real growth rate, import coverage of reserves, import coverage of reserves squared, remittances, and world economic growth (see specific values in Text Table 6).

<sup>7</sup> In the baseline scenario, the private debt to Venezuela is projected to be amortized by a cumulative 1.6 percent of GDP over the medium term, and the stock is projected to decrease gradually to 15½ percent of GDP in 2024.



## DEBT SUSTAINABILITY

### A. External Debt Sustainability Analysis

**14. The evolution of external debt in the baseline scenario is relatively benign.** PPG external debt is expected to increase gradually to 47 percent of GDP over the medium term and be stable over the long term to around 40.4 percent of GDP in 2039 (Table 1) (similar to the 2017 DSA). The present value of PPG external debt will rise from 27 percent to 34 percent of GDP over the 10-year projection term and remain well under the threshold of 40 percent (Table 3 and Figure 1). A similar path—a slight increase but still under the threshold—can be observed for other solvency (PV of external debt-to-exports from 67 percent) and liquidity indicators (debt service-to-exports and debt service-to-revenue from 5 percent and 7 percent, respectively) (Figure 1). These dynamics are driven by slow recovery in GDP growth over the medium term. At the same time, private external debt is projected to decline as the debt owed to Venezuela is paid down.

**15. Three of the standardized stress scenarios exhibit a continuous breach of the threshold for PV of external PPG debt-to-GDP ratio (Table 3 and Figure 1) as in the 2017 DSA.<sup>8</sup>** This includes the shock of one-time decline in either exports—baseline projections minus one standard deviation—or depreciation or a combination of external shocks in 2019. These three scenarios are relevant given the contraction in FDI, the continued decline in exports, and higher capital outflows.

**16. The ALBANISA contingent liability scenario also shows a minor breach of the threshold for external PPG debt-to-GDP ratio (Table 3 and Figure 1).** Under this scenario, the PV of external PPG debt-to-GDP ratio increased from 29 percent in 2020 to 38 percent in 2021, which would marginally breach the PV of external public debt threshold over the medium term.

### B. Public Sector Debt Sustainability Analysis

**17. In the baseline scenario, public debt is projected to increase to 59.2 percent of GDP by 2039 (Table 2).** External PPG debt is projected to be stable around 40.4 percent of GDP over the long run. Domestic public debt is projected to decline initially in 2019 as legacy debt is paid down, and then to rise again due to the issuance of new debt to cover pension and healthcare obligations of INSS. Domestic public debt is projected to increase by 19 percent of GDP over the long run. The increase in public debt responds to a decline in the primary balance and the increase in the average interest rate. Under the baseline scenario there is no breach of the PV of public debt benchmark of 55 percent of GDP while PV of public debt is gradually approaching to the benchmark. Other solvency and liquidity indicators (PV of debt-to-revenues and debt service-to-revenue) also show a gradual increase over the medium term (reaching 165 percent and 19 percent, respectively). The increase in debt service-to-revenue driven by an increase in public domestic and external interest payments would reduce fiscal space over the projection period. The increasing interest rate responds to shift to domestic debt issuance, which has a market-determined rate of interest, as well as a gradual decline to concessional resources.

<sup>8</sup> We apply tailored shock scenarios—contingent liability, natural disaster and commodity price shocks—to Nicaragua and find a breach under contingent liability and natural disaster shock scenarios (Table 3).

**18. The standardized shock scenarios demonstrate the sensitivity of public debt to shocks in real GDP growth (Table 4 and Figure 2).**<sup>9</sup> Threshold breaches occur under most standardized shock scenarios. Most notably the shock scenario with largest impact on debt-to-GDP ratios by 2029 is a contraction of GDP by 4.9 and 3.7 percent in 2020 and 2021, respectively (Table 4). The primary balance scenario also demonstrates that the public debt path is sensitive to possible deviations from the baseline assumptions.

**19. The ALBANISA contingent liability scenario described in the discussion of external debt sustainability is also applied to the public DSA.** An absorption of ALBANISA's debt to Venezuela would increase the public debt-to-GDP ratio from 52.8 percent in 2020 to 76.1 percent in 2021 and breach the PV public debt benchmark over the medium term.

## RISK RATING AND VULNERABILITIES

**20. Nicaragua remains at a moderate risk of external debt distress with limited space to absorb shocks (no judgement was applied).** Under the baseline scenario, all external debt burden indicators remain below the threshold over the 10-year projection horizon. However, under the stress scenario of export shocks, the PV of PPG external debt-to-GDP ratio threshold is breached continuously over the projection horizon. Similarly, under the ALBANISA contingent liability scenario, the PV of PPG external debt-to-GDP ratio threshold is breached marginally. These highlight the vulnerability of external PPG debt to external shocks and contingent liability risk of the private debt from Venezuela and call for the need to strengthen external buffers.

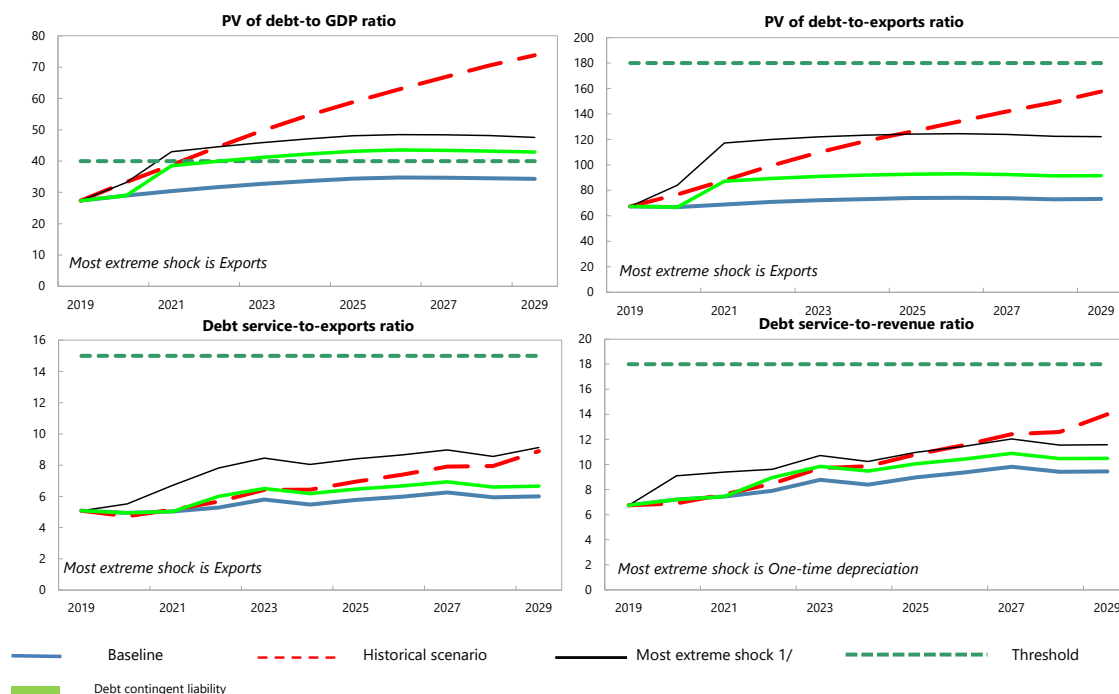
**21. Public debt in Nicaragua is also assessed to be at a moderate risk of debt distress.** Under the baseline, PV of public debt-to-GDP ratio is projected to remain below the threshold over the 10-year projection horizon. However, under the stress scenario of growth shocks in 2020–21—in addition to projected GDP contraction of 5.7 percent in 2019 in the baseline—the PV of public debt-to-GDP ratio is projected to be on an upward trajectory and above the threshold over the projection horizon. Similarly, under the ALBANISA contingent liability scenario, the PV of public debt-to-GDP ratio is projected to be above the threshold over the projection horizon.

## AUTHORITIES' VIEWS

**22. The authorities broadly agreed with the debt sustainability analysis and the assessment.** On external debt, the authorities also agreed that external debt is vulnerable to external shocks and contingent liability shocks. On public debt, the authorities project lower domestic debt accumulation over the long term, but concurred on the vulnerability of public debt to growth shocks and contingent liability shocks. The authorities are also of the view that strengthening both external and fiscal buffers is desirable over the long term.

<sup>9</sup> We apply tailored shock scenarios—contingent liability, natural disaster and commodity price shocks—to Nicaragua and find a breach under contingent liability, natural disaster and commodity price shock scenarios (Table 4).

**Figure 1. Nicaragua: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2019-29**



Customization of Default Settings		
	Size	Interactions
<b>Tailored Tests</b>		
Combined CLs	No	
Natural Disasters	No	No
Commodity Prices <sup>2/</sup>	No	No
Market Financing	n.a.	n.a.

Borrowing Assumptions for Stress Tests*		
	Default	User defined
<b>Shares of marginal debt</b>		
External PPG MLT debt	100%	
<b>Terms of marginal debt</b>		
Avg. nominal interest rate on new borrowing in USD	3.2%	3.2%
USD Discount rate	5.0%	5.0%
Avg. maturity (incl. grace period)	26	26
Avg. grace period	8	8

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.

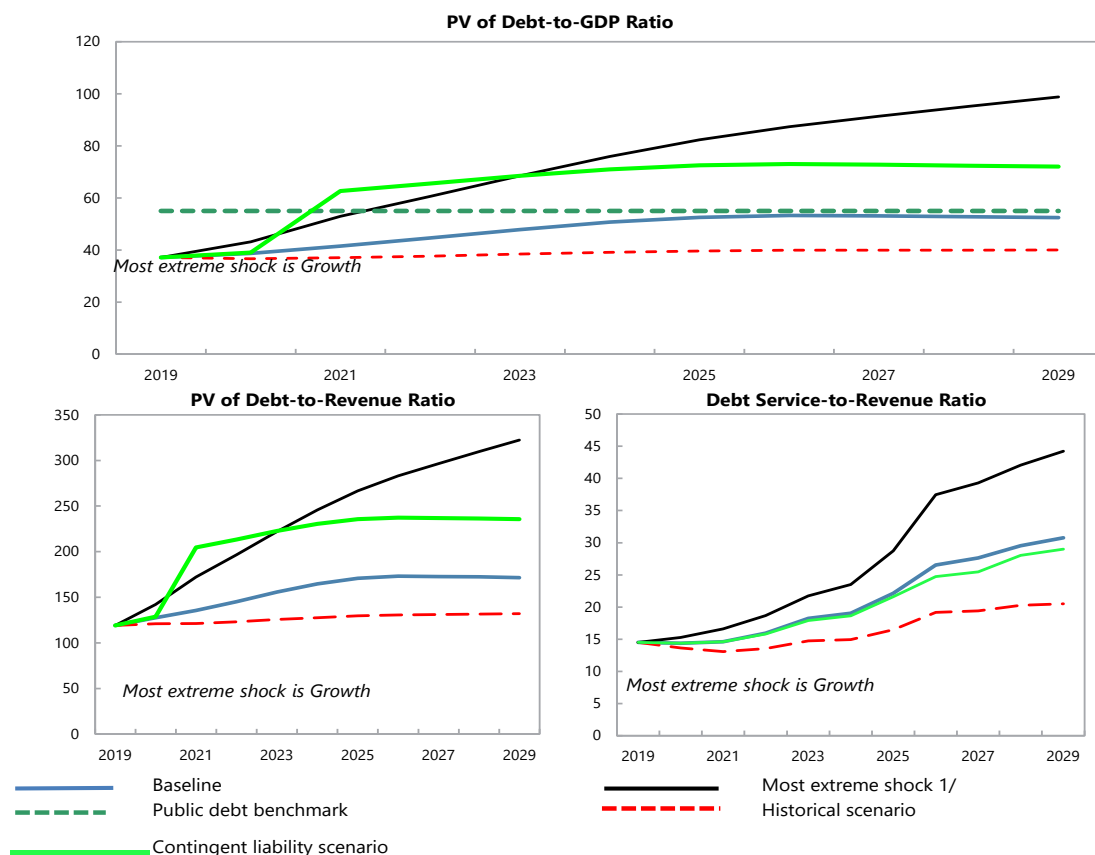
\* Note: All the additional financing needs generated by the shocks under the stress tests are assumed to be covered by PPG external MLT debt in the external DSA. Default terms of marginal debt are based on baseline 10-year projections.

Sources: National authorities and IMF staff calculations.

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

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

**Figure 2. Nicaragua: Indicators of Public Debt Under Alternative Scenarios, 2019-29**



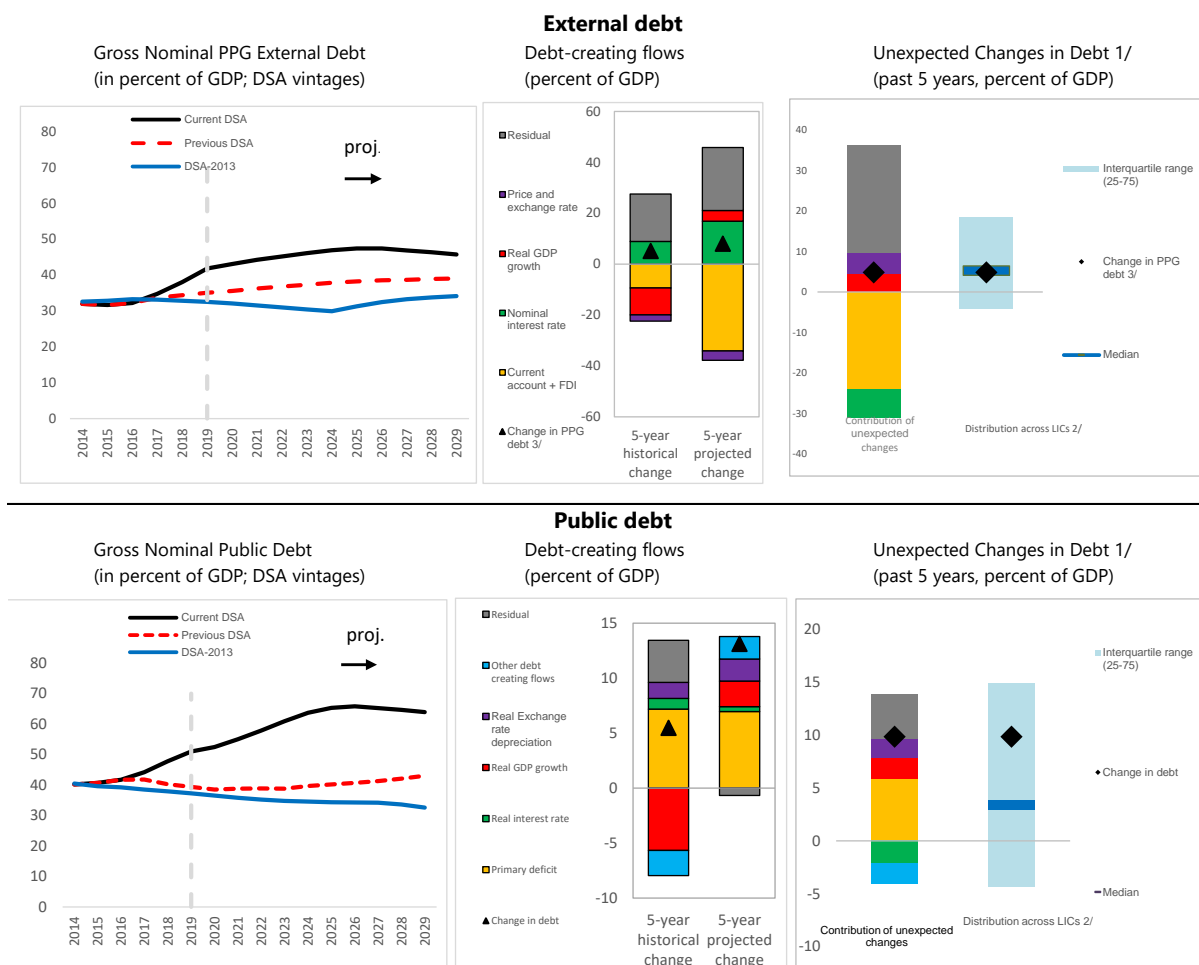
Borrowing Assumptions for Stress Tests*	Default	User defined
<b>Shares of marginal debt</b>		
External PPG medium and long-term	50%	50%
Domestic medium and long-term	50%	50%
Domestic short-term	0%	0%
<b>Terms of marginal debt</b>		
<b>External MLT debt</b>		
Avg. nominal interest rate on new borrowing in USD	3.2%	3.2%
Avg. maturity (incl. grace period)	26	26
Avg. grace period	8	8
<b>Domestic MLT debt</b>		
Avg. real interest rate on new borrowing	2.3%	2.3%
Avg. maturity (incl. grace period)	5	5
Avg. grace period	4	4
<b>Domestic short-term debt</b>		
Avg. real interest rate	0.0%	0.0%

\* 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: National authorities and IMF staff calculations.

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

**Figure 3. Nicaragua: Drivers of Debt Dynamics – Baseline Scenario External Debt**



Sources: National authorities and IMF staff calculations.

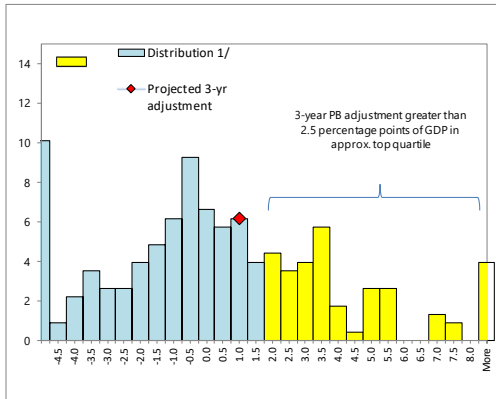
1/ Difference between anticipated and actual contributions on debt ratios.

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

3/ Given the relatively low private external debt for average low-income countries, a ppt change in PPG external debt should be largely explained by the drivers of the external debt dynamics equation.

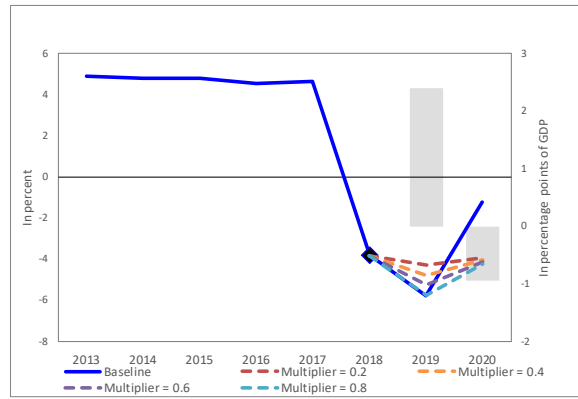
**Figure 4. Nicaragua: Realism Tool**

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



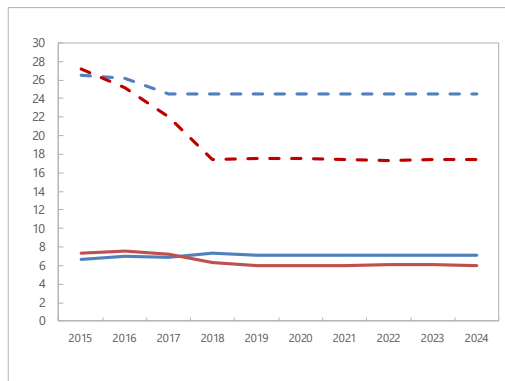
1/ Data cover Fund-supported programs for LICs (excluding emergency financing) approved since 1990. The size of 3-year adjustment from program inception is found on the horizontal axis; the percent of sample is found on the vertical axis.

**Fiscal Adjustment and Possible Growth Paths 1/**  
(percent and percentage points of GDP)



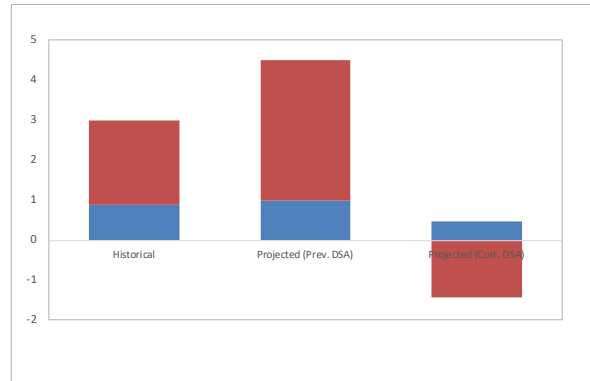
1/ Bars refer to annual projected fiscal adjustment (right-hand side scale) and lines show possible real GDP growth paths under different fiscal multipliers (left-hand side scale).

**Public and Private Investment Rates**  
(percent of GDP)



Gov. Invest. - Prev. DSA      Gov. Invest. - Curr. DSA  
Priv. Invest. - Prev. DSA      Priv. Invest. - Curr. DSA

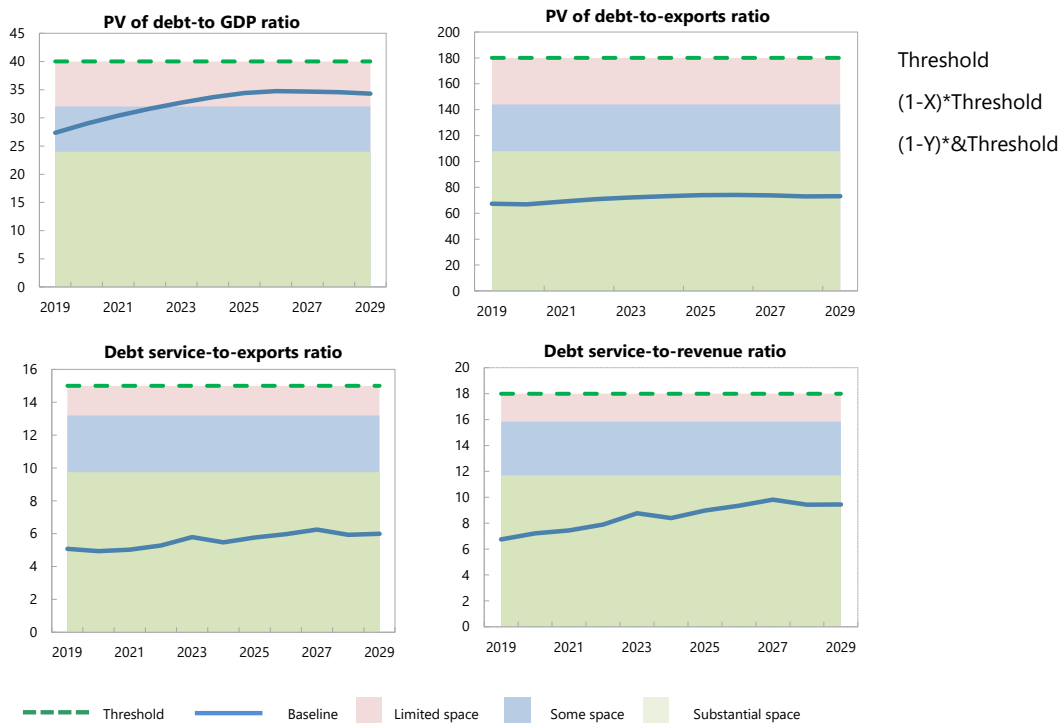
**Contribution to Real GDP growth**  
(percent, 5-year average)



Contribution of other factors  
Contribution of government capital

Sources: National authorities and IMF staff calculations.

**Figure 5. Nicaragua: Qualification of the Moderate Category 1/**



Sources: National authorities and IMF staff calculations.

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.

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

	Actual			Projections								Average 8/	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
<b>External debt (nominal) 1/</b>	77.5	78.1	81.9	86.5	88.1	88.3	88.2	88.0	87.6	77.5	57.7	75.2	85.3
<i>of which: public and publicly guaranteed (PPG)</i>	32.2	34.8	38.1	41.8	43.1	44.3	45.2	46.1	47.0	45.8	40.4	33.3	45.6
Change in external debt	0.8	0.6	3.8	4.5	1.6	0.2	-0.1	-0.2	-0.4	-2.5	-1.9	-1.3	-3.3
Identified net debt-creating flows	-2.8	-3.4	1.5	0.9	-2.7	-3.5	-3.7	-3.9	-3.8	-3.8	-1.6	-1.3	-3.3
<b>Non-interest current account deficit</b>	4.8	2.9	-2.3	-4.3	-4.4	-3.6	-4.2	-4.0	-3.4	-1.8	1.0	6.1	-3.2
Deficit in balance of goods and services	16.0	13.6	9.3	7.6	4.7	3.8	3.5	3.4	3.3	2.6	4.2	17.4	3.7
Exports	38.9	41.2	42.0	40.6	43.4	44.1	44.6	45.3	46.0	46.8	43.8		
Imports	54.9	54.7	51.3	48.2	48.1	47.9	48.2	48.7	49.3	49.4	48.1		
Net current transfers (negative = inflow)	-12.1	-11.3	-12.3	-13.4	-10.8	-9.7	-10.3	-10.7	-11.2	-11.5	-11.5	-12.4	-11.4
<i>of which: official</i>	-0.9	-1.0	-0.6	-0.6	-0.6	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8		
Other current account flows (negative = net inflow)	1.0	0.6	0.2	1.4	1.6	2.3	2.6	3.3	4.6	7.0	8.2	1.1	4.4
<b>Net FDI (negative = inflow)</b>	-6.3	-5.1	-2.2	-2.6	-2.6	-2.7	-2.7	-2.8	-2.8	-3.0	-3.3	-6.1	-2.8
<b>Endogenous debt dynamics 2/</b>	-13	-11	6.5	7.8	4.3	2.9	3.2	2.9	2.3	1.0	0.7		
Contribution from nominal interest rate	1.7	2.0	2.1	2.8	3.3	2.9	3.9	4.0	3.8	3.3	2.4		
Contribution from real GDP growth	-3.4	-3.5	3.1	5.0	1.0	0.0	-0.7	-1.2	-1.5	-2.2	-1.7		
Contribution from price and exchange rate changes	0.3	0.4	1.2	...	...	...	...	...	...	...	...		
<b>Residual 3/</b>	3.6	4.0	2.3	3.6	4.3	3.7	3.6	3.8	3.4	1.2	-0.2	4.1	2.9
<i>of which: exceptional financing</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<b>Sustainability indicators</b>													
<b>PV of PPG external debt-to-GDP ratio</b>	...	...	24.3	27.4	29.0	30.4	31.6	32.7	33.7	34.3	32.4		
<b>PV of PPG external debt-to-exports ratio</b>	...	...	57.8	67.4	66.8	66.9	70.9	72.2	73.2	73.2	73.9		
<b>PPG debt service-to-exports ratio</b>	14.0	14.5	1.7	5.1	4.9	5.0	5.3	5.8	5.5	6.0	7.3		
<b>PPG debt service-to-revenue ratio</b>	19.6	21.2	2.5	6.7	7.2	7.4	7.9	8.8	8.4	9.4	10.8		
Gross external financing need (Million of U.S. dollars)	1175.8	1439.9	1036.7	889.7	841.2	973.1	1038.6	1065.3	1090.4	1200.2	1717.1		
<b>Key macroeconomic assumptions</b>													
Real GDP growth (in percent)	4.6	4.7	-3.8	-5.7	-1.2	0.0	0.8	1.4	1.7	2.9	3.0	3.4	0.9
GDP deflator in US dollar terms (change in percent)	-0.4	-0.5	-1.5	0.5	1.1	1.4	0.8	0.5	0.5	2.3	2.3	1.1	1.2
Effective interest rate (percent) 4/	2.4	2.7	2.6	3.2	3.8	3.3	4.5	4.7	4.5	4.3	4.2	2.5	4.1
Growth of exports of G&S (US dollar terms, in percent)	1.0	10.3	-3.3	-8.4	6.8	3.0	2.9	3.3	3.9	4.2	4.7	7.0	3.2
Growth of imports of G&S (US dollar terms, in percent)	-1.8	3.9	-11.2	-10.9	-0.3	0.8	2.3	3.0	3.5	4.6	4.5	3.1	1.8
Grant element of new public sector borrowing (in percent)	...	...	...	23.9	25.3	22.9	23.9	21.8	24.9	24.6	20.8	...	24.1
Government revenues (excluding grants, in percent of GDP)	27.8	28.2	27.4	30.6	29.7	29.8	29.9	29.9	30.0	29.7	29.7	25.8	29.9
Aid flows (in Million of US dollars) 5/	124.1	142.7	79.4	186.2	188.7	212.4	220.8	217.1	247.4	310.0	469.5	...	...
Grant-equivalent financing (in percent of GDP) 6/	...	...	...	1.4	1.4	1.6	1.6	1.6	1.7	1.7	1.6	...	1.6
Grant-equivalent financing (in percent of external financing) 6/	...	...	...	35.7	36.9	37.7	38.5	36.5	39.2	38.7	35.5	...	37.9
Nominal GDP (Million of US dollars)	13,286	13,844	13,118	12,431	12,416	12,587	12,793	13,027	13,326	16,423	27,588		
Nominal dollar GDP growth	4.1	4.2	-5.2	-5.2	-0.1	1.4	1.6	1.8	2.3	5.3	5.3	4.5	2.1
<b>Memorandum items:</b>													
PV of external debt 7/	...	...	68.1	72.0	73.9	74.4	74.6	74.6	74.3	66.0	49.7		
In percent of exports	...	...	162.2	177.3	170.4	168.7	167.1	164.7	161.5	140.9	113.5		
Total external debt service-to-exports ratio	26.5	30.7	30.5	34.7	31.9	31.9	33.8	33.0	31.2	25.9	19.5		
PV of PPG external debt (in Million of US dollars)	...	...	3186.7	3400.2	3598.9	3827.4	4047.0	4261.4	4484.3	5634.7	8934.8		
(PVt-PVt-1)/GDPt-1 (in percent)	...	...	1.6	1.6	1.8	1.7	1.7	1.7	1.7	1.6	1.2		
Non-interest current account deficit that stabilizes debt ratio	4.0	2.2	-6.6	-8.8	-6.0	-3.9	-4.1	-3.8	-3.0	0.7	2.9		

Sources: National authorities and IMF staff calculations.

1/ Includes both public and private sector external debt.

2/ Derived as  $[r - g - \rho(1+g) + \epsilon\alpha(1+r)] / (1+g+\rho+g\rho)$  times previous period debt ratio, with  $r$  = nominal interest rate;  $g$  = real GDP growth rate;  $\rho$  = growth rate of GDP deflator in U.S. dollar terms;  $\epsilon$  = nominal appreciation of the local currency, and  $\alpha$  = share of local currency-denominated external debt in total external debt.

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.

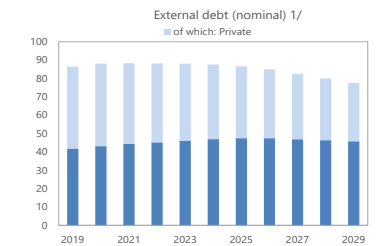
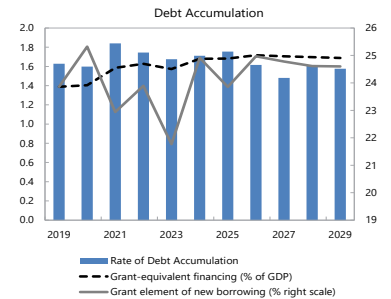
5/ Defined as grants, concessional loans, and debt relief.

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	Residency-based
Is there a material difference between the two criteria?	Yes





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

	Actual			Projections								Average 6/	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections
<b>Public sector debt 1/</b>	41.7	44.2	47.8	51.0	52.4	54.9	57.7	60.8	63.6	63.7	59.2	43.7	60.4
of which: external debt	32.2	34.8	38.1	41.8	43.1	44.3	45.2	46.1	47.0	45.8	40.4	33.3	45.6
Change in public sector debt	1.0	2.5	3.6	3.2	1.4	2.6	2.8	3.1	2.8	-0.7	-0.4		
<b>Identified debt-creating flows</b>	0.4	0.1	3.6	3.9	1.1	2.9	3.3	2.9	2.7	-2.0	-2.0	-0.7	1.0
<b>Primary deficit</b>	1.3	1.0	2.5	0.2	1.2	1.8	1.9	1.8	1.6	-0.5	-0.7	0.7	0.7
Revenue and grants	28.7	29.2	28.0	31.2	30.3	30.6	30.7	30.7	30.8	30.6	30.5	27.4	30.7
of which: grants	0.9	1.0	0.6	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8		
Primary (noninterest) expenditure	30.0	30.2	30.6	31.4	31.5	32.4	32.6	32.6	32.4	30.0	29.8	28.0	31.4
<b>Automatic debt dynamics</b>	-0.9	-0.9	3.4	3.4	0.6	0.2	0.2	0.4	0.2	-1.5	-1.3		
Contribution from interest rate/growth differential	-1.5	-1.5	2.0	3.0	0.7	0.0	-0.4	-0.5	-0.7	-1.3	-1.1		
of which: contribution from average real interest rate	0.2	0.4	0.2	0.1	0.1	0.0	0.0	0.3	0.3	0.5	0.6		
of which: contribution from real GDP growth	-1.8	-1.9	1.8	2.9	0.6	0.0	-0.4	-0.8	-1.0	-1.8	-1.7		
Contribution from real exchange rate depreciation	0.6	0.6	1.4	--	--	--	--	--	--	--	--		
<b>Other identified debt-creating flows</b>	0.0	0.0	-2.3	0.2	-0.7	0.9	1.2	0.7	0.9	0.0	0.0	-0.2	0.3
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recognition of 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 (please specify)	0.0	0.0	-2.3	0.2	-0.7	0.9	1.2	0.7	0.9	0.0	0.0		
<b>Residual</b>	0.6	2.4	0.0	-0.2	0.2	-0.2	0.0	1.0	0.9	1.1	1.4	1.1	0.7
<b>Sustainability indicators</b>													
<b>PV of public debt-to-GDP ratio 2/</b>	---	---	34.6	37.2	38.7	41.5	44.6	47.9	50.7	52.4	51.4		
<b>PV of public debt-to-revenue and grants ratio</b>	---	---	123.5	119.1	127.5	135.5	145.3	155.7	164.7	171.6	168.1		
<b>Debt service-to-revenue and grants ratio 3/</b>	6.8	9.7	8.2	14.5	14.4	14.6	15.9	18.2	19.0	30.8	21.7		
Gross financing need 4/	3.3	3.8	4.9	4.8	5.5	7.2	8.1	8.1	8.4	8.9	5.9		
<b>Key macroeconomic and fiscal assumptions</b>													
Real GDP growth (in percent)	4.6	4.7	-3.8	-5.7	-1.2	0.0	0.8	1.4	1.7	2.9	3.0	3.4	0.9
Average nominal interest rate on external debt (in percent)	1.8	2.0	1.9	1.7	1.8	1.8	1.9	2.5	2.6	2.8	3.1	1.6	2.4
Average real interest rate on domestic debt (in percent)	2.7	3.2	3.3	3.0	3.7	5.7	7.0	7.9	7.3	8.2	9.6	1.5	6.6
Real exchange rate depreciation (in percent, + indicates depreciation)	1.7	1.5	3.0	--	--	--	--	--	--	--	--	0.2	--
Inflation rate (GDP deflator, in percent)	4.6	4.5	3.4	5.4	5.0	4.4	3.9	3.5	3.6	3.6	3.6	6.2	4.0
Growth of real primary spending (deflated by GDP deflator, in percent)	9.9	5.1	2.5	-3.1	-1.0	2.8	1.6	1.2	1.3	2.6	4.1	5.4	0.7
Primary deficit that stabilizes the debt-to-GDP ratio 5/	0.3	-1.5	-1.1	-3.0	-0.2	-0.8	-0.9	-1.2	-1.1	0.2	-0.3	-0.8	-0.7
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: National authorities and IMF staff calculations.

1/ Coverage of debt: The central government plus social security, central bank, government-guaranteed debt. Definition of external debt is Residency-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.

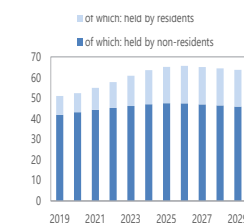
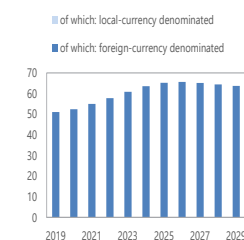
4/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period and other debt creating/reducing flows.

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	Residency-based
Is there a material difference between the two criteria?	Yes

Public sector debt 1/



**Table 3. Nicaragua: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019-29**

	Projections 1/										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>PV of debt-to GDP ratio</b>											
<b>Baseline</b>	27	29	30	32	33	34	34	35	35	35	34
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	27	33	39	44	50	55	59	63	67	71	74
A2. Alternative Scenario: ALBA debt contingent liability scenario	27	29	38	40	41	42	43	44	43	43	43
<b>B. Bound Tests</b>											
B1. Real GDP growth	27	31	34	36	37	38	39	39	39	39	39
B2. Primary balance	27	29	31	32	33	34	35	36	36	36	35
B3. Exports	27	33	43	45	46	47	48	48	48	48	48
B4. Other flows 3/	27	31	34	36	37	38	39	39	39	39	38
B5. Depreciation	27	37	36	37	38	40	41	41	41	41	40
B6. Combination of B1-B5	27	35	38	39	41	42	43	43	43	43	42
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	27	32	34	35	36	37	40	40	40	40	39
C2. Natural disaster	27	33	35	37	38	40	42	43	43	43	43
C3. Commodity price	27	29	30	32	33	34	34	35	35	35	34
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Threshold</b>	40	40	40	40	40	40	40	40	40	40	40
<b>PV of debt-to-exports ratio</b>											
<b>Baseline</b>	67	67	69	71	72	73	74	74	74	73	73
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	67	77	88	99	110	119	126	134	142	149	158
A2. Alternative Scenario: ALBA debt contingent liability scenario	67	67	87	89	91	92	93	93	92	91	92
<b>B. Bound Tests</b>											
B1. Real GDP growth	67	67	69	71	72	73	74	74	74	73	73
B2. Primary balance	67	67	70	72	74	75	76	76	76	75	75
B3. Exports	67	84	117	120	122	123	124	125	124	122	122
B4. Other flows 3/	67	71	78	80	81	82	83	83	83	82	82
B5. Depreciation	67	67	64	66	67	68	69	69	69	68	68
B6. Combination of B1-B5	67	79	78	90	91	92	93	94	93	92	92
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	67	74	77	79	80	81	85	85	85	84	84
C2. Natural disaster	67	78	81	84	86	88	92	93	93	93	94
C3. Commodity price	67	67	69	71	72	73	74	74	74	73	73
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Threshold</b>	180	180	180	180	180	180	180	180	180	180	180
<b>Debt service-to-exports ratio</b>											
<b>Baseline</b>	5	5	5	5	6	5	6	6	6	6	6
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	5	5	5	6	6	6	7	7	8	8	9
A2. Alternative Scenario: ALBA debt contingent liability scenario	5	5	5	6	7	6	6	7	7	7	7
<b>B. Bound Tests</b>											
B1. Real GDP growth	5	5	5	5	6	5	6	6	6	6	6
B2. Primary balance	5	5	5	5	6	6	6	6	6	6	6
B3. Exports	5	6	7	8	8	8	8	9	9	9	9
B4. Other flows 3/	5	5	5	6	6	6	6	6	7	6	7
B5. Depreciation	5	5	5	5	6	5	6	6	6	6	6
B6. Combination of B1-B5	5	5	6	6	7	7	7	7	7	7	7
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	5	5	5	6	6	6	6	6	7	6	6
C2. Natural disaster	5	5	6	6	6	6	6	7	7	7	7
C3. Commodity price	5	5	5	5	6	5	6	6	6	6	6
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Threshold</b>	15	15	15	15	15	15	15	15	15	15	15
<b>Debt service-to-revenue ratio</b>											
<b>Baseline</b>	7	7	7	8	9	8	9	9	10	9	9
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	7	7	8	8	10	10	11	12	12	13	14
A2. Alternative Scenario: ALBA debt contingent liability scenario	7	7	7	9	10	9	10	10	11	10	10
<b>B. Bound Tests</b>											
B1. Real GDP growth	7	7	7	9	10	9	10	10	11	10	10
B2. Primary balance	7	7	7	8	9	8	9	9	10	10	10
B3. Exports	7	7	8	10	11	10	11	11	12	11	12
B4. Other flows 3/	7	7	8	8	9	9	10	10	10	10	10
B5. Depreciation	7	9	9	10	11	10	11	11	12	12	12
B6. Combination of B1-B5	7	8	9	9	10	10	10	11	11	11	12
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	7	7	8	8	9	9	9	10	10	10	10
C2. Natural disaster	7	7	8	8	9	9	10	10	11	10	10
C3. Commodity price	7	7	7	8	9	8	9	9	10	9	9
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Threshold</b>	18	18	18	18	18	18	18	18	18	18	18

Sources: National authorities and IMF staff calculations.

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. Nicaragua Sensitivity Analysis for Key Indicators of Public Debt, 2019-29

	Projections 1/										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>PV of Debt-to-GDP Ratio</b>											
<b>Baseline</b>	37	39	42	45	48	51	53	53	53	53	52
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	37	37	37	38	38	39	40	40	40	40	40
A2. Alternative Scenario: ALBA debt contingent liability	37	39	<b>63</b>	<b>66</b>	<b>68</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>73</b>	<b>72</b>	<b>72</b>
<b>B. Bound Tests</b>											
B1. Real GDP growth	37	43	53	<b>61</b>	<b>68</b>	<b>76</b>	<b>82</b>	<b>87</b>	<b>91</b>	<b>95</b>	<b>99</b>
B2. Primary balance	37	40	44	48	52	<b>55</b>	<b>58</b>	<b>59</b>	<b>60</b>	<b>61</b>	<b>61</b>
B3. Exports	37	42	53	<b>56</b>	<b>59</b>	<b>62</b>	<b>64</b>	<b>65</b>	<b>65</b>	<b>65</b>	<b>64</b>
B4. Other flows 3/	37	41	46	49	52	<b>55</b>	<b>57</b>	<b>58</b>	<b>57</b>	<b>57</b>	<b>57</b>
B5. Depreciation	37	45	46	47	49	50	51	50	49	48	47
B6. Combination of B1-B5	37	39	43	46	50	54	<b>56</b>	<b>58</b>	<b>58</b>	<b>59</b>	<b>60</b>
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	37	47	50	54	<b>58</b>	<b>62</b>	<b>64</b>	<b>66</b>	<b>66</b>	<b>67</b>	<b>67</b>
C2. Natural disaster	37	49	53	<b>57</b>	<b>62</b>	<b>66</b>	<b>69</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>
C3. Commodity price	37	41	48	55	<b>63</b>	<b>70</b>	<b>76</b>	<b>81</b>	<b>85</b>	<b>88</b>	<b>92</b>
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Public debt benchmark</b>	55	55	55	55	55	55	55	55	55	55	55
<b>PV of Debt-to-Revenue Ratio</b>											
<b>Baseline</b>	119	128	136	145	156	165	171	173	173	172	172
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	119	121	121	123	126	128	130	131	131	132	132
A2. Alternative Scenario: ALBA debt contingent liability	119	129	205	213	223	230	236	237	237	236	236
<b>B. Bound Tests</b>											
B1. Real GDP growth	119	142	172	197	222	246	267	283	297	310	322
B2. Primary balance	119	132	144	156	169	180	188	193	196	199	201
B3. Exports	119	140	171	182	193	203	209	212	211	211	209
B4. Other flows 3/	119	134	149	159	169	179	185	187	187	186	185
B5. Depreciation	119	148	149	154	159	163	165	164	160	156	153
B6. Combination of B1-B5	119	127	141	151	163	174	182	188	190	193	195
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	119	154	164	176	189	200	208	213	216	218	221
C2. Natural disaster	119	162	173	187	201	214	223	230	234	237	241
C3. Commodity price	119	135	156	179	203	226	247	263	276	289	301
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Debt Service-to-Revenue Ratio</b>											
<b>Baseline</b>	14	14	15	16	18	19	22	27	28	30	31
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	14	14	13	14	15	15	16	19	19	20	21
A2. Alternative Scenario: ALBA debt contingent liability	14	14	15	16	18	19	22	25	25	28	29
<b>B. Bound Tests</b>											
B1. Real GDP growth	14	15	17	19	22	24	29	37	39	42	44
B2. Primary balance	14	14	15	16	18	20	23	28	28	30	31
B3. Exports	14	14	15	17	20	20	24	28	29	31	33
B4. Other flows 3/	14	14	15	16	19	20	23	27	28	30	32
B5. Depreciation	14	15	16	17	19	20	22	24	27	29	29
B6. Combination of B1-B5	14	14	15	16	18	19	22	26	28	29	31
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	14	14	16	17	19	20	33	28	29	31	32
C2. Natural disaster	14	15	16	18	20	21	37	30	31	33	34
C3. Commodity price	14	14	15	17	19	21	26	34	36	39	41
C4. Market Financing	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: National authorities and IMF staff calculations.

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.