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MEETING**

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To: Members of the Executive Board

From: The Secretary

Subject: **Republic of Moldova—Staff Report for the 2020 Article IV Consultation and Sixth Reviews Under the Extended Credit Facility and Extended Fund Facility Arrangements—Debt Sustainability Analysis—Update**

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Prepared By:	The staffs of the International Monetary Fund and the World Bank
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Questions:	Mr. Atoyan, EUR (ext. 38814) Ms. Korniyenko, SPR (ext. 37990)
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\*The authorities have indicated that they consent to the Fund's publication of this paper.





# REPUBLIC OF MOLDOVA

## STAFF REPORT FOR THE 2020 ARTICLE IV CONSULTATION AND SIXTH REVIEWS UNDER THE EXTENDED CREDIT FACILITY AND EXTENDED FUND FACILITY ARRANGEMENTS—DEBT SUSTAINABILITY ANALYSIS—UPDATE

March 2, 2020

Joint Bank-Fund Debt Sustainability Analysis	
<b>Risk of external debt distress</b>	Low
<b>Overall risk of debt distress</b>	Low
<b>Granularity in the risk rating</b>	Not applicable
<b>Application of judgment</b>	No

Approved By  
**Philip Gerson (EUR) and**  
**Marcello Estevão (WB)**

Prepared by the staffs of the  
International Monetary Fund (IMF) and  
the World Bank (WB)

*Moldova's risk of debt distress remains low—unchanged from the previous Debt Sustainability Analysis (DSA) published in September 2019. Overall public debt dynamics are sustainable and there is some space to absorb shocks in total public debt (baseline projections show that Moldova's PV of total PPG debt (external plus domestic)-to-GDP ratio remains below the new debt distress benchmark of 70 percent); a small increase in the external debt level in percent of GDP is explained by substantial developmental needs, which would require large public and private investments. Public investments are largely financed by concessional donor funding and commercial borrowing in the longer-term. Private sector external debt remains relatively high for a low-income country which, despite mitigating factors, could pose risks to external debt sustainability. In view of the country's significant vulnerability to shocks, fiscal discipline remains critical to ensure sustainability. To improve the efficiency of public investment, a comprehensive strategy to strengthen public investment management frameworks needs to be developed. In the medium-to-long term, strong macroeconomic policies and institutions are needed to unlock growth potential, such as: improving governance and fighting corruption; strengthening banking intermediation; creating a business-friendly environment for the private sector to flourish; ensuring a transparent and efficient energy sector; and addressing adverse impacts from demographic trends and labor emigration.*

## PUBLIC DEBT COVERAGE

**1. Moldova's public debt includes obligations of the public sector (central government, local authorities, and public entities).** Debt data includes external and domestic obligations of the central government, including arrears to suppliers and guaranteed debt. Total debt data also includes debt of state and municipal enterprises, companies with full or majority public ownership, and of local public authorities with maturity of a year and above, as stipulated in Law No. 419 (2006) on Public Sector Debt, State Guarantees and State On-lending.<sup>1</sup> The debt coverage is on the residency basis.

**Text Table 1. Moldova: Public Debt Coverage**

Subsectors of the public sector	Check box
1 Central government	X
2 State and local government	X
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	X

**Public debt coverage and the magnitude of the contingent liability tailored stress test**

1 The country's coverage of public debt	The central, state, and local governments plus social security, central bank, government-guaranteed debt, non-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	
3 SoE's debt (guaranteed and not guaranteed by the government) 1/	2 percent of GDP	2	
4 PPP	35 percent of PPP stock	0.00	
5 Financial market (the default value of 5 percent of GDP is the minimum value)	5 percent of GDP	10	
<b>Total (2+3+4+5) (in percent of GDP)</b>		<b>12.0</b>	

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

**2. Public debt increased substantially during 2013–15 as a result of the banking crisis but moderated by 2018 to about 30 percent of GDP (see Text Table 2).** Public and publicly guaranteed debt reached 39.5 percent of GDP in 2015, up from about 26.9 percent of GDP in 2010. A key driver of the increase in public debt was the issuance of a state guarantee to the National Bank of Moldova (NBM) to provide emergency liquidity to the banking sector. Public debt has been on a downward path since 2016, returning to the level seen in 2009. In 2018, the EU and other donors temporarily paused financial assistance to Moldova over governance concerns and deteriorating democratic standards during the pre-election campaign. Currently, 30 percent of PPG domestic marketable debt are long-term debt securities

<sup>1</sup> PPG debt covers gross debt of the general government. Both on-lending to the private sector (operationalized through commercial banks) and to SOEs are part of external central government debt and are included. Debt of SOEs (majority owned by the state) with maturity longer than a year accounts for 1 percent of GDP as of 2018. In line with the DSA guidelines, public debt includes liabilities towards the IMF. Staff and the authorities will continue working towards expanding debt coverage for local governments' debt, SOEs and PPPs to include all existing debt obligations. Due to the lack of data, information on PPPs is currently limited. The change in coverage complicates intertemporal analysis of PPG debt. The contingent liabilities shock from SOE debt is set at the default value of 2 percent of GDP to reflect risks associated with borrowing of SOEs majority owned by the state, while a contingent liability shock of 12 percent of GDP is meant to also capture risks from PPPs and SOEs that are partially owned by the state.

(government securities with maturity longer than 12 months). Other domestic marketable debt is mainly short-term and held by the banking system<sup>2</sup>. In addition, the stock of domestic arrears to suppliers amounting to MDL 54.7 million (0.03 percent of GDP) by end-2018 is included in domestic debt.

**Text Table 2. Moldova: Composition of Public and Publicly-Guaranteed Debt, 2018**

	2018	
	US\$ mln	% of GDP
<b>Total public and publicly guaranteed debt</b>	<b>3394.7</b>	<b>30.6%</b>
<b>A. Domestic debt</b>	<b>1456.0</b>	<b>13.1%</b>
Of which: domestic marketable debt	461.6	4%
<i>T-bills</i>	323.5	3%
3-month	24.4	0%
6-month	98.2	1%
12-month	201.0	2%
<i>Bonds</i>	138.1	1%
1-year	0.0	0%
2-year	81.5	1%
3-year	40.2	0%
5-year	16.3	0%
<b>B. External debt</b>	<b>1,938.6</b>	<b>17.5%</b>
<i>Central Government</i>	1,689.0	15.2%
Of which:		
Official multilateral	1,393.4	12.6%
Official bilateral	295.6	2.7%
<i>Local Government</i>	17.1	0.2%
Of which:		
Official multilateral	17.0	0.2%
<i>Financial and non-financial public corporations</i>	14.74	0.1%
<i>NBM debt to IMF</i>	217.8	2.0%

**3. Moldova's total external debt reached 79.6 percent of GDP by end-2015 but moderated since then to about 66.4 by the end of 2018.** The reduction largely reflects the strong appreciation of the nominal exchange rate during 2017 (by an estimated 11.3 percent) amid renewed capital inflows. Private external debt is relatively high for a low-income country and amounts to 48.9 percent of GDP. The recent decline in private sector debt is explained by the decrease in overseas borrowing by the banking sector, reflecting the impact of the banking crisis.<sup>3</sup> Similar to other Central and Eastern European countries, while

<sup>2</sup> The breakdown of the total PPG domestic debt excludes the bonds related to the capitalization of banks, as the focus is on marketable securities only.

<sup>3</sup> The NBM is working continuously on improving the coverage of private sector debt. This explains the changes in historical debt numbers from period to period.

gross private external debt in Moldova is sizable, about 35 percent of it are liabilities to direct investors (Moldova foreign-owned companies borrowing from their parent companies abroad). Short-term debt of the non-bank sector is high as well, about one third of nonbank debt, and consists of trade credits, arrears, and other debt liabilities, mostly for the import of natural resources. Moldova's external debt for imports of energy resources remains largely unchanged at about US\$0.6 billion for the last three years; the debt of Moldovagaz comprise 90 percent of the total amount. Foreign assets of the nonbank sector have shrunk in recent years but remain sizable (about 40 percent of gross nonbank external liabilities) and mainly held in the form of currency, deposits, and short-term loans (trade credits). Public and publicly guaranteed (PPG) external debt (17.5 percent of GDP) is held mainly by multilateral and bilateral donors, and is mostly medium and long term, and on concessional terms. High private external debt in Moldova poses risks to external debt sustainability, nevertheless, overall risk of total external debt distress is assessed as low due to the mitigating factors discussed above.

## BACKGROUND ON MACRO FORECASTS

**4. The baseline macroeconomic assumptions for the DSA reflect recent economic developments and policies underpinning the ECF/EFF-supported program.** The baseline scenario relies on full implementation of fiscal adjustment, as well as financial and structural reforms envisaged under the program. Economic performance is expected to remain solid over the medium term, with steady growth, moderate inflation, and a gradual narrowing of the current account deficit. The baseline scenario includes the most recent IMF global assumptions and the latest available information on Moldova's debt:

- a. **Real GDP.** Moldova has experienced a period of relatively strong growth during 2016–17, as the recovery from the banking crisis continued. Real GDP grew by 4 percent in 2018, supported by infrastructure and private investments.<sup>4</sup> At an estimated 4.2 percent, robust growth continued in 2019. Notwithstanding considerable uncertainty, staff assesses the output gap to be broadly closed over the forecast period. Growth is expected to remain solid over the medium-term, averaging about 3.8 percent (see Text Table 3).
- b. **Inflation.** Headline inflation slowed in 2018, as food and fuel inflation decelerated significantly, while prices of regulated items fell due to downward adjustments of energy tariffs. These effects gradually faded out in 2019 and inflationary pressures have started to build up since early 2019, against the background of the expansionary fiscal stance and pass-through from the leu's depreciation in 2019H1, when lei depreciated by 5.8 percent. CPI inflation reached 7.1 percent in late 2019. The policy rate was increased in June and July 2019 but was cut aggressively in December from 7.5 to 5.5 percent on account of an anticipated deceleration in food price inflation and a muted demand impact of looser fiscal policy. Over the medium-term, inflation is expected to

<sup>4</sup> In 2018, Moldova's National Bureau of Statistics (NBS) published revised GDP series for 2016 and 2017, based on new methodology to reflect: a) implementation of the UN's System of National Accounts 2008 (2008 SNA) and the European System of Accounts 2010 (ESA 2010); and b) statistical improvements regarding data sources and compilation methods. The changes were introduced with technical assistance from the Fund. As a result of the new methodology, the level of both nominal and real GDP was revised up by about 17 percent. The sizeable GDP revision implies a reduction in key macroeconomic ratios (including debt-to-GDP ratios).

remain anchored at 5 percent—the authorities' inflation target. These projections are broadly in line with those in the previous DSA.

- c. **Fiscal.** The fiscal position was less expansionary than expected in 2019; the government deficit was lower than budgeted despite a shortfall of 0.3 percent of GDP in import related revenue. Current and capital spending were under-executed by 1.3 and 0.5 percent of GDP owing to external financing uncertainty, while program-related indicative targets (floors) on priority social spending and project spending funded from external sources were marginally missed. Nevertheless, gross public debt slightly increased, as deficit grew to 1.5 percent of GDP from 1.0 percent of GDP the previous year. Going forward, the 2020 budget envisages a larger deficit owing to a notable increase in the investment envelope (by about 1 percent of GDP y-o-y) mostly financed through external project loans, amid a containment of current spending relative to the last approved budget. The credibility of this financing strategy in 2020 is yet to be tested, but the budget is expected to be strengthened by a number of measures to strengthen tax administration and streamline tax exemptions. Without such a sizeable one-off financing, the budget deficit will still be consistent with the authorities' fiscal rule under the Fiscal Responsibility Law (FRL) that limits the overall deficit excluding grants to 2.5 percent of GDP, with an escape clause for public capital investment funded by external concessional sources. Over the medium term, revenues are expected to stabilize, while strengthened fiscal frameworks will help to discipline expenditures, which will help sustain the debt path.
- d. **External sector.** The current account deficit (CAD) deteriorated to over 10 percent of GDP in 2018 on the back of strong domestic demand, and sharp retraction in commodity exports' growth amid a real exchange rate appreciation. Remittances to GDP also fell. The CAD has likely moderated to 9.5 percent of GDP in 2019 based on preliminary estimates and will adjust to about 7 percent of GDP over the medium term, financed by strong capital and investment flows. Robust private financial inflows (including remittances) led to a moderate buildup of reserves that remained adequate at about 169 percent of the IMF composite reserve adequacy metric in 2019<sup>5</sup>. The real effective exchange rate (REER) appreciated in 2018–19.
- e. **External borrowing.** The DSA assumes that up to 80-90 percent of all contracted-but-undisbursed concessional loans will be disbursed over the coming years. New borrowings (including concessional and commercial) are projected to rise over the longer term to finance the country's high development needs. This plays a key role in the DSA and explains to some extent the upward slope in debt burden indicators, including for total external debt level indicators.<sup>6</sup> Moldova will continue to benefit from significant grant financing in the medium-term, leaving the grant element of new borrowing at about 33.5 percent. The external financing need—estimated at US\$140 million in 2019—was fully covered by the disbursement of EU's MFA and budget grants (US\$93 million, of which up to US\$33.6 million set aside for MFA budget support grants and loans),

<sup>5</sup> This corresponds to 5.2 month of import of goods and services.

<sup>6</sup> While this assumption is not based on concrete borrowing plans in the longer-term, it reflects the baseline assumptions, under which Moldova will continue to borrow into the future to finance productive infrastructure investments.

and Fund disbursement of SDR 33.6 million (US\$ 46.5 million), of which SDR 20.1 million (US\$27.9 million) disbursed for budget support (ECF: SDR 6.7 million and EFF: SDR 13.4 million). In 2020, the smaller external financing gap estimated at US\$85 million will be financed by EU funds (US\$65 million) and the residual gap closed via a disbursement equivalent to SDR 14.4 million (US\$20 million) under the ECF/EFF.

- f. **Domestic borrowing.** Domestic borrowing is assumed to remain limited over the medium-term. Domestic borrowing is expected to remain about 12 percent of GDP in 2039, reflecting only a gradual deepening of domestic financial markets.

**Text Table 3. Moldova: Key Macroeconomic Assumptions  
(DSA March 2020 vs DSA September 2019)**

	2017-19	2020-29
<b>Real GDP growth (percent)</b>		
DSA March 2020	4.3	3.8
DSA September 2019	4.1	3.8
DSA December 2017	3.4	3.9
<b>Inflation (GDP deflator, in US dollar terms)</b>		
DSA March 2020	9.2	1.7
DSA September 2019	8.9	1.9
DSA December 2017	9.1	2.3
<b>Total Revenue (percent of GDP)<sup>1</sup></b>		
DSA March 2020	29.7	29.4
DSA September 2019	29.8	29.4
DSA December 2017	34.0	33.1
<b>Current Account (non-interest, in percent of GDP)</b>		
DSA March 2020	8.1	6.8
DSA September 2019	7.9	6.1
DSA December 2017	5.0	4.1

Source: Moldova authorities and Staff calculations.

<sup>1</sup> Total revenue, including grants.

**5. The debt sustainability framework's newly-added realism tools suggest that the baseline projections are reasonable (Figures 3 and 4).** The evolution of the projection of external and PPG debt to GDP ratios are broadly consistent for the current and previous DSA vintages, while they reflect major deviations from the DSA from 5 years past. This is because the public debt ratio increased significantly after 2013 and reached its highest level in 2015. In terms of projections, the ECF/EFF program, which also aims at a sustainable debt path, is the main reason why the current and recent DSA vintages deviate from the DSA prepared in 2013. For external public debt, projected debt levels are upward trending in the medium-term and about constant in the long term, nevertheless it is lower than in the previous DSA due to lower



assumed absorption capacity of the government of the external project loans while the projected debt creating flows deviate from the five-year historical change because of projected higher current account deficits. For total public debt, the slight decline in the projected debt levels in the medium-to-long term is driven mainly by the real GDP growth which offsets negative contributions from the widening primary balance in the short-term, whereas the five-year historic surge in debt was due to significant increase in other debt creating flows attributed to government financing related to the recapitalization of banks. The difference over 2019-20 between the baseline growth projections and growth projections implied by standard fiscal multipliers reflects the impact of political volatility in 2019. Growth is expected to remain solid in the medium-term. The 3-year adjustment in the fiscal primary balance based on the realism tool remains credible, as it does not fall in the upper quartile of the distribution of past adjustments relative to peers.

**6. Public investment and growth.** The ongoing program aims at augmenting public investment with growth-enhancing structural reforms, including SOE reform, and an improvement of the business environment, which are expected to enhance domestic and foreign private investments (Figure 2).

## COUNTRY CLASSIFICATION AND DETERMINATION OF SCENARIO STRESS TESTS

**7. Moldova's debt carrying capacity is strong.** The composite indicator (CI), which captures the impact of several factors through a weighted average of an institutional indicator<sup>7</sup>, real GDP growth, remittances<sup>8</sup>, international reserves, and world growth, confirms that Moldova's debt carrying capacity is classified to be 'strong', which is unchanged from the previous two DSA rounds (Text Table 4)<sup>9</sup>. The debt carrying capacity, in turn, determines the PPG external debt thresholds and total public debt benchmarks.

**8. Stress tests follow standardized settings.** Under standardized stress tests, all PPG external debt indicators remain below the policy relevant thresholds (Table 3 and Figure 1). Moldova does not have prominent economic features such as natural disasters, significant reliance on commodity exports, market financing, etc. that require additional tailored stress tests or other modules. Regarding the contingent liability stress test, a shock of 12 percent of GDP is used. The severity of the shock was calibrated to the most recent domestic banking crisis event.

<sup>7</sup> The World Bank's Country Policy and Institutional Assessment (CPIA).

<sup>8</sup> Remittances for Moldova comprise of two Balance of Payments (BoP) accounts: compensation of employees and remittances.

<sup>9</sup> Moldova's Composite Indicator (CI) is 3.34, which corresponds to a strong debt-carrying capacity as confirmed by the October 2019 WEO data and 2018 Country Policy and Institutional Assessment (CPIA).

**Text Table 4. Moldova: Debt Carrying Capacity and Applicable Thresholds**

<b>Country</b>	Moldova
<b>Country Code</b>	921

<b>Debt Carrying Capacity</b>	<b>Strong</b>
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Final	Classification based on current vintage	Classification based on the previous vintage	Classification based on the two previous vintages
Strong	Strong 3.34	Strong 3.34	Strong 3.25

### Applicable thresholds

APPLICABLE	
<b>EXTERNAL debt burden thresholds</b>	
<b>PV of debt in % of</b>	
Exports	240
GDP	55
<b>Debt service in % of</b>	
Exports	21
Revenue	23

APPLICABLE	
<b>TOTAL public debt benchmark</b>	
PV of total public debt in percent of GDP	70

## EXTERNAL DEBT SUSTAINABILITY ANALYSIS

9. Under the baseline scenario and alternative scenarios, all external debt indicators continue to remain below their policy-relevant thresholds (Table 1, Figure 1). Starting in 2020, after the conclusion of the ECF/EFF arrangement, new external loan financing will consist primarily of borrowing from multilateral and bilateral lenders by 2030, while commercial borrowing is expected to start playing a larger role in the long-term, reaching about 63 percent of total public sector borrowing by 2039. The present value of PPG external debt estimated at 11.9 percent of GDP in 2019 and is only increasing marginally to 12 percent by 2029. The ratio will remain below the 55 percent threshold under the baseline scenario throughout the projection period. Similarly, debt service indicators remain well below their respective thresholds and on a broadly downward trend over the medium-term. Improvements in debt-management practices envisaged under the authorities' reforms will give further resilience to shocks affecting debt service needs. A tailored stress test for the contingent liability shock also does not cause any breach of relevant thresholds. Under the most extreme scenario, most PPG debt indicators show significant increase in their values coming closer to the indicative threshold, but, nevertheless, do not breach it. These outcomes highlight the importance of sound macroeconomic policies and prudent fiscal policy.

**10. While the external risk rating is determined by the PPG external debt, large private external debt pose some potential roll-over risks.**

## PUBLIC DEBT SUSTAINABILITY ANALYSIS

**11. Under the baseline and alternative scenarios, indicators of the overall public debt burden (external plus domestic) lie comfortably below the benchmark.** The PV of public debt-to-GDP in 2019 stands below the benchmark level of 70 percent. Moldova's PV of total public debt-to-GDP is expected to be stable round 24.9 percent in the medium-term, remaining below the benchmark in the medium-to-long term (Figure 2). However, under the most extreme shock scenario (growth shock), the PV of public debt-to-GDP shoots up significantly throughout all or most of the projection period as the country accumulates more debt to finance larger fiscal and current account deficits. Such scenario highlights the risks to debt sustainability faced by the authorities in the absence of needed policy reforms. A significant contingent liabilities shock (to state-owned enterprises) would increase debt levels notably, though such risks are difficult to quantify exactly due to lack of good data on SOEs and PPPs.

## RISK RATING AND VULNERABILITIES

**12. Moldova remains at low risk of external and overall debt distress, in line with the previous DSA assessment.**

- **External indicators for PPG debt remain well below the indicative debt thresholds, under the standardized and alternative stress tests.** However, significant private external debt poses potential roll-over risks.
- **Moldova's overall public debt dynamics are also projected to remain on a sustainable path under the baseline and alternative scenarios.** Total PPG debt is sensitive to the growth shock scenario, as the country accumulates significant debt to finance larger fiscal and current account deficits. Therefore, pursuing prudent fiscal policy, improving the quality of institutional frameworks, for which the World Bank's 2018 Debt Management Performance Assessment (DeMPA) provides a sound diagnostic basis regarding debt management aspects, and advancing structural reforms remain key to ensuring debt sustainability, increasing the economy's growth potential, and reducing vulnerabilities to shocks. Furthermore, development of the domestic debt market could further strengthen the outlook for debt sustainability, especially considering the country's developmental needs and significant dependence on foreign assistance in the form of grants and concessional loans. Continuous efforts to lengthen the average maturity of domestic debt and deepen the secondary market would help reduce the PPG domestic debt roll-over and interest rate risks.

## AUTHORITIES' VIEWS

**13. The authorities broadly agreed with staff's assessment of Moldova's public debt situation and recommendations on debt management policy.** They broadly concurred with the staff's assessment of debt composition, projections, risk ratings, and distress level. They recognize that preserving fiscal policy prudence is critical for keeping public debt at a sustainable level. While they have been making progress on debt management, they highlighted the need for further improvement in debt statistics and debt management frameworks by making full use of IMF technical assistance and training resources.

Table 1. Moldova: External Debt Sustainability Framework, Baseline Scenario, 2018–2039

(In percent of GDP, unless otherwise indicated)

	Actual	Projections								Average 8/ Historical Projections	
	2018	2019	2020	2021	2022	2023	2024	2029	2039		
External debt (nominal) 1/	66.4	63.6	64.7	64.9	64.8	64.7	64.7	61.2	60.6	72.3	63.9
of which: public and publicly guaranteed (PPG)	17.5	16.4	17.9	18.5	18.6	18.4	18.0	16.3	16.5	20.1	17.6
Change in external debt	-4.2	-2.8	1.0	0.2	-0.1	-0.2	0.1	-0.9	-0.4		
Identified net debt-creating flows	-1.9	2.4	5.2	4.8	4.5	3.5	2.6	1.2	0.2	0.8	2.8
Non-interest current account deficit	9.9	9.0	9.2	9.0	8.5	7.6	6.7	5.2	4.2	7.0	7.1
Deficit in balance of goods and services	25.9	24.7	25.7	25.8	25.5	24.7	23.9	23.4	23.3	29.7	24.3
Exports	30.5	30.4	31.5	31.9	32.2	32.3	32.4	32.9	33.6		
Imports	56.5	55.1	57.2	57.7	57.6	57.0	56.3	56.2	56.8		
Net current transfers (negative = inflow)	-10.4	-10.2	-10.8	-10.9	-10.8	-10.7	-10.6	-10.2	-10.2	-15.0	-10.5
of which: official	-0.8	-0.9	-1.0	-1.0	-0.9	-0.9	-0.8	-0.8	-0.6		
Other current account flows (negative = net inflow)	-5.7	-5.4	-5.7	-5.9	-6.2	-6.5	-6.7	-7.9	-8.8	-7.7	-6.7
Net FDI (negative = inflow)	-2.4	-4.5	-2.2	-2.4	-2.4	-2.5	-2.5	-2.5	-2.5	-2.8	-2.6
Endogenous debt dynamics 2/	-9.4	-2.2	-1.8	-1.8	-1.7	-1.6	-1.5	-1.5	-1.5	-3.3	-1.6
Contribution from nominal interest rate	0.8	0.5	0.5	0.6	0.7	0.8	0.8	0.7	0.7		
Contribution from real GDP growth	-2.4	-2.7	-2.3	-2.3	-2.3	-2.3	-2.3	-2.2	-2.2		
Contribution from price and exchange rate changes	-7.8	...	...	...	...	...	...	...	...		
Residual 3/	-2.3	-5.2	-4.1	-4.6	-4.5	-3.6	-2.6	-2.1	-0.5	-0.9	-3.3
of which: exceptional financing	-0.3	-0.8	-0.8	-0.2	-0.1	0.0	0.0	0.0	0.0		
<b>Sustainability indicators</b>											
PV of PPG external debt-to-GDP ratio	12.4	11.9	13.0	13.5	13.7	13.6	13.3	12.0	13.8		
PV of PPG external debt-to-exports ratio	40.6	39.1	41.3	42.3	42.5	42.0	41.2	36.6	41.2		
PPG debt service-to-exports ratio	6.8	5.7	5.2	4.5	4.1	3.5	3.8	4.0	7.5		
PPG debt service-to-revenue ratio	6.9	5.9	5.6	4.9	4.4	3.8	4.1	4.5	8.6		
Gross external financing need (Million of U.S. dollars)	3106.9	3169.8	3499.0	3654.3	3905.2	4065.5	4361.6	6169.8	12733.0		
<b>Key macroeconomic assumptions</b>											
Real GDP growth (in percent)	4.0	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.3	3.8
GDP deflator in US dollar terms (change in percent)	12.4	0.8	0.5	1.9	1.9	1.9	2.1	1.9	1.9	3.7	1.7
Effective interest rate (percent) 4/	1.4	0.8	0.8	0.9	1.1	1.3	1.3	1.2	1.1	1.1	1.1
Growth of exports of G&S (US dollar terms, in percent)	10.6	4.7	8.0	7.3	6.5	6.3	6.1	6.0	6.0	5.1	6.3
Growth of imports of G&S (US dollar terms, in percent)	18.9	2.6	8.2	6.7	5.7	4.7	4.6	5.9	5.9	3.1	5.5
Grant element of new public sector borrowing (in percent)	...	32.8	26.5	27.9	29.5	32.5	32.5	33.5	12.6	...	31.7
Government revenues (excluding grants, in percent of GDP)	30.3	29.4	29.4	29.4	29.4	29.4	29.3	29.3	29.3	30.0	29.4
Aid flows (in Million of US dollars) 5/	66.5	115.1	193.0	137.6	91.7	99.4	107.8	143.4	198.7		
Grant-equivalent financing (in percent of GDP) 6/	...	1.4	1.6	1.3	0.9	0.8	0.8	0.8	0.5	...	1.0
Grant-equivalent financing (in percent of external financing) 6/	...	52.6	38.1	38.9	36.9	41.4	41.8	42.5	21.9	...	41.7
Nominal GDP (Million of US dollars)	11,309	11,880	12,392	13,102	13,862	14,667	15,546	20,487	36,055		
Nominal dollar GDP growth	16.9	5.0	4.3	5.7	5.8	5.8	6.0	5.8	5.8	7.4	5.6
<b>Memorandum items:</b>											
PV of external debt 7/	61.3	59.1	59.7	59.9	59.9	59.9	60.1	56.9	57.9		
In percent of exports	200.8	194.2	189.8	187.5	186.2	185.4	185.8	173.1	172.6		
Total external debt service-to-exports ratio	65.4	72.7	67.6	66.8	68.5	70.2	73.9	83.3	100.2		
PV of PPG external debt (in Million of US dollars)	1402.8	1413.1	1611.1	1771.6	1894.3	1992.2	2074.5	2468.2	4978.7		
(Pvt-Pvt-1)/GDPt-1 (in percent)	0.1	1.7	1.3	0.9	0.7	0.6	0.6	0.4	0.1		
Non-interest current account deficit that stabilizes debt ratio	14.1	11.8	8.2	8.7	8.6	7.7	6.6	6.1	4.6		

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

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

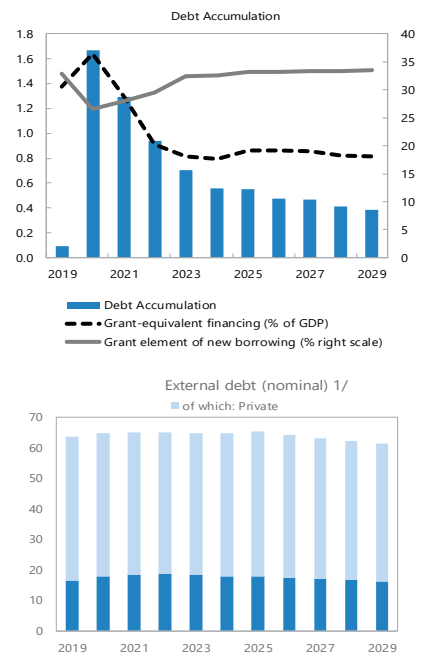
5/ Defined as grants, concessional loans, and debt relief.

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. Moldova: Public Sector Debt Sustainability Framework, Baseline Scenario, 2018–2039**  
(In percent of GDP, unless otherwise indicated)

	Actual		Projections								Average 6/	
	2018	2019	2020	2021	2022	2023	2024	2029	2039	Historical	Projections	
Public sector debt 1/ of which: external debt	30.6 17.5	29.3 16.4	30.8 17.9	31.2 18.5	31.1 18.6	30.9 18.4	30.7 18.0	29.3 16.3	28.5 16.5	31.2 20.1	30.3 17.6	
Change in public sector debt	-2.1	-1.4	1.5	0.4	-0.1	-0.2	-0.3	-0.2	-0.1			
Identified debt-creating flows	-0.9	-1.0	2.0	0.9	0.2	0.0	-0.1	-0.1	-0.2	0.6	0.1	
Primary deficit	0.3	0.7	2.9	2.0	1.3	1.1	1.1	1.0	0.7	1.3	1.3	
Revenue and grants	30.5	30.2	30.1	29.9	29.7	29.6	29.6	29.6	29.5	31.5	29.7	
of which: grants	0.2	0.8	0.7	0.5	0.3	0.3	0.3	0.3	0.3			
Primary (noninterest) expenditure	30.8	30.9	33.0	31.9	30.9	30.8	30.7	30.5	30.3	32.8	31.0	
Automatic debt dynamics	-1.0	-1.7	-0.8	-1.0	-1.1	-1.1	-1.1	-1.0	-0.9			
Contribution from interest rate/growth differential	-1.1	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0	-0.9			
of which: contribution from average real interest rate	0.2	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2			
of which: contribution from real GDP growth	-1.3	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0			
Contribution from real exchange rate depreciation	0.1	...	...	...	...	...	...	...	...			
Other identified debt-creating flows	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.7	0.0	
Privatization receipts (negative)	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	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			
Debt relief (HIPC and other)	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Residual	-1.2	-0.8	-0.3	-0.4	-0.3	-0.1	-0.2	-0.1	0.0	0.1	-0.3	
Sustainability indicators												
PV of public debt-to-GDP ratio 2/	25.8	24.5	25.7	26.0	25.9	26.0	25.9	24.9	25.6			
PV of public debt-to-revenue and grants ratio	84.5	81.4	85.3	86.9	87.5	87.6	87.4	84.2	86.5			
Debt service-to-revenue and grants ratio 3/	13.6	23.8	20.8	22.0	21.8	21.7	23.0	24.5	24.5			
Gross financing need 4/	4.3	7.9	9.1	8.5	7.7	7.5	7.8	8.2	8.0			
Key macroeconomic and fiscal assumptions												
Real GDP growth (in percent)	4.0	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.3	3.8	
Average nominal interest rate on external debt (in percent)	1.3	1.5	1.2	1.2	1.2	1.2	1.2	1.3	2.7	1.3	1.3	
Average real interest rate on domestic debt (in percent)	2.5	-0.3	1.1	1.7	1.7	1.7	1.7	1.4	0.4	-1.2	1.4	
Real exchange rate depreciation (in percent, + indicates depreciation)	0.4	...	...	...	...	...	...	...	...	-0.3	...	
Inflation rate (GDP deflator, in percent)	2.1	5.4	5.4	5.0	5.0	5.0	5.0	5.0	5.0	8.5	5.1	
Growth of real primary spending (deflated by GDP deflator, in percent)	8.3	4.6	10.9	0.3	0.7	3.2	3.5	3.7	3.7	0.8	3.8	
Primary deficit that stabilizes the debt-to-GDP ratio 5/	2.3	2.1	1.4	1.5	1.4	1.3	1.3	1.2	0.9	3.2	1.4	
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			

Sources: Country authorities; and staff estimates and projections.

1/ Coverage of debt: The central, state, and local governments plus social security, central bank, government-guaranteed debt, spending arrears, non-guaranteed majority owned SOE debt. Definition of external debt is Resident.

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.

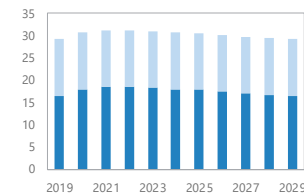
5/ Defined as a primary deficit minus a change in the public debt-to-GDP ratio (i.e., a primary surplus), which would stabilize the debt ratio only in the year in question.

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.

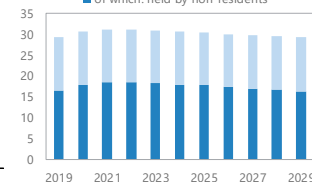
Definition of external/domestic debt	Residency-based
Is there a material difference between the two criteria?	Yes

Public sector debt 1/

■ of which: local-currency denominated  
■ of which: foreign-currency denominated



■ of which: held by residents  
■ of which: held by non-residents



**Table 3. Moldova: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2019–2029**  
(In percent)

	Projections 1/										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>PV of debt-to GDP ratio</b>											
<b>Baseline</b>	12	13	14	14	14	13	13	13	13	12	12
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	12	11	10	8	8	8	8	9	9	10	11
<b>B. Bound Tests</b>											
B1. Real GDP growth	12	14	16	16	16	16	15	15	15	14	14
B2. Primary balance	12	13	14	14	15	14	14	14	14	14	13
B3. Exports	12	18	28	28	28	27	27	25	24	22	21
B4. Other flows 3/	12	16	19	19	19	19	18	18	17	16	16
B5. Depreciation	12	16	11	11	11	11	11	11	11	11	11
B6. Combination of B1-B5	12	19	20	20	20	19	19	18	17	17	16
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	12	15	17	17	18	18	18	18	18	18	18
<b>Threshold</b>	55	55	55	55	55	55	55	55	55	55	55
<b>PV of debt-to-exports ratio</b>											
<b>Baseline</b>	39	41	42	42	42	41	41	40	39	38	37
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	39	34	30	26	24	24	25	26	29	31	35
<b>B. Bound Tests</b>											
B1. Real GDP growth	39	41	42	42	42	41	41	40	39	38	37
B2. Primary balance	39	42	44	45	45	45	44	43	42	41	40
B3. Exports	39	70	130	129	127	125	121	114	108	101	95
B4. Other flows 3/	39	51	60	60	59	58	57	54	52	50	47
B5. Depreciation	39	41	27	27	27	26	26	26	27	27	27
B6. Combination of B1-B5	39	63	55	70	69	68	66	63	61	58	56
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	39	48	52	54	56	56	57	56	56	56	55
<b>Threshold</b>	240	240	240	240	240	240	240	240	240	240	240
<b>Debt service-to-exports ratio</b>											
<b>Baseline</b>	6	5	4	4	3	4	4	4	4	4	4
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	6	5	4	4	3	3	3	3	3	2	3
<b>B. Bound Tests</b>											
B1. Real GDP growth	6	5	4	4	3	4	4	4	4	4	4
B2. Primary balance	6	5	4	4	4	4	4	4	4	4	4
B3. Exports	6	7	8	8	7	7	9	12	12	11	11
B4. Other flows 3/	6	5	5	4	4	4	5	6	6	5	5
B5. Depreciation	6	5	4	4	3	3	4	3	3	3	3
B6. Combination of B1-B5	6	6	6	5	5	5	7	7	7	6	6
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	6	5	5	4	4	4	4	5	4	4	4
<b>Threshold</b>	21	21	21	21	21	21	21	21	21	21	21
<b>Debt service-to-revenue ratio</b>											
<b>Baseline</b>	6	6	5	4	4	4	5	5	5	5	5
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	6	5	5	4	3	4	3	3	3	3	3
<b>B. Bound Tests</b>											
B1. Real GDP growth	6	6	6	5	4	5	5	6	5	5	5
B2. Primary balance	6	6	5	4	4	4	5	5	5	5	5
B3. Exports	6	6	5	6	5	5	7	9	9	8	8
B4. Other flows 3/	6	6	5	5	4	4	6	6	6	6	6
B5. Depreciation	6	7	6	5	4	5	5	4	4	4	4
B6. Combination of B1-B5	6	6	6	5	5	5	7	7	6	6	6
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	6	6	5	5	4	4	5	5	5	5	5
<b>Threshold</b>	23	23	23	23	23	23	23	23	23	23	23

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. Moldova: Sensitivity Analysis for Key Indicators of Public Debt 2019–2029**

	Projections 1/										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>PV of Debt-to-GDP Ratio</b>											
<b>Baseline</b>	25	26	26	26	26	26	26	25	25	25	25
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	25	24	23	22	22	22	22	21	21	20	20
<b>B. Bound Tests</b>											
B1. Real GDP growth	25	30	37	41	45	49	52	55	58	61	64
B2. Primary balance	25	27	29	28	28	28	28	27	27	27	27
B3. Exports	25	30	38	38	38	38	37	36	35	34	32
B4. Other flows 3/	25	29	32	32	31	31	31	30	29	29	28
B5. Depreciation	25	26	24	22	21	19	18	16	14	13	11
B6. Combination of B1-B5	25	26	27	27	27	27	27	27	27	27	27
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	25	37	36	36	35	35	34	34	33	33	33
<b>TOTAL public debt benchmark</b>	70	70	70	70	70	70	70	70	70	70	70
<b>PV of Debt-to-Revenue Ratio</b>											
<b>Baseline</b>	81	85	87	87	88	87	87	86	85	85	84
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	81	79	77	76	75	74	73	71	70	69	68
<b>B. Bound Tests</b>											
B1. Real GDP growth	81	99	123	138	152	164	176	186	197	207	217
B2. Primary balance	81	90	95	96	95	95	94	93	92	91	90
B3. Exports	81	100	128	129	128	128	126	121	117	113	110
B4. Other flows 3/	81	95	106	106	106	106	104	102	100	98	96
B5. Depreciation	81	86	80	76	71	66	60	54	48	43	38
B6. Combination of B1-B5	81	86	90	91	92	92	92	91	91	90	90
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	81	122	122	121	120	118	116	115	113	112	111
<b>Debt Service-to-Revenue Ratio</b>											
<b>Baseline</b>	24	21	22	22	22	23	25	24	24	24	25
<b>A. Alternative Scenarios</b>											
A1. Key variables at their historical averages in 2019-2029 2/	24	20	19	18	17	19	20	20	19	19	19
<b>B. Bound Tests</b>											
B1. Real GDP growth	24	22	29	35	41	48	54	57	60	63	67
B2. Primary balance	24	21	24	26	25	26	27	26	26	26	26
B3. Exports	24	21	22	23	22	24	26	28	27	27	28
B4. Other flows 3/	24	21	22	22	22	23	26	26	25	25	26
B5. Depreciation	24	20	22	18	20	21	23	22	21	21	21
B6. Combination of B1-B5	24	21	22	23	23	25	27	26	26	26	27
<b>C. Tailored Tests</b>											
C1. Combined contingent liabilities	24	21	40	36	36	34	34	32	30	29	29

Sources: Country authorities; and staff estimates and projections.

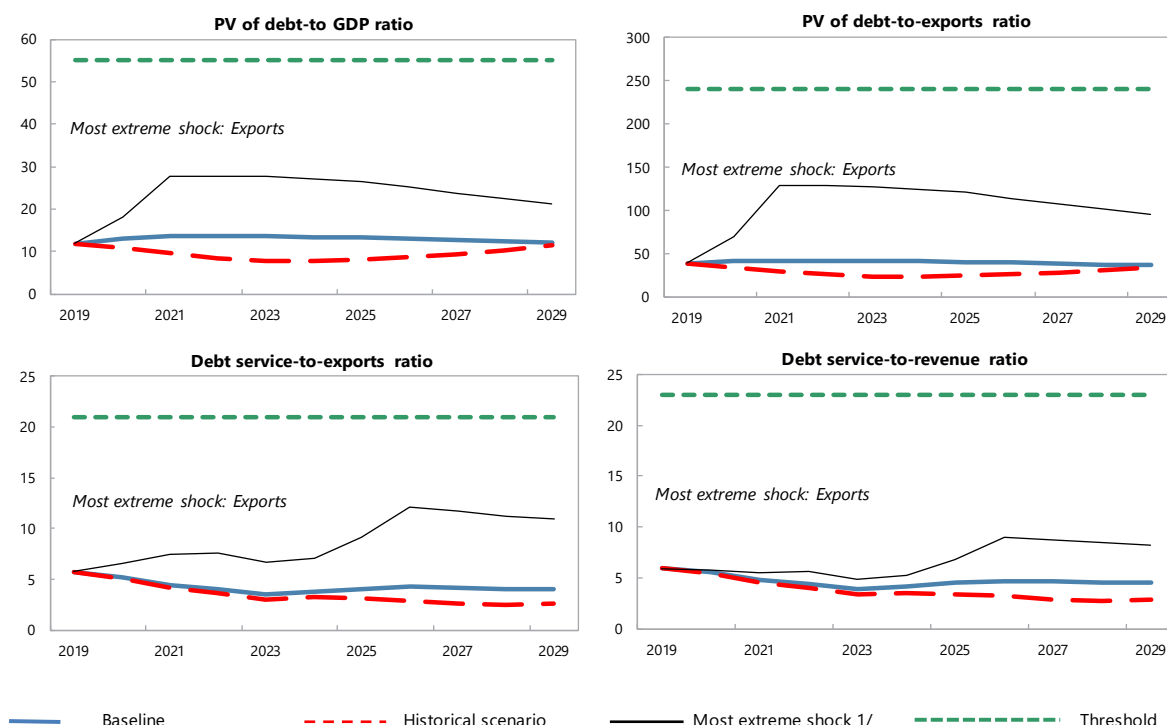
1/ A bold value indicates a breach of the benchmark.

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

3/ Includes official and private transfers and FDI.



**Figure 1. Moldova: Indicators of Public Guaranteed External Debt Under Alternatives Scenarios, 2019–2029**



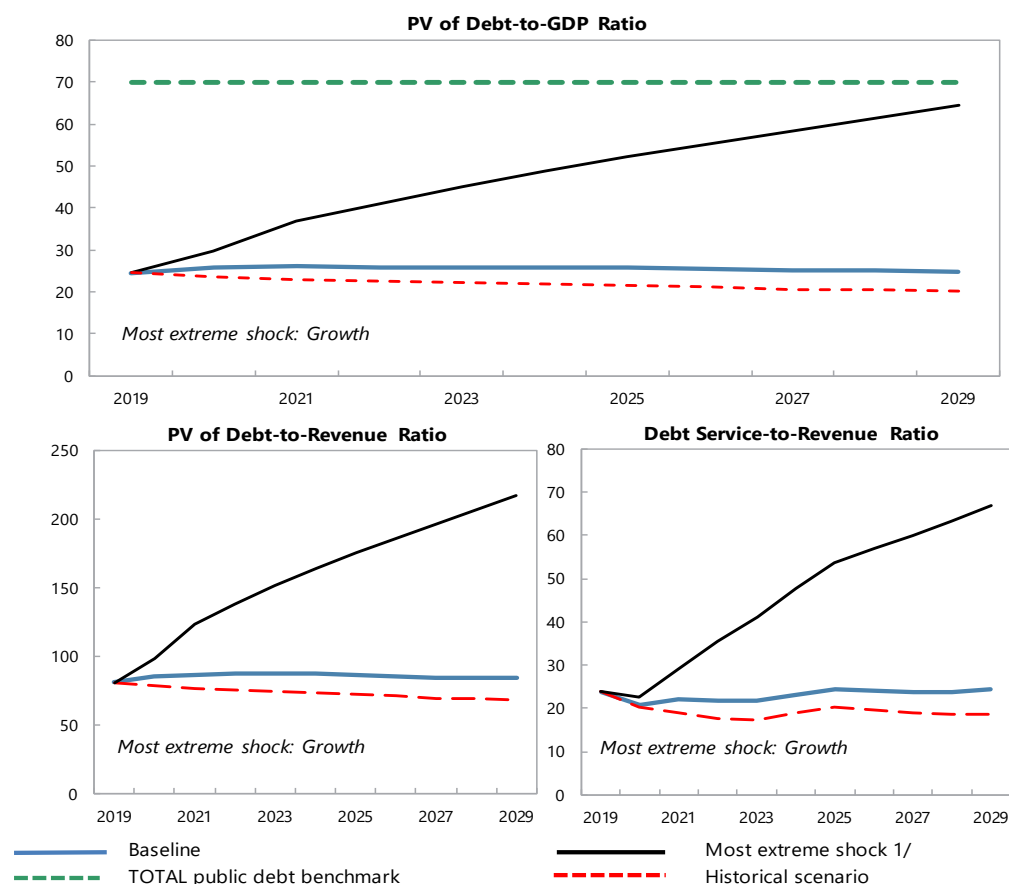
Customization of Default Settings			Borrowing assumptions on additional financing needs resulting from the stress tests*		
	Size	Interactions		Default	User defined
<b>Tailored Stress</b>			<b>Shares of marginal debt</b>		
Combined CL	Yes		External PPG MLT debt	100%	
Natural disaster	n.a.	n.a.	<b>Terms of marginal debt</b>		
Commodity price	n.a.	n.a.	Avg. nominal interest rate on new borrowing in USD	1.4%	1.4%
Market financing	n.a.	n.a.	USD Discount rate	5.0%	5.0%
			Avg. maturity (incl. grace period)	19	19
			Avg. grace period	4	4

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: Country authorities; and staff estimates and projections.

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

**Figure 2. Moldova: Indicators of Public Debt Under Alternative Scenarios, 2019–2029**

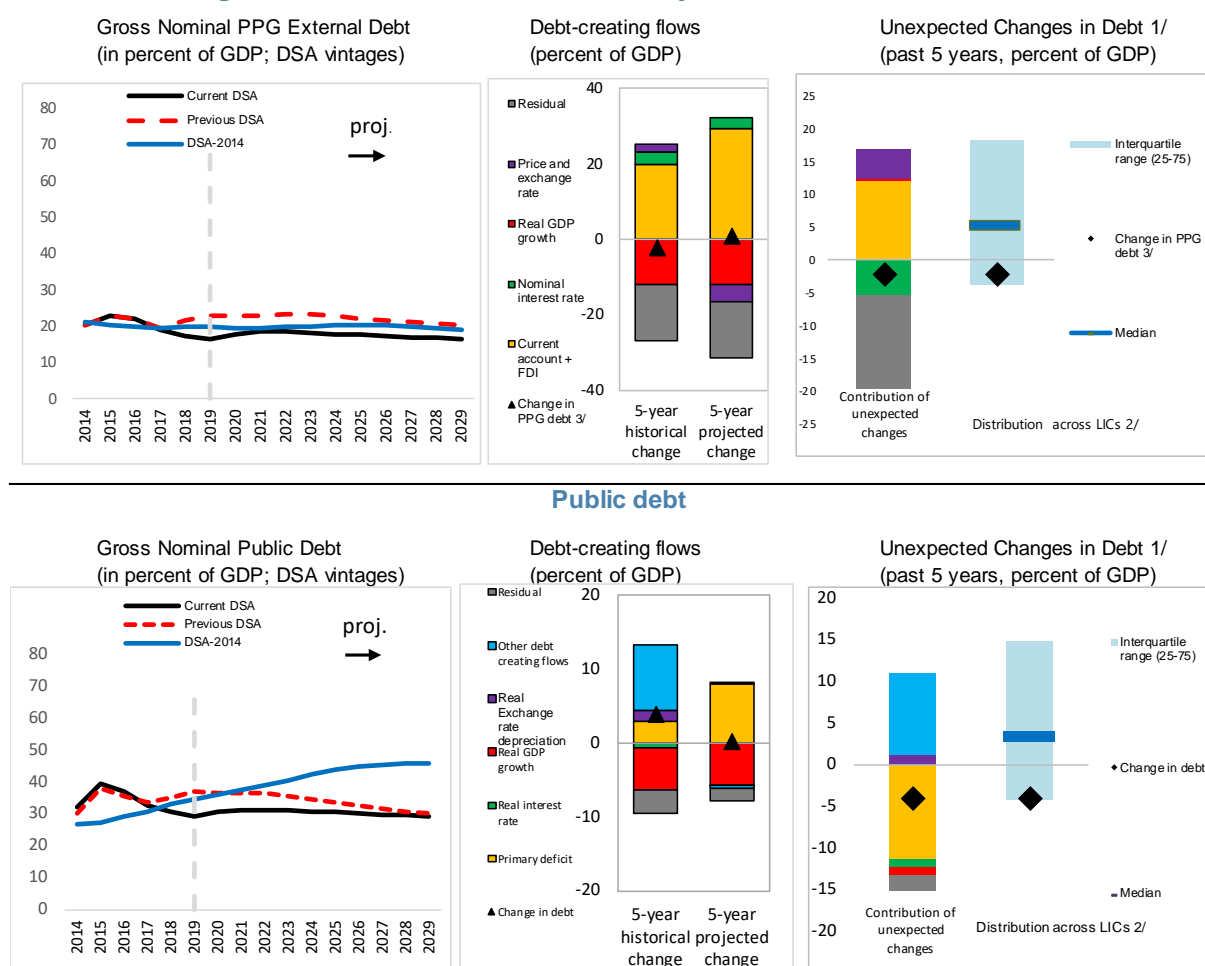
Borrowing assumptions on additional financing needs resulting from the stress tests*	Default	User defined
<b>Shares of marginal debt</b>		
External PPG medium and long-term	26%	26%
Domestic medium and long-term	32%	32%
Domestic short-term	42%	42%
<b>Terms of marginal debt</b>		
External MLT debt		
Avg. nominal interest rate on new borrowing in USD	1.4%	1.4%
Avg. maturity (incl. grace period)	19	19
Avg. grace period	4	4
Domestic MLT debt		
Avg. real interest rate on new borrowing	2.4%	2.4%
Avg. maturity (incl. grace period)	3	3
Avg. grace period	1	1
Domestic short-term debt		
Avg. real interest rate	1.9%	1.9%

\* 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

Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in or before 2029. The stress test with a one-off breach is also presented (if any), while the one-off breach is deemed away for mechanical signals.

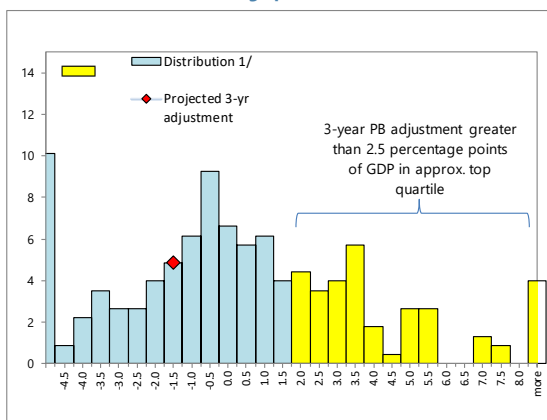
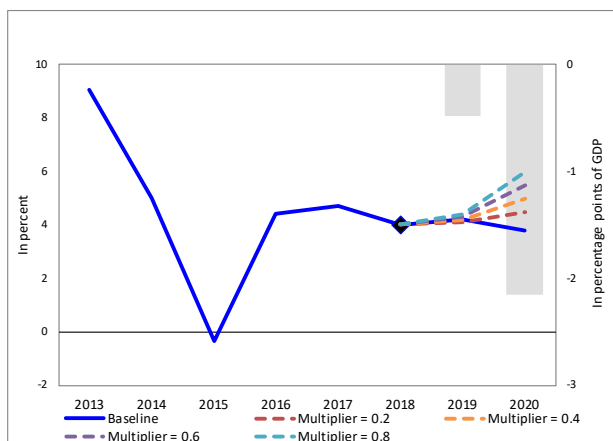
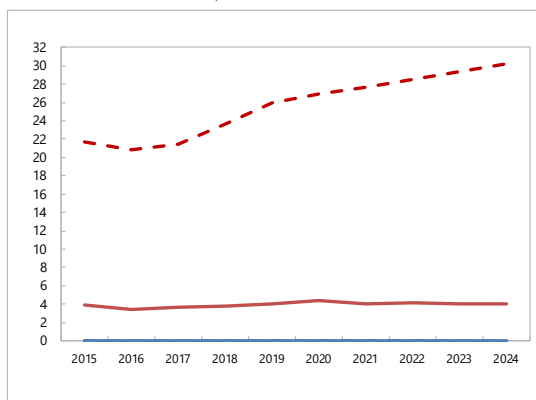
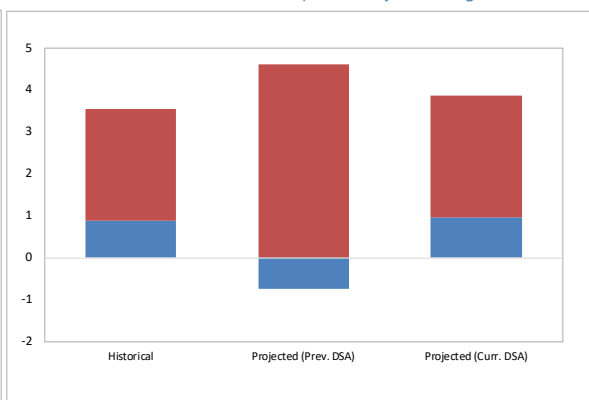
When a stress test with a one-off breach happens to be the most extreme shock even after disregarding the one-off breach, only that stress test (with a one-off breach) would be presented.

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

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. Moldova: Realism Tools****3-Year Adjustment in Primary Balance  
(Percentage points of GDP)****Fiscal Adjustment and Possible Growth Paths 1/****Public and Private Investment Rates  
(percent of GDP)****Contribution to Real GDP growth  
(percent, 5-year average)**

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

Contribution of other factors  
Contribution of government capital