INTERNATIONAL MONETARY FUND

REPUBLIC OF MOLDOVA

STAFF REPORT FOR THE 2015 ARTICLE IV CONSULTATION AND THIRD POST-PROGRAM MONITORING DISCUSSIONS—DEBT SUSTAINABILITY ANALYSIS

December 1, 2015

Approved By
Mary B. Goodman and James Gordon (IMF), and Ivailo Izvorski (IDA)

Prepared by Staff of the International Monetary Fund and the International Development Association

Based on an assessment of public external debt, Moldova's risk of debt distress remains low.[1 2 3] *Overall public debt dynamics are sustainable but with a significantly higher debt level in the near term. Private external debt is unusually high for a low-income country. In view of the country's vulnerability to exogenous developments and the banking crisis, fiscal discipline is critical to ensure debt sustainability.*

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[1] This full DSA is prepared jointly by IMF and World Bank staff, in consultation with the Moldovan authorities, using the debt sustainability framework for low-income countries approved by the Boards of both institutions, and in accordance with the new staff guidance note on the application of the joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (SM/13/292).

[2] The inclusion of the overall risk is in line with the staff guidance note on the application of the joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (SM/13/292). This assessment reflects the high level of external private sector debt.

[3] Moldova's rating on the World Bank's Country Policy and Institutional Assessment (CPIA) averaged 3.82 over the last three years (2012-2014), which places the country at the lower-end of the strong policy performance category.

BACKGROUND

1. **Moldova's total external debt is estimated to be about 107 percent of GDP at end-2015, compared to 85½ percent of GDP at end-2014.** Private external debt (as a share of GDP), which accounts for about 70 percent of total external debt, is projected to increase by 12½ percentage points, while public and public-guaranteed (PPG) external debt to GDP is projected to increase by 9 percentage points. PPG external debt is held mainly by multilateral and bilateral donors, and is mostly medium- and long-term.

2. **Total PPG debt-to-GDP is estimated to increase by 14½ percentage points to 52 percent by end-2015.**[4] While more than half of PPG debt is external, the share of PPG domestic debt has increased rapidly in the past two years due to the issuance of a state guarantee to the NBM to provide liquidity to the banking sector. As the guarantees become callable, the PPG domestic debt structure is expected to change significantly due to long-term government securities to be issued to the NBM, which will make up about 67 percent of PPG domestic debt. The rest of PPG domestic debt is mainly short-term and held by the banking system.

3. **Private sector debt is high compared with other low-income countries.**[5] The stock of external private sector debt has decreased in 2014 after a decade of accumulation, reaching USD 4.8 billion at end–2014, mostly due to a decrease in long-term bank loans. Because of concerns over the problem banks, the banking system, as a whole, faced difficulties in rolling over debt. As a result, the banks' share of total private external debt dropped to 8 percent by end-2014 compared with 9½ percent by end-2013. The share of medium- and long-term debt in total external private debt was about 53 percent, at end-2014. The majority of non-bank debt is short-term, and consists of trade credits, arrears and other debt liabilities, mostly for the import of natural resources.[6] Similar to other Central and Eastern European (CEE) countries, private borrowing in Moldova stems mainly from foreign-owned companies borrowing from their parent companies abroad.

4. **Moldova has recently become a strong policy performer for the purpose of determining the indicative debt burden thresholds under the Debt Sustainability Framework (DSF).** Moldova's rating

[4] PPG debt covers gross debt of the general government, while debt of state-owned enterprises is not included unless it is explicitly guaranteed by the government. In line with the DSA guidelines, public debt includes liabilities towards the IMF. Small differences with the macro-framework can be mostly explained by the fact that the DSA debt does not include arrears. In addition, small differences in the primary surplus arise because, in the DSA, it is calculated as the overall balance net of interest payments. On the other hand, in the macro-framework, it is calculated as the overall balance net of interest payments and earnings.

[5] By end-2014, the average private external debt amounted around 30 percent of GDP in twelve PRGT eligible countries that, like Moldova, currently meet the income or market access criteria for graduation. The private external debt of Moldova is substantially higher – by end-2014, it stood at 70 percent of GDP, only below that of Mongolia (133 percent) and Grenada (78 percent).

[6] Arrears (mainly in the gas sector) increased from USD 136.8 million in 2013 to around USD 172.3 in 2014. Other debt liabilities (mainly from other energy sectors) increased from USD 537.7 million in 2013 to USD 653.7 million in 2014.

on the World Bank's Country Policy and Institutional Assessment (CPIA) averaged 3.82 (on a scale of 1 to 6) over the last three years (2012–2014), which places the country at the lower-end of the strong policy performance category. The corresponding benchmark levels associated with heightened public debt vulnerabilities are presented in Table 1.[7] [8]

Table 1. Debt Thresholds for Strong Policy Performers under the Debt Sustainability Framework

PPG External Debt Thresholds

PV of PPG external debt, in percent of		PPG External debt service, in percent of	
GDP + remittances	45	Exports + remittances	20
Export + remittances	160	Revenue	22
Revenue + remittances	300		
Public Debt Benchmark			
PV of total public debt, in percent of GDP	74		

Source: Staff Guidance Note on the Application of the Joint Bank-Fund Debt Sustainability Framework for low-income countries (SM/13/292).

UNDERLYING ASSUMPTIONS

5. The macroeconomic outlook has been revised to reflect changes in near- and medium-term projections compared to the previous DSA assessment. In 2014, the Moldovan economy grew by 4.6 percent, driven in large part by a robust performance in agricultural production. However, year-on-year exports started declining in the third quarter of 2014 because of weaker economic activity in key trading partners and the trade restriction imposed by Russia.[9] In 2015, growth is projected to contract by 1.8 percent, mainly reflecting these on-going negative external factors together with a sharp decline in remittances, and tight domestic and external financing conditions. Despite the anticipated slowdown in growth, headline inflation is projected to increase to 9.7 percent, significantly higher than that in the previous DSA, due to larger than expected currency depreciation and excess liquidity in the banking sector. The current account deficit is expected to improve in 2015, mainly explained by a sharp reduction in imports due to lower energy prices. However, capital flows recorded in the capital and financial accounts are expected to recover, but remain substantially lower than the pre-2014 level because of tightening external financing conditions. Therefore, the reserve position in 2015 is expected to deteriorate further to finance the current account deficit. The fiscal position in 2015 is projected to be weak as banking system

[7] See the staff guidance note on the application of the joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (SM/13/292).

[8] Since Moldova's CPIA score is at the lower end of the strong policy performers, any moderate deterioration in macroeconomic management and institutions could push the country into a lower category (e.g. when the next CPIA updates are published in July 2016). Such a re-classification would reduce the debt threshold levels and may affect the assessment of debt sustainability. For the medium policy performers, the PPG external debt threshold is 36 percent and the public debt benchmark is 56 percent.

[9] For more details on trade restrictions, see "Republic of Moldova: 2014 Second PPM Monitoring Discussions – Staff Report", IMF Country Report No. 14/346, Annex I.

risks have materialized, and tax revenues have slowed with economic activity. Over the medium and long term, main macroeconomic projections improve gradually and continuously, similar to what have been previously projected.

Table 2. Moldova: Evolution of Selected Macroeconomic Indicators, 2014–2019

(Percent of GDP, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019
Real GDP growth (Percent)						
Previous DSA	2.2	3.5	4	4	4	4
Current DSA	4.6	-1.8	1.5	3.5	3.9	4.3
Nominal GDP (Billions of U.S. dollars)						
Previous DSA	7.6	8.1	8.7	9.2	9.8	10.4
Current DSA	8	6.3	6.3	6.7	7.1	7.6
Overall fiscal balance						
Previous DSA	-2.6	-4.6	-4.8	-5.1	-4.8	-4.7
Current DSA	-1.7	-3.4	-3.2	-2.6	-2	-1.7
Current account balance						
Previous DSA	-7.4	-8.2	-8.1	-8	-7.9	-7.7
Current DSA	-7.1	-6.9	-6.8	-6	-5.8	-5.4

Source: Staff estimates and projections.

Note: For the previous DSA, see IMF Country Report No. 14/190

Box 1. Macroeconomic Assumptions behind the DSA

Real GDP is projected to decline by 1.8 percent in 2015, due to weaker economic activity in Russia and Ukraine, a sharp decline in remittances (associated with the recession in Russia), and slow credit growth to the private sector. Over the medium term, FDI is expected to recover following the signing of the DCFTA with the EU, as well as advances in structural reforms will help sustain the economy's potential growth rate at around 4-4½ percent.

Inflation is expected increase to 9.7 percent in 2015, driven by a currency depreciation and large excess liquidity in the banking sector. Weakening currency and increases in utility tariffs are expected to keep inflation elevated in 2016. Over the medium term, headline inflation is expected to be around 5 percent, in line with the NBM's target.

Exports of goods and services (in US dollars) are expected to decline by 16.7 percent in 2015, mainly driven by declining unit-value prices of exports, in particular of agricultural products. However, exports of goods and services, as a ratio of GDP, are projected to reach 44 percent in 2015, compared to 41.6 percent in 2014. This expected increase in exports, as a share of GDP, is mainly due to the recent depreciation of the leu. Over the medium and long term, exports are supported by structural reforms related to the business environment improvement, improvement in quality and standards of agricultural exports (with supports from other international financial institutions), and cross border trade liberalization to European markets. As a result, exports as a ratio of GDP are projected to reach 47 and 48.5 percent in 2020 and 2035, respectively.

Imports of goods and services (in US dollars) are projected to contract by 23.3 percent in 2015 due to a large decline in global commodity prices and moderate domestic demand (arising from the large decline in remittances growth). Imports, as a ratio of GDP, are projected to decline from 78.5 percent in 2014 to 76.6 percent in 2015, and recover to 79.5 percent in the medium term. With favorable external adjustments, imports of goods and services, as a ratio of GDP, are projected to reach 80 percent in 2035.

Remittances are expected to decline to 19.9 percent of GDP in 2015, mainly due to the recession in Russia and the depreciation of the Ruble. In the medium term, remittances are expected to recover to 22.5 percent of GDP, owing to the recovery in the remittance-sourcing countries. In the long term, as the economy develops, the number of migrants is expected to decline due to better domestic employment opportunities, and migrants who remain abroad would lose ties with the home country. As a result, remittances as a ratio of GDP are projected to gradually decline to 21.5 percent by end-2035.

The current account deficit is projected to narrow in the medium term (5.3 percent of GDP in 2020), following the projected improvement from 6.9 percent in 2015. This reflects a recovery in exports and curbed import demand as discussed above. The current account deficit is expected to remain stable at about 5.6 percent of GDP in 2035. It will be financed by FDI, which is expected to remain at about 3.1 percent of GDP in the long run. The reserve level, as a share of GDP, is projected to decline to 21.8 percent in 2020 and stabilize at 22.5 percent of GDP by end-2035.

The overall budget deficit is projected to increase from 1.7 percent of GDP in 2014 to 3.4 percent in 2015 (or 15.1 percent in 2015, when the costs of the banking sector resolution are included), then decline to 2 percent in 2018 and 1½ percent by 2020, reflecting the authorities' strong commitments to ensure fiscal sustainability as specified under the Law on Public Finance and Fiscal Responsibility (FRL). The increased budget deficit in 2015 is due to revenue deterioration due to a weak external outlook, the full-year effect of selective spending from pre-election pressure during 2014. Over the long run, the primary balance is assumed to be around -0.8 percent of GDP.

Box 1. Macroeconomic Assumptions behind the DSA (concluded)

The fiscal cost of banking sector resolution is incorporated into the analysis of debt sustainability. The baseline scenario assumes the issuance of 14 billion leu of securities by end-2015 with an effective annual interest rate of 5 percent, which is estimated to be sufficient to adequately compensate the NBM for the cost of withdrawing excess liquidity while containing, to some extent, the fiscal implications of higher debt service. Half of the securities are assumed to have a maturity of 10 years, while the other half have a 30-year maturity, both with a 5-year grace period for repayments of principal. These assumptions imply the interest payments of around 0.4 to 0.5 percent of GDP over the medium term.

Financing assumptions reflect a shift away from concessional financing. Grant-equivalent financing is projected to increase slightly from 2.9 percent of GDP in 2015 to 3.1 percent in 2016, before declining to 1.8 percent in 2020, and 1.3 percent over the long run. The long-run trend reflects assumptions of declining concessional lending and increasing in commercial borrowing (which has a negative weight on the calculation of the grant element of new external borrowing that is shown in Figure 1A), while maintaining the total new external borrowing of 2½ percent of GDP. Correspondingly, the grant element of new borrowing increases from 29.7 percent in 2015 to 31.5 percent in 2020, and is expected to gradually decline to 18.5 percent in the long run.

EXTERNAL AND PUBLIC DEBT SUSTAINABILITY

A. External Debt Sustainability Analysis

6. **All external public debt ratios remain well below the indicative thresholds under the baseline and stress tests scenarios.**[10] Under the baseline scenario, the PV of debt-to-GDP and remittances would increase significantly from 17½ percent in 2014 to 24½ percent in 2015, and would gradually decline to around 20 percent in the medium term.[11] The increase in the near term reflects a currency depreciation as well as an increase in multilateral borrowing. In the long term, the PV of debt-to-GDP and remittances would improve continuously to around 18 and 13½ percent in 2025 and 2035, respectively. Under the alternative scenario in which exports grow at their historical average minus one standard deviation in 2016-17, the PV of debt-to-GDP and remittances would peak at 32½ percent in 2017, before declining to 22¾ and 13¾ percent in 2025 and 2035, respectively. A 30-percent real depreciation in 2016 would result in a similar increase in the PV of debt-to-GDP and remittances in the medium term. Meanwhile, if the key variables remained at their historical averages, the PV of debt to GDP and remittances would continuously increase to around 31 percent in the long run. The PV of debt-to-exports and remittances as well as to revenue would also increase relatively more under the alternative and bound test scenarios, but none of them breach the threshold. This result is an indication of the significant fiscal and external adjustments proposed in the medium term. At the same time, it underscores the need for reforms.

7. **While the external risk rating is determined by the PPG external debt, large private external debt poses additional risks.** Private external debt accounted for around 72 percent of the total external debt in 2014 and it is expected to remain at around 68 percent in the medium term (Text Table 3). Since short-term debt makes up almost half of private external debt, it might be vulnerable to roll-over risks. In addition, more than 85 percent of medium- and long-term private external debt is owed by the non-bank private sector, which poses additional risks to official foreign reserves.

8. **Furthermore, while exports, remittances, and fiscal revenues are projected to be adequate for the PPG external debt service, liquidity risks remain.** Under the baseline scenario, the PV of PPG external debt service to exports and remittances is expected to increase to 2½ percent in 2015 and peak at 4½ percent in 2020 before declining to around 3 percent by end-2035. Similarly, the PV of PPG external debt service to revenues would peak in 2020 and then gradually decline until the end of the projection period. None of the debt service indicators breach the debt service threshold, but some liquidity pressures could emerge. The decline in remittances reflects a downside risk to the external DSA due to the recession in Russia and the depreciation of the Ruble. After improving in 2012 and 2013, the current account

[10] Remittances in Moldova are substantial, with the three-year (2012-2014) averages of 21.7 percent of GDP and 46.4 percent of exports of goods and services. Following the staff guidance note on the application of the joint Bank-Fund Debt Sustainability Framework for Low-Income Countries (SM/13/292), the baseline scenario incorporates remittances and uses the adjusted PPG external debt thresholds as presented in Text Table 1.

[11] In Moldova, remittances are classified as either workers' remittances or compensation of employees. Both categories are included in the DSA (under "income" and "current transfers").

deteriorated again, which interrupted the reserves build-up of NBM, impairing the economy's resilience to adverse exogenous shocks.

Table 3. Moldova: Breakdown of External Debt, 2012–20
(Millions of U.S. dollars, unless otherwise indicated)

	2012	2013	2014	2015	2016	2017	2018	2019	2020
						Proj.			
Total External Debt	6,007	6,632	6,604	6,440	6,718	7,034	7,262	7,423	7,585
Total PPG	1,756	1,769	1,820	1,889	2,097	2,311	2,397	2,417	2,419
Multilateral	1,522	1,552	1,591	1,644	1,866	2,095	2,199	2,244	2,277
World Bank	618	605	625	638	717	824	876	924	964
IMF	794	772	703	636	625	597	570	489	414
EC, EIB, CEDB	88	115	161	246	352	453	529	605	669
EBRD	23	32	57	67	109	153	155	155	157
IFAD	54	64	67	71	72	73	74	75	76
Bilateral	201	152	130	122	114	104	91	72	51
Paris Club	172	141	121	115	108	101	90	77	62
Paris Club: ODA	48	42	40	37	35	32	28	24	20
Paris Club: non-ODA	116	98	81	78	74	69	62	53	42
Other Official Bilateral	28	11	9	7	5	3	1	-5	-11
Commercial	19	17	14	13	13	13	13	13	13
Publicly guarenteed assumed debt/private del	15	49	85	110	104	98	94	87	78
Total Private	4,251	4,862	4,784	4,552	4,621	4,723	4,865	5,006	5,166
Loans	2,473	2,752	2,612	2,502	2,530	2,552	2,582	2,615	2,649
Short terms	49	95	61	39	43	46	49	53	57
Banks	19	43	41	30	33	35	38	41	44
Other private sectors	31	53	20	9	10	10	11	12	13
Medium and Long terms	2,423	2,657	2,551	2,463	2,487	2,506	2,533	2,562	2,592
Banks	402	423	343	381	385	388	392	396	401
Other private sectors	2,022	2,234	2,208	2,082	2,102	2,118	2,141	2,166	2,191
Other short term	1,778	2,110	2,172	2,049	2,091	2,172	2,283	2,391	2,517
Currency and deposits	145	371	234	75	75	80	86	92	96
Trade credits	988	1,050	1,071	1,103	1,140	1,212	1,313	1,410	1,528
Other debt liabilities	645	689	867	871	876	880	884	889	893

Source: Country authorities; and staff estimates and projections

B. Public Sector Debt Sustainability Analysis

9. Under the baseline scenario, the PPG debt-to-GDP ratio is projected to increase significantly in 2015 and gradually decline over the medium and long term, reflecting sustainable public debt dynamics. Total nominal PPG debt-to-GDP ratio would increase from 37½ percent in 2014 to about 52 percent in 2015 (or 46 percent in PV terms). The increase in the domestic PPG debt-to-GDP ratio is mainly explained by the costs of the banking sector resolution, while the increase in the external PPG debt-to-GDP ratio is driven by the currency depreciation.[12] With the macroeconomic assumptions outlined above, the recommended primary budget deficit path is projected to be below the level that would stabilize the debt-to-GDP ratio. As a result, Moldova's total PPG debt is expected to gradually decline from its peak in 2015 to 40 percent in 2020 and 22½ percent by end-2035. Other sustainability indicators confirm a similar long-term trend under the baseline scenario. PV of debt-to-GDP is projected to deteriorate from 32½ percent in 2014 to 45¾ percent in 2015, and then gradually improve to 34½ percent and 18¾ percent in 2020 and 2035 respectively. These PV of debt indicators are below the benchmark level of 74 percent associated with heightened public debt vulnerabilities for the strong policy performance category. Similarly, the PV of debt-to-revenue and grants ratio is projected to initially increase to 131¼ percent in 2015, and decline continuously to 100½ and 54½ percent by 2020 and end-2035, respectively.

10. While the inclusion of domestic debt does not alter the assessment of Moldova's overall risk of debt distress, it emphasizes the importance of prudent fiscal and borrowing policies for the preservation of the low risk rating. Under all standard alternative scenarios presented in the DSA, the PV of public debt-to-GDP is projected to be well below the benchmark level of 74 percent. However, some alternative scenarios would raise the public debt level faster than others. For example, a 30-percent real depreciation in 2016 would have the strongest impact in the short run with the PV of debt-to-GDP ratio being above 50 percent in 2016–17. Similarly, a 10-percent of GDP increase in other debt creating flows in 2016 would cause the PV of debt-to-GDP to peak at 51 percent in that year. Such a shock is of a similar order of magnitude as what may arise from the combination of additional contingent liabilities needed from the rest of the banking system and from the accumulated energy tariff debt.

C. The Authorities' View

11. The authorities concurred with the staff assessment, and noted the importance of fiscal sustainability. The authorities acknowledged that maintaining prudent fiscal policies over the medium term would help protect against potential fiscal risks and liabilities, and hence would strengthen debt sustainability. However, they also stressed the need for flexibility to be able to finance capital investment in particular when projects are financed by concessional lending. They emphasized that these projects are essential to making progress in poverty reduction, filling infrastructure gaps, and institution strengthening.

CONCLUSION

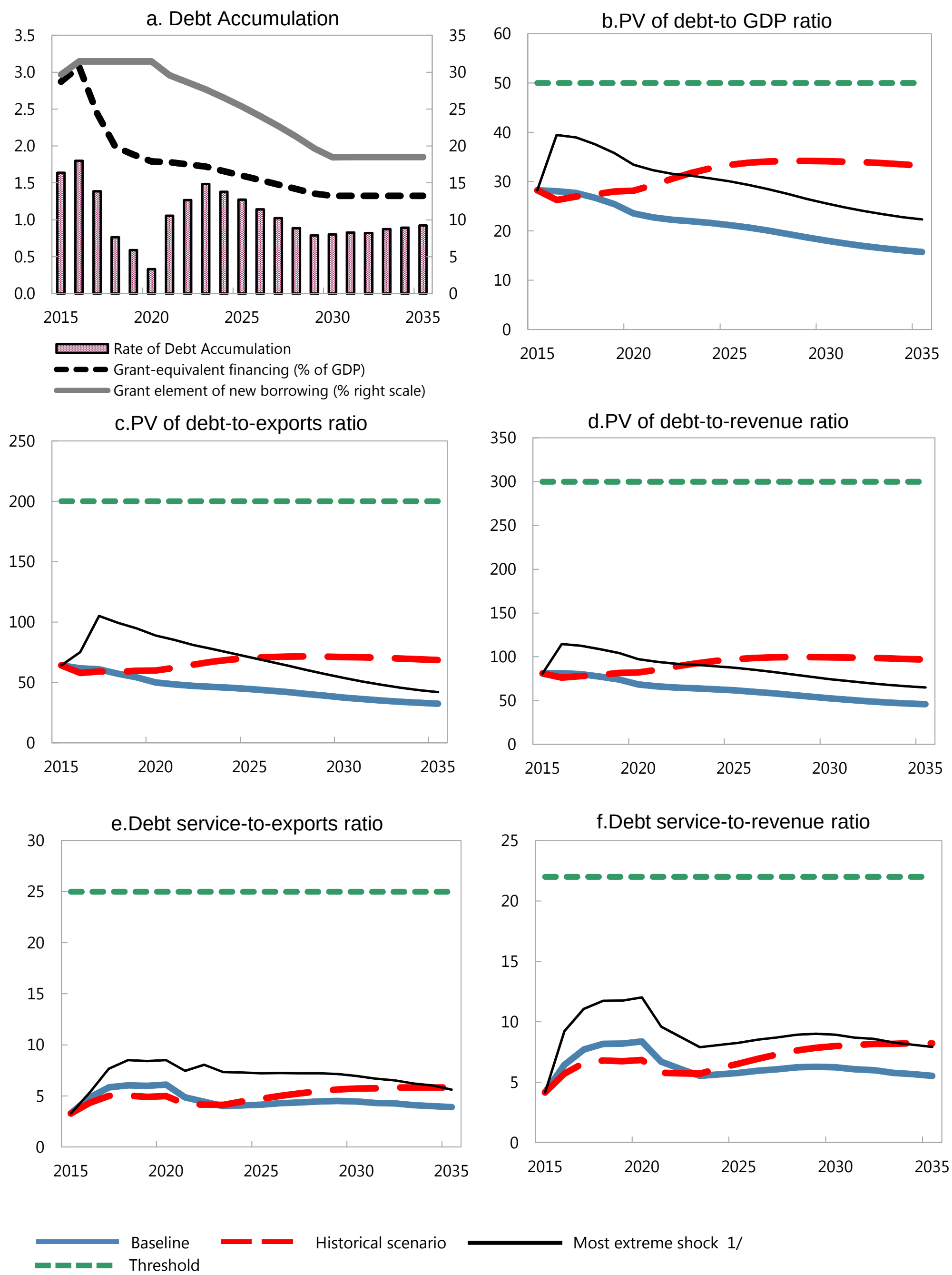
12. The DSA indicates that Moldova's risk of debt distress remains low, in line with the 2014 assessment. All external indicators for public debt remain well below the debt thresholds under the baseline, standard bound tests, and alternative scenarios. However, significant private external debt poses roll-over risks to debt sustainability. Likewise, while being more sensitive to exchange rate depreciation and

[12] The total increase in the domestic PPG debt arising from the banking sector resolution is expected to be around 14 million leu or 11¾ percent of GDP. About 45 percent of this amount was issued as a state guarantee to the NBM in 2014, while the remainder was issued in 2015 (see "Other identified debt-creating flows" in Table 2A).

a sudden increase in other debt creating flows, Moldova's overall public debt dynamics are projected to remain on a sustainable path under the baseline scenario and alterative scenarios.

13. Pursuing prudent fiscal policy and advancing structural reforms remain necessary to ensure debt sustainability. Due to the country's sensitivity to exogenous developments and the banking crisis, debt sustainability critically depends on sound macroeconomic management and continuing progress on institutional and structural issues that would help unlock the economy's growth potential and reduce its vulnerability to shocks. Furthermore, the limited development of the domestic debt market poses financing risks, especially considering the country's development needs and significant dependence on foreign assistance in the form of grants and concessional loans. 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.

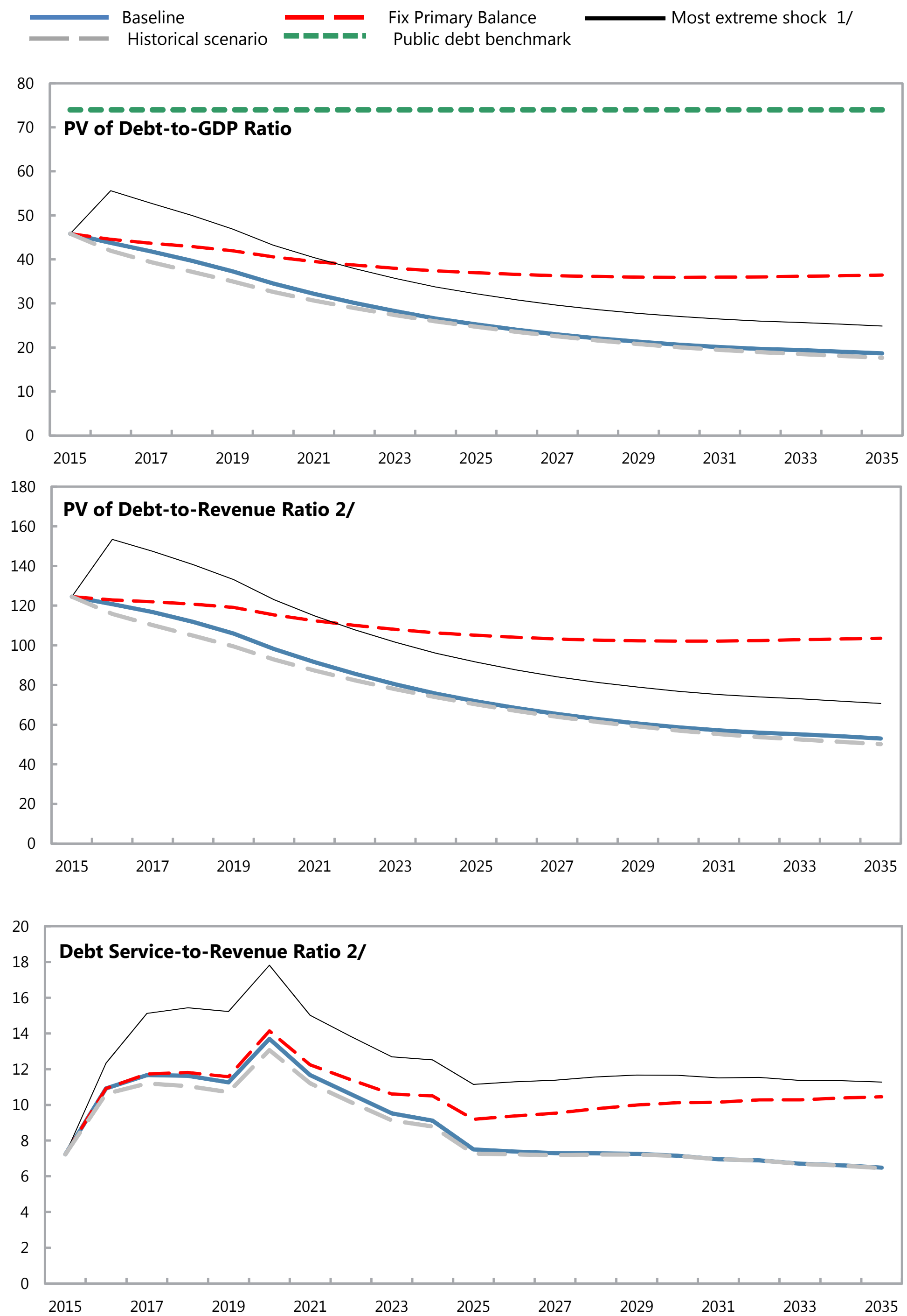
Figure 1. Moldova: Indicators of Public and Publicly Guaranteed External Debt Under Alternatives Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. In figure b. it corresponds to a One-time depreciation shock; in c. to a Exports shock; in d. to a One-time depreciation shock; in e. to a Exports shock and in figure f. to a One-time depreciation shock

Figure 2. Moldova: Indicators of Public and Publicly Guaranteed Debt Under Alternatives Scenarios, 2015–2035 1/



Sources: Country authorities; and staff estimates and projections.
1/ The most extreme stress test is the test that yields the highest ratio on or before 2025.
2/ Revenues are defined inclusive of grants.

Table 1A. Moldova: External Debt Sustainability Framework, Baseline Scenario, 2012–2035 1/

(In percent of GDP, unless otherwise indicated)

	Actual			Historical Average 6/	Standard Deviation 6/	Projections									
	2012	2013	2014			2015	2016	2017	2018	2019	2020	2015-2020 Average	2025	2035	2021-2035 Average
External debt (nominal) 1/	**82.4**	**83.9**	**85.5**			**106.9**	**107.8**	**104.6**	**101.2**	**96.9**	**91.5**		**80.3**	**68.0**	
of which: public and publicly guaranteed (PPG)	24.0	23.0	25.4			34.3	34.0	33.7	32.6	31.2	29.0		26.1	19.5	
Change in external debt	4.8	1.5	1.6			21.4	0.8	-3.2	-3.4	-4.3	-5.3		-1.9	-0.8	
Identified net debt-creating flows	3.0	-4.2	3.3			5.5	2.0	-0.8	-1.2	-1.6	-1.6		-1.3	-0.7	
Non-interest current account deficit	**7.4**	**5.0**	**4.4**	**9.3**	**4.1**	**5.5**	**5.2**	**4.2**	**3.7**	**3.2**	**3.0**		**3.3**	**4.7**	3.7
Deficit in balance of goods and services	40.0	37.2	37.0			32.6	34.0	33.4	33.2	32.8	32.4		32.1	31.5	
Exports	43.0	43.3	41.6			44.0	45.4	45.5	46.7	46.9	47.0		47.5	48.5	
Imports	83.0	80.4	78.5			76.6	79.4	78.9	79.9	79.7	79.5		79.6	80.0	
Net current transfers (negative = inflow)	-20.6	-20.7	-19.9	-21.8	2.8	-18.6	-18.4	-18.7	-18.9	-18.9	-18.7		-18.4	-17.9	-18.2
of which: official	-1.8	-1.9	-2.6			-2.7	-1.5	-1.3	-1.2	-1.2	-1.1		-1.1	-1.1	
Other current account flows (negative = net inflow)	-12.1	-11.5	-12.7			-8.5	-10.4	-10.5	-10.6	-10.8	-10.7		-10.4	-8.9	
Net FDI (negative = inflow)	**-2.4**	**-2.6**	**-2.1**	**-5.6**	**3.7**	**-3.4**	**-3.2**	**-3.2**	**-3.1**	**-3.0**	**-2.9**		**-2.9**	**-3.1**	-2.9
Endogenous debt dynamics 2/	**-1.9**	**-6.5**	**1.0**			**3.4**	**0.0**	**-1.7**	**-1.8**	**-1.8**	**-1.7**		**-1.7**	**-2.3**	
Contribution from nominal interest rate	0.9	0.7	0.8			1.4	1.6	1.8	2.1	2.3	2.3		2.1	0.8	
Contribution from real GDP growth	0.5	-7.1	-3.9			2.0	-1.6	-3.5	-3.8	-4.1	-4.0		-3.8	-3.2	
Contribution from price and exchange rate changes	-3.4	-0.2	4.1			...	...	...	...	...	...		...	...	
Residual (3-4) 3/	**1.8**	**5.7**	**-1.7**			**15.9**	**-1.2**	**-2.4**	**-2.2**	**-2.7**	**-3.7**		**-0.6**	**-0.1**	
of which: exceptional financing	-2.5	-1.5	-4.8			-1.3	-1.4	-0.9	-0.7	-0.7	-0.7		-0.7	-0.6	
PV of external debt 4/	...	...	80.8			100.9	101.8	98.6	95.3	91.1	86.1		75.4	64.2	
In percent of exports	...	...	194.2			229.3	224.3	216.5	204.2	194.2	182.9		158.8	132.4	
PV of PPG external debt	**...**	**...**	**20.7**			**28.3**	**28.0**	**27.7**	**26.7**	**25.5**	**23.6**		**21.2**	**15.7**	
In percent of exports	**...**	**...**	**49.8**			**64.2**	**61.8**	**60.9**	**57.3**	**54.3**	**50.1**		**44.6**	**32.4**	
In percent of government revenues	**...**	**...**	**60.3**			**81.0**	**81.4**	**80.1**	**77.4**	**74.2**	**68.6**		**61.8**	**45.8**	
Debt service-to-exports ratio (in percent)	**14.3**	**16.4**	**16.0**			**24.5**	**24.2**	**21.0**	**25.7**	**26.1**	**25.3**		**19.0**	**8.8**	
PPG debt service-to-exports ratio (in percent)	**2.2**	**2.3**	**2.1**			**3.3**	**4.9**	**5.9**	**6.0**	**6.0**	**6.1**		**4.2**	**3.9**	
PPG debt service-to-revenue ratio (in percent)	**2.6**	**2.9**	**2.5**			**4.2**	**6.4**	**7.7**	**8.2**	**8.2**	**8.4**		**5.8**	**5.5**	
Total gross financing need (Millions of U.S. dollars)	2584.2	2584.0	2916.4			3041.7	2902.3	2835.7	3110.4	3277.5	3435.3		4681.1	10446.4	
Non-interest current account deficit that stabilizes debt ratio	2.6	3.5	2.7			-15.9	4.4	7.3	7.1	7.5	8.3		5.2	5.6	
Key macroeconomic assumptions															
Real GDP growth (in percent)	-0.7	9.4	4.6	4.4	4.7	-1.8	1.5	3.5	3.9	4.3	4.5	2.7	5.0	5.0	5.0
GDP deflator in US dollar terms (change in percent)	4.6	0.2	-4.7	7.7	11.4	-19.9	-1.4	2.7	2.5	3.0	3.8	-1.6	2.9	2.9	2.9
Effective interest rate (percent) 5/	1.2	0.9	0.9	1.4	0.4	1.3	1.5	1.8	2.1	2.4	2.6	2.0	2.8	1.3	2.4
Growth of exports of G&S (US dollar terms, in percent)	-0.3	10.3	-4.1	10.8	17.4	-16.7	3.1	6.7	9.2	8.0	8.7	3.2	8.3	8.3	8.3
Growth of imports of G&S (US dollar terms, in percent)	1.2	6.2	-2.6	13.5	20.9	-23.3	3.7	5.7	7.9	7.1	8.1	1.5	8.1	8.1	8.1
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	29.7	31.5	31.4	31.5	31.5	31.5	31.2	25.3	18.5	22.4
Government revenues (excluding grants, in percent of GDP)	36.1	34.7	34.3			34.9	34.5	34.6	34.6	34.3	34.3		34.3	34.3	34.3
Aid flows (in Millions of US dollars) 7/	206.5	196.5	347.7			118.5	114.2	80.6	67.5	68.8	71.1		104.9	228.3	
of which: Grants	130.6	164.7	294.5			118.5	114.2	80.6	67.5	68.8	71.1		104.9	228.3	
of which: Concessional loans	75.9	31.8	53.2			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			2.9	3.1	2.4	2.0	1.9	1.8		1.6	1.3	1.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			55.3	53.0	47.7	46.8	46.9	46.9		42.3	39.3	41.1
Memorandum items:															
Nominal GDP (Millions of US dollars)	7283.4	7984.9	7962.4			6264.9	6267.7	6664.9	7098.1	7622.9	8264.7		12192.0	26537.5	
Nominal dollar GDP growth	3.8	9.6	-0.3			-21.3	0.0	6.3	6.5	7.4	8.4	1.2	8.1	8.1	8.1
PV of PPG external debt (in Millions of US dollars)			1480.6			1610.8	1723.4	1810.1	1860.9	1902.6	1927.8		2559.0	4132.8	
(PVt-PVt-1)/GDPt-1 (in percent)						1.6	1.8	1.4	0.8	0.6	0.3	1.1	1.3	0.9	1.0
Gross workers' remittances (Millions of US dollars)	1367.5	1499.7	1377.9			992.8	1058.7	1156.2	1255.9	1348.2	1450.7		2106.2	4439.8	
PV of PPG external debt (in percent of GDP + remittances)	...	...	17.6			24.4	24.0	23.6	22.7	21.6	20.0		18.1	13.5	
PV of PPG external debt (in percent of exports + remittances)	...	...	35.1			47.2	45.0	44.1	41.5	39.4	36.5		32.7	24.1	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	1.5			2.4	3.6	4.2	4.4	4.4	4.4		3.1	2.9	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

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

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

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

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

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

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

8/ 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).

Table 1B. Moldova: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2015–2035

(In percent)

	Projections							
	2015	2016	2017	2018	2019	2020	**2025**	2035
PV of debt-to-GDP+remittances ratio								
Baseline	24	24	24	23	22	20	**18**	13
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	24	23	24	24	25	25	**30**	31
A2. New public sector loans on less favorable terms in 2015-2035 2	24	24	24	24	23	22	**23**	22
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	24	24	24	23	22	21	**19**	14
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	24	26	32	31	30	28	**23**	14
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	24	24	25	24	23	21	**19**	14
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	24	24	24	23	22	21	**18**	13
B5. Combination of B1-B4 using one-half standard deviation shocks	24	20	20	20	19	17	**16**	13
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	24	32	31	30	29	27	**24**	18
PV of debt-to-exports+remittances ratio								
Baseline	47	45	44	42	39	36	**33**	24
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	47	43	45	45	46	47	**58**	60
A2. New public sector loans on less favorable terms in 2015-2035 2	47	45	46	44	43	41	**41**	40
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	47	44	43	41	39	36	**32**	24
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	47	53	71	67	64	61	**49**	29
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	47	44	43	41	39	36	**32**	24
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	47	45	45	43	40	38	**33**	24
B5. Combination of B1-B4 using one-half standard deviation shocks	47	39	39	38	36	34	**31**	25
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	47	44	43	41	39	36	**32**	24
PV of debt-to-revenue ratio								
Baseline	81	81	80	77	74	69	**62**	46
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	81	76	78	79	82	82	**97**	97
A2. New public sector loans on less favorable terms in 2015-2035 2	81	82	83	82	80	77	**78**	75
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	81	81	83	80	77	71	**64**	48
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	81	90	110	107	103	97	**78**	47
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	81	82	86	83	79	74	**66**	49
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	81	81	82	79	76	71	**63**	45
B5. Combination of B1-B4 using one-half standard deviation shocks	81	70	69	67	64	59	**56**	44
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	81	115	113	109	104	97	**88**	65

Table 1B. Moldova: Sensitivity Analysis is for Key Indicators of Public and Publicly Guaranteed External Debt, 2015–2035 (Concluded)

(In percent)

	Projections							
	2015	2016	2017	2018	2019	2020	**2025**	2035
Debt service-to-exports+remittances ratio								
Baseline	2	4	4	4	4	4	**3**	3
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	2	3	4	4	4	4	**4**	5
A2. New public sector loans on less favorable terms in 2015-2035 2	2	4	4	5	5	5	**4**	4
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	2	4	4	4	4	4	**3**	3
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	2	4	5	6	6	6	**5**	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	2	4	4	4	4	4	**3**	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	2	4	4	4	4	5	**3**	3
B5. Combination of B1-B4 using one-half standard deviation shocks	2	3	4	4	4	5	**3**	3
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	2	4	4	4	4	4	**3**	3
Debt service-to-revenue ratio								
Baseline	4	6	8	8	8	8	**6**	6
A. Alternative Scenarios								
A1. Key variables at their historical averages in 2015-2035 1/	4	6	7	7	7	7	**7**	8
A2. New public sector loans on less favorable terms in 2015-2035 2	4	6	8	8	9	9	**7**	8
B. Bound Tests								
B1. Real GDP growth at historical average minus one standard deviation in 2016-2017	4	7	8	9	9	9	**6**	6
B2. Export value growth at historical average minus one standard deviation in 2016-2017 3/	4	6	8	9	9	9	**8**	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2016-2017	4	7	8	9	9	9	**6**	6
B4. Net non-debt creating flows at historical average minus one standard deviation in 2016-2017 4/	4	6	8	8	8	8	**6**	6
B5. Combination of B1-B4 using one-half standard deviation shocks	4	6	7	8	8	8	**5**	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2016 5/	4	9	11	12	12	12	**8**	8
Memorandum item:								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	20	20	20	20	20	20	**20**	20

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.
2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline., while grace and maturity periods are the same as in the baseline.
3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).
4/ Includes official and private transfers and FDI.
5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.
6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

Table 2A. Moldova: Public Sector Debt Sustainability Framework, Baseline Scenario. 2012–2035

(In percent of GDP, unless otherwise indicated)

	Actual					Estimate	Projections								
	2012	2013	2014	Average 5/	Standard Deviation 5/	2015	2016	2017	2018	2019	2020	2015-20 Average	2025	2035	2021-35 Average
Public sector debt 1/	31.1	29.7	37.5			51.9	49.8	47.8	45.6	43.1	40.0		30.1	22.4	
of which: foreign-currency denominated	24.0	23.0	25.4			34.3	34.0	33.7	32.6	31.2	29.0		26.1	19.5	
Change in public sector debt	2.1	-1.4	7.8			14.4	-2.1	-2.0	-2.2	-2.6	-3.0		-1.5	-0.4	
Identified debt-creating flows	0.4	-0.6	8.1			15.4	-1.3	-1.0	-1.3	-1.8	-2.3		-1.0	-0.2	
Primary deficit	1.4	1.2	1.2	0.7	2.1	2.5	1.5	1.1	0.7	0.6	0.4	1.1	0.8	0.9	0.8
Revenue and grants	37.9	36.7	38.0			36.8	36.3	35.8	35.5	35.2	35.2		35.2	35.2	
of which: grants	1.8	2.1	3.7			1.9	1.8	1.2	1.0	0.9	0.9		0.9	0.9	
Primary (noninterest) expenditure	39.3	38.0	39.2			39.3	37.8	36.9	36.3	35.8	35.6		36.0	36.1	
Automatic debt dynamics	-0.6	-1.5	1.6			6.7	-2.6	-1.9	-1.9	-2.2	-2.7		-1.7	-1.1	
Contribution from interest rate/growth differential	0.1	-2.7	-1.5			0.3	-1.1	-1.7	-1.8	-2.0	-1.9		-1.5	-0.9	
of which: contribution from average real interest rate	-0.1	-0.1	-0.2			-0.4	-0.4	0.0	0.0	-0.1	0.0		0.0	0.1	
of which: contribution from real GDP growth	0.2	-2.7	-1.3			0.7	-0.8	-1.7	-1.8	-1.9	-1.9		-1.5	-1.1	
Contribution from real exchange rate depreciation	-0.7	1.2	3.1			6.4	-1.5	-0.3	-0.1	-0.2	-0.8		...	...	
Other identified debt-creating flows	-0.3	-0.3	5.3			6.2	-0.2	-0.1	-0.1	-0.1	-0.1		0.0	0.0	
Privatization receipts (negative)	-0.3	-0.3	-0.4			-0.2	-0.2	-0.1	-0.1	-0.1	-0.1		0.0	0.0	
Recognition of implicit or contingent liabilities	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 (specify, e.g. bank recapitalization)	0.0	0.0	5.6			6.4	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Residual, including asset changes	1.6	-0.7	-0.3			-1.0	-0.8	-1.0	-0.9	-0.8	-0.7		-0.5	-0.2	
Other Sustainability Indicators															
PV of public sector debt	...	...	32.7			45.8	43.8	41.8	39.7	37.3	34.5		25.2	18.7	
of which: foreign-currency denominated	...	...	20.7			28.3	28.0	27.7	26.7	25.5	23.6		21.2	15.7	
of which: external	...	...	20.7			28.3	28.0	27.7	26.7	25.5	23.6		21.2	15.7	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	9.9	9.0	8.9			10.9	10.5	9.9	8.9	8.2	8.6		6.0	5.4	
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	86.2			124.6	120.7	116.8	111.8	105.9	98.1		71.7	53.0	
PV of public sector debt-to-revenue ratio (in percent)	...	...	95.5			131.3	127.1	120.8	114.9	108.7	100.6		73.5	54.4	
of which: external 3/	...	...	60.3			81.0	81.4	80.1	77.4	74.2	68.6		61.8	45.8	
Debt service-to-revenue and grants ratio (in percent) 4/	5.0	4.5	4.6			7.2	10.9	11.7	11.6	11.3	13.7		7.5	6.5	
Debt service-to-revenue ratio (in percent) 4/	5.2	4.8	5.1			7.6	11.5	12.1	11.9	11.6	14.0		7.7	6.7	
Primary deficit that stabilizes the debt-to-GDP ratio	-0.7	2.6	-6.6			-11.9	3.6	3.0	3.0	3.1	3.5		2.3	1.3	
Key macroeconomic and fiscal assumptions															
Real GDP growth (in percent)	-0.7	9.4	4.6	4.4	4.7	-1.8	1.5	3.5	3.9	4.3	4.5	2.7	5.0	5.0	5.0
Average nominal interest rate on forex debt (in percent)	1.0	0.9	0.9	1.5	0.5	1.0	1.4	1.4	1.5	1.6	1.7	1.4	1.9	2.8	2.2
Average real interest rate on domestic debt (in percent)	0.4	0.8	-0.7	0.2	6.1	-2.9	-1.8	1.1	1.4	0.7	0.8	-0.1	0.9	0.8	0.8
Real exchange rate depreciation (in percent, + indicates depreciation)	-3.0	5.5	14.1	-3.3	12.3	24.6	...	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	7.9	4.1	6.3	8.7	4.1	9.2	10.0	6.0	5.0	5.0	5.0	6.7	5.0	5.0	5.0
Growth of real primary spending (deflated by GDP deflator, in percent)	2.2	5.7	8.0	1.6	2.9	-1.6	-2.3	1.0	2.2	3.0	4.0	1.0	5.5	4.8	5.1
Grant element of new external borrowing (in percent)	...	...	...	...	...	29.7	31.5	31.4	31.5	31.5	31.5	31.2	25.3	18.5	...

Sources: Country authorities; and staff estimates and projections.

1/ Public sector debt covers gross debt of the general government. Debt of state-owned enterprises is not included unless it is explicitly guaranteed by the government.

2/ 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.

3/ Revenues excluding grants.

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

5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

Table 2B. Moldova: Sensitivity Analysis for Key Indicators of Public Debt 2015–2035

	Projections							
	2015	2016	2017	2018	2019	2020	2025	2035
PV of Debt-to-GDP Ratio								
Baseline	46	44	42	40	37	35	25	19
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	46	42	39	37	35	33	25	18
A2. Primary balance is unchanged from 2015	46	45	44	43	42	41	37	36
A3. Permanently lower GDP growth 1/	46	45	43	43	42	40	42	73
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	46	45	46	45	44	43	39	40
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	46	45	44	42	40	37	27	20
B3. Combination of B1-B2 using one half standard deviation shocks	46	44	43	41	39	36	27	22
B4. One-time 30 percent real depreciation in 2016	46	56	53	50	47	43	32	25
B5. 10 percent of GDP increase in other debt-creating flows in 2016	46	52	50	47	45	42	31	22
PV of Debt-to-Revenue Ratio 2/								
Baseline	125	121	117	112	106	98	72	53
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	125	116	110	105	99	93	70	50
A2. Primary balance is unchanged from 2015	125	123	122	121	119	115	105	104
A3. Permanently lower GDP growth 1/	125	123	121	120	118	114	119	205
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	125	124	129	128	126	121	110	114
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	125	124	123	118	112	104	77	56
B3. Combination of B1-B2 using one half standard deviation shocks	125	121	120	115	110	102	78	62
B4. One-time 30 percent real depreciation in 2016	125	153	147	141	133	123	91	71
B5. 10 percent of GDP increase in other debt-creating flows in 2016	125	143	138	133	127	118	88	62
Debt Service-to-Revenue Ratio 2/								
Baseline	7	11	12	12	11	14	8	6
A. Alternative scenarios								
A1. Real GDP growth and primary balance are at historical averages	7	11	11	11	11	13	7	6
A2. Primary balance is unchanged from 2015	7	11	12	12	12	14	9	10
A3. Permanently lower GDP growth 1/	7	11	12	12	12	15	10	16
B. Bound tests								
B1. Real GDP growth is at historical average minus one standard deviations in 2016-2017	7	11	12	12	12	15	10	11
B2. Primary balance is at historical average minus one standard deviations in 2016-2017	7	11	12	12	12	14	8	7
B3. Combination of B1-B2 using one half standard deviation shocks	7	11	12	12	11	14	8	7
B4. One-time 30 percent real depreciation in 2016	7	12	15	15	15	18	11	11
B5. 10 percent of GDP increase in other debt-creating flows in 2016	7	11	12	13	12	14	9	8

Sources: Country authorities; and staff estimates and projections.
1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.
2/ Revenues are defined inclusive of grants.