REPUBLIC OF MOLDOVA

SELECTED ISSUES

March 2026

This paper on the Republic of Moldova was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on February 10, 2026.

Copies of this report are available to the public from

International Monetary Fund • Publication Services
PO Box 92780 • Washington, D.C. 20090
Telephone: (202) 623-7430 • Fax: (202) 623-7201
E-mail: publications@imf.org Web: http://www.imf.org

International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

REPUBLIC OF MOLDOVA

SELECTED ISSUES

February 10, 2026

Approved By
European Department

Prepared By Rossen Rozenov, Yiran Zha, Philipp Engler (all EUR) and Roland Meeks (MCM) with contributions from Sergio Sola (MCM)

CONTENTS

MOLDOVA – EXPORT DEVELOPMENTS AND PROSPECTS [1]

The paper examines metrics of Moldova's export performance, including diversification, export relationships duration, and export quality and complexity. It finds that while progress has been made on some dimensions, especially after the EU association agreement, challenges remain, including in achieving greater diversity and sophistication. Gravity analysis suggests that while full EU membership could have a positive impact on exports overall, the effects will likely differ for different sectors.

A. Context

1.   For Moldova, expanding and diversifying exports is essential for sustained economic growth. As a small, open economy with a limited domestic market, Moldova's long-term development and income convergence hinge on its ability to compete in external markets and move up the value chain. Trade is a key channel for technology transfer, productivity gains, and job creation in higher value-added sectors. There is significant literature on the positive association between trade and growth, with some studies pointing to a causal relationship (Frankel and Romer, 1999). In the context of Central and East European (CEE) countries, Hagemejer and Mućk (2019) find that exports were an important factor for growth and income convergence, in particular following EU accession.

2.   Moldova's Association Agreement with the EU is an important milestone that has provided exporters with improved access to the EU single market. The Agreement, of which the Deep and Comprehensive Free Trade Area (DCFTA) is an integral part, was signed in 2014 and entered into force in 2016. By lowering tariffs, simplifying customs procedures, and harmonizing standards, the agreement has unlocked new opportunities, particularly for Moldova's agricultural and agri-food industries, textiles, and the emerging manufacturing sector. EU imports of industrial goods were liberalized from the effective date of the agreement, while Moldova was granted a transition period of 3-5 years to phase out tariffs for certain products. [2] Tariffs on agricultural goods were reduced as well, and for some sensitive products tariff rate quotas (TRQ) were applied. Further reduction or elimination of customs duties is envisaged in the 2025 update of the DCFTA.

3.   Beyond improved market access, the agreement has served as an anchor for wider economic reforms, facilitating modernization, strengthening legal and regulatory frameworks, and fostering investments in quality and safety standards. These changes have helped Moldovan firms adapt to the requirements of international markets, enhancing their competitiveness and resilience.

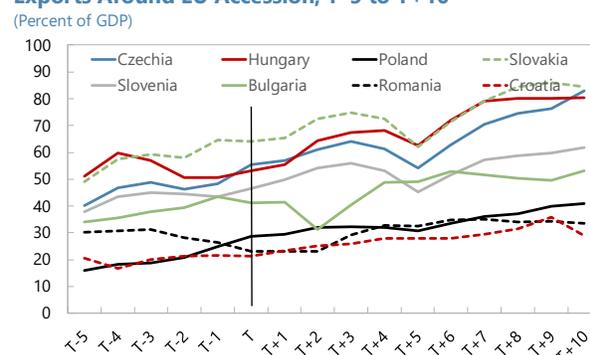**4.   Joining the EU would consolidate the gains already realized under the DCFTA and open new possibilities** for trade diversification, supply chain integration, and participation in EU-

---

[1] Prepared by Rossen Rozenov and Yiran Zha (both EUR).

[2] These include plastics, furniture and textiles; Moldova dismantled its tariffs on these products in 2019 (see EU-Moldova Deep and Comprehensive Free Trade Area).

funded development programs. Moldova's integration into the EU goes well beyond reducing tariffs; it entails deep regulatory and institutional transformations, involving adoption of the Acquis Communautaire, participating in the single market four freedoms, and adopting EU rules and standards (Hagemejer and Dabrowski, 2025). EU membership could further boost investor confidence, enhance the competitiveness of domestic industries, and embed Moldova more deeply in European and global value chains. Experience from other CEE countries shows that EU accession can bring significant economic benefits, including higher foreign direct investment, faster export growth,

Exports Around EU Accession, T–5 to T+10
(Percent of GDP)

Sources: Haver and IMF staff calculation.
Note: T marks the year each country joined the EU. Czechia, Hungary, Poland, Slovakia, and Slovenia in 2004; Bulgaria and Romania in 2007; and Croatia in 2013.

and greater access to capital and technology. Following EU accession, most transition economies saw a notable increase in exports which translated into higher incomes and facilitated the catching up process. For example, Romania experienced an export-led surge in GDP growth, supported by rising productivity and a rapid expansion of trade with EU partners (World Bank, 2018). Beyer et al. (2025) estimate that EU membership has increased per capita incomes of new members by more than 30 percent, with those with better access to financing and stronger integration in value chains before accession benefitting more.

5.   **Despite this favorable context, Moldova's export-led growth strategy faces important challenges.** These include infrastructure bottlenecks, limited access to finance, and vulnerability to external shocks. The country's geographic position, while advantageous to some extent for connecting East and West, also exposes it to regional uncertainties and geopolitical risks. Continued progress will depend on deepening structural reforms, strengthening public and private sector capacity, and leveraging new opportunities in high-value-added goods and services. EU accession also requires sustained commitment to reform, effective governance, and capacity to absorb and implement EU standards across all sectors of the economy. Moldova's Growth Plan has a key role to play in the process. It is underpinned by a Reform and Growth Facility which could disburse up to €1.9 billion in concessional loans and grants for 2025-27, conditional on the implementation of an ambitious [Reform Agenda](#).

B.   Export Performance Indicators

6.   **Moldova's exports expanded notably following the DCFTA.** [3] The increase—by 52 percent—was largely led by exports to the EU, the share of which increased from 53 percent to 67 percent between 2014 and 2024. Main drivers were exports of transport equipment, foods, and crude materials, which contributed over 70 percent of the overall export growth in the period. After

---

[3] Analysis in this paper largely focuses on the post-DCFTA period. For a comprehensive study of Moldova's trade competitiveness prior to that, see World Bank (2016).

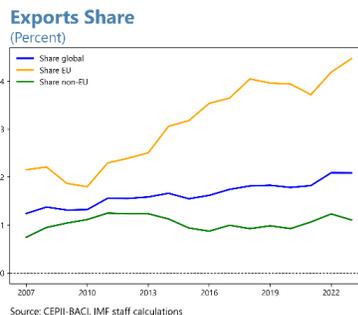very strong gains in 2021-22, exports have declined in the last couple of years, likely due to difficulties related to the war in Ukraine. Geographical reorientation since the signing of the EU association agreement has been associated with changes in the structure of trade. While vegetables and fruit remain a top export category, their share has diminished; the decrease is even more pronounced in apparel and clothing (Figure 1). Conversely, exports of machinery and electrical equipment have become more prominent. Moldova remains an open economy, although openness has been on a declining trend.

Figure 1. Exports of Goods

Total Exports of Goods
(USD million)

Exports of Goods to the EU
(USD million)

Sources: Haver and IMF staff calculation.

Sources: Haver and IMF staff calculation.

Top 10 Export Goods Categories in 2014
(Percent of total)

Top 10 Export Goods Categories in 2024
(Percent of total)

Sources: Haver and IMF staff calculation.

Sources: Haver and IMF staff calculation.

Trade Openness
(Goods)

Trade Openness
(Goods and Services)

Sources: Haver and IMF staff calculation.

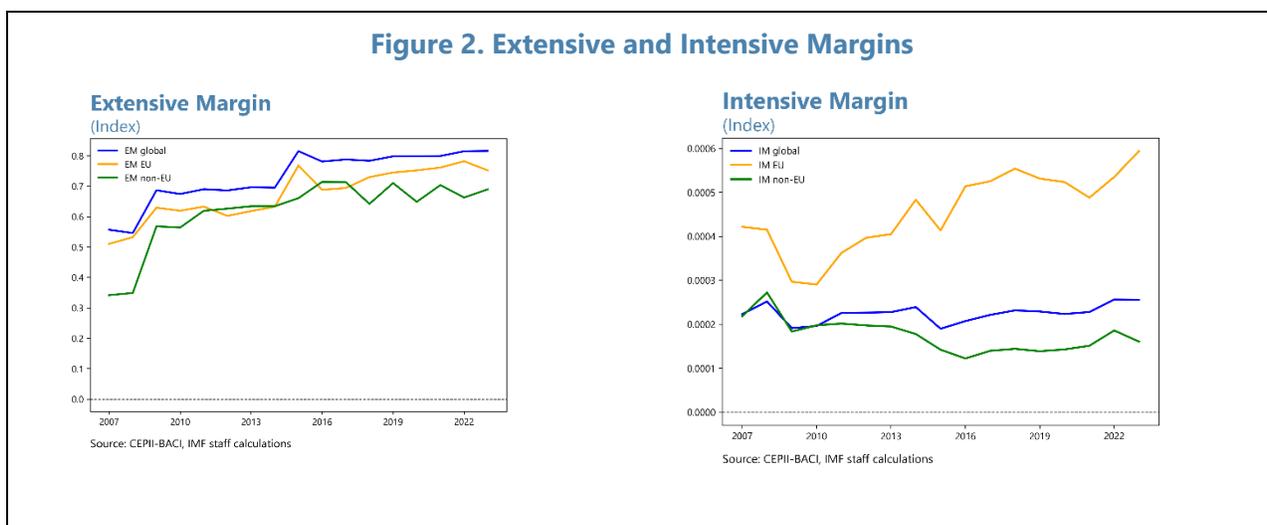Sources: Haver and IMF staff calculation.

Diversification

7. **Moldova's share in global exports has gradually risen**. This reflects both deeper
economic integration with key markets and successful
expansion into new product lines. The EU has been the main
engine of export growth, accounting for most of the gains
and supporting Moldova's reorientation toward European
value chains following the DCFTA. While non-EU markets
have also contributed, the EU clearly dominates Moldova's
export dynamics and has become an increasingly important
anchor for external demand.

Exports Share
(Percent)
- Share global
- Share EU
- Share non-EU

Source: CEPII-BACI, IMF staff calculations

8. **A decomposition of export growth suggests a
larger role of the intensive margin.** Over time, export growth can occur through adding new
products or destinations (extensive margin) and/or deeper penetration of existing products/markets
(intensive margin).[4] Hummels and Klenow (2005) show that GDP per capita is positively correlated
with both margins – richer economies export both more varieties and higher quantities within a
variety, with the extensive margin playing a more prominent role. Results for Moldova indicate that
both the extensive and intensive margins improved, but the intensive margin toward the EU stands
out as the key driver in recent years (Figure 2). While Moldova has continued to introduce new
products and access new markets, the largest gain came from exporting more of products already
established in EU markets, likely reflecting positive effects from the trade liberalization. The more
gradual evolution of the intensive margin outside the EU suggests that Moldova's export growth is
increasingly tied to closer integration with Europe, supported by regulatory alignment and improved
market access. Sustaining the pace of export gains will require continued investment in quality
upgrading, logistics, and firm productivity to deepen export penetration and transition into higher-
value product segments.

Figure 2. Extensive and Intensive Margins

Extensive Margin
(Index)
- EM global
- EM EU
- EM non-EU

Source: CEPII-BACI, IMF staff calculations

Intensive Margin
(Index)
- IM global
- IM EU
- IM non-EU

Source: CEPII-BACI, IMF staff calculations

---

[4] See Technical and Data Appendix for definitions.

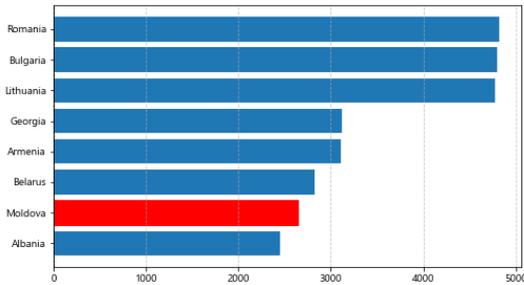## Figure 3. Export Diversification Indicators

Top 10 Product Share
(Percent)
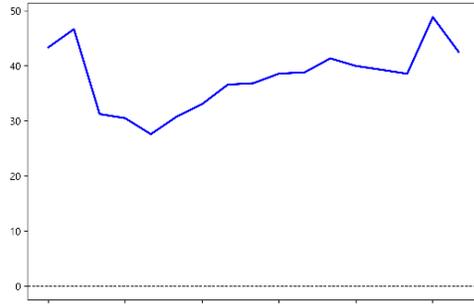
Top 10 Destinations Share
(Percent)

Source: CEPII-BACI, IMF staff calculations
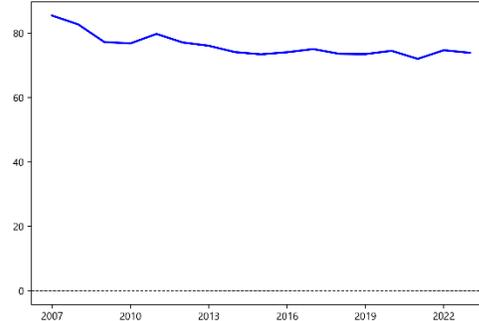
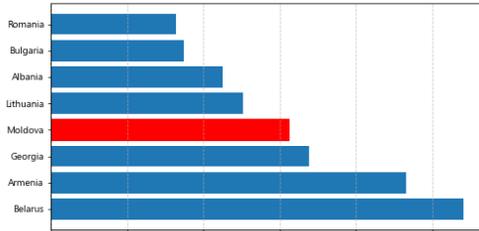Source: CEPII-BACI, IMF staff calculations

Number of Products Exported (2023)

Number of Export Destinations (2023)

Source: CEPII-BACI, IMF staff calculations
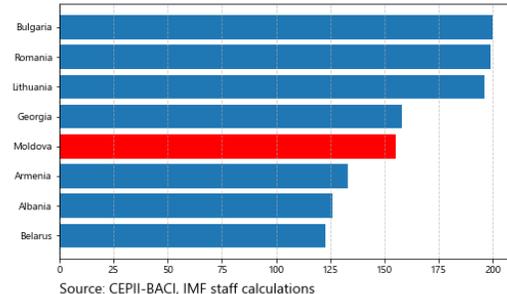
Source: CEPII-BACI, IMF staff calculations

Product Concentration (2023)
(Herfindahl-Hirschman Index)

Market Concentration (2023)
(Herfindahl-Hirschman Index)

Source: CEPII-BACI, IMF staff calculations
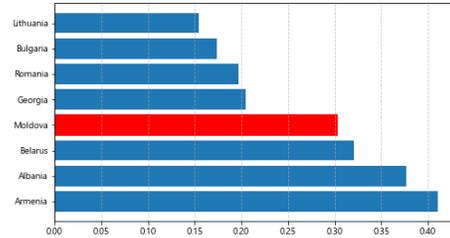
Source: CEPII-BACI, IMF staff calculations

9. **Diversification metrics reveal a mixed picture.** Export diversification reduces an economy's vulnerability to external shocks such as price swings, demand fluctuations, or disruptions in specific sectors or markets by spreading risks over a broader range of products and destinations. It also supports more stable export revenues and can foster structural transformation, as firms move into higher value-added and more technologically sophisticated activities. While the literature generally points to positive effects from diversification in the long run, the short-term effects of

opening the economy are less clear-cut. Increased foreign competition could lead to resource reallocation and increased specialization, thus reducing overall diversification. Moldova has expanded both the number of export products (at the HS6-level) and the number of export destinations in the past decade, although 2023 data show some decline in both, which could be linked to logistical difficulties due to the war in Ukraine.

10.   **Concentration indicators suggest that Moldova increasingly relies on a relatively limited number of goods.** These include the share of Top 10 products in the export basket and the Herfindhal-Hirschman Index (HHI) (Figure 3). Product concentration tends to be somewhat higher for exports to the EU, except for the last two years in the sample (2022-23) when product HHI in trade with non-EU countries increased noticeably, likely reflecting the significant increase of shipments to Ukraine and decreased exports to Russia. Market diversification has remained largely unchanged, with the share of Top 10 destinations declining somewhat relative to the mid-2000s and staying mostly flat in recent years.

11.   **Relative to its regional comparators, Moldova's export performance is mid-range.** EU members such as Romania, Bulgaria, and Lithuania exhibit much broader product and market bases and lower concentration indices, reflecting deeper integration into the single market. Non-EU peers like Armenia, Georgia and Belarus, on the other hand, show higher product concentration and more limited diversification. While Moldova has made progress in expanding its number of products and destinations, it started from a narrower base, so convergence with the more diversified peers will likely take time. Nonetheless, the deepening of trade relations with the EU and prospective EU membership put Moldova on a similar diversification trajectory as other successful transition economies.

Export Relationships Durability

12.   **The survival of trade relationships is an important dimension of export performance.** Survival means how long individual product–destination trade flows remain active. Longer-lived export links allow firms to recover entry costs, learn about foreign demand, upgrade quality, and build more stable trade networks. High survival rates therefore reflect a more robust supply capacity, stronger firm capabilities, and better integration into global value chains. Conversely, when export relationships die early—often within the first few years—it can signal high market-entry costs, low competitiveness, volatile product offerings, weak logistics, or policy-related frictions. Survival analysis techniques, including Kaplan–Meier (KM) estimators and cohort curves, allow to compare survival patterns across product cohorts, partners, or policy episodes. [5]

13.   **Results for Moldova suggest greater durability of relationships with the EU.** In line with the literature and experiences of other countries (e.g., Besedeš and Prusa, 2006; Nitsch, 2009), the analysis finds that most relationships exhibit a high risk of termination during the first few years— the median duration of country-product pair relationships for Moldova is 3 years. This pattern is also visible in the KM curves, which show steep declines in survival probabilities during the first 2–3 years

---

[5] See Technical and Data Appendix.

across almost all markets, sectors, and cohorts (Figure 4). Beyond this initial period, the attrition rate slows, leading to a more gradual deterioration in survival as relationships mature.

- EU vs non-EU countries. Comparing markets, export survival in the EU is consistently and materially higher than in non-EU destinations. For example, after three years, the EU survival rate stands at about 0.6, compared to 0.5 for non-EU markets. This is the case across all horizons and cohorts (Figure 4), and the difference is highly statistically significant.[5F][6] This suggests that export relationships with the EU are more durable, potentially reflecting more stable demand, stronger institutional links, standards harmonization, and lower volatility in trade barriers.

- Initial export size. Survival rates also vary systematically with the initial size of the export flow. Relationships that begin with larger shipment values (top quartile) survive substantially longer than small-value entries (bottom quartile), indicating the presence of scale advantages, network effects, or initial market commitment.

- Variation by product. Among the product categories in which Moldova has the largest exports, clothing and oil seeds display higher persistence, while export relationships in electrical equipment and apparatus, and animal or vegetable fats tend to be more short-lived. eOverall, these findings highlight that export durability in Moldova is shaped jointly by destination, product characteristics, and initial export intensity, with EU markets, larger initial flows, and certain sectors offering better chances of forming more stable long-run relationships.

---

[6] The log-rank test which is typically used to compare survivor functions strongly rejects the null hypothesis that two distributions are identical.

Figure 4. Export Relationships Survival

Export Relationships
(Survival rate)
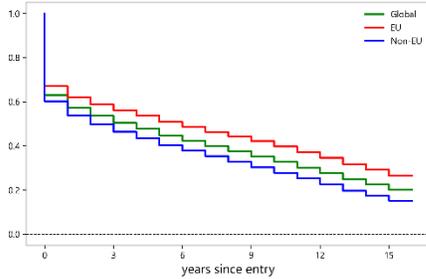
Source: CEPII-BACI, IMF staff calculations

Export Relationships by Cohort
(Survival probability)
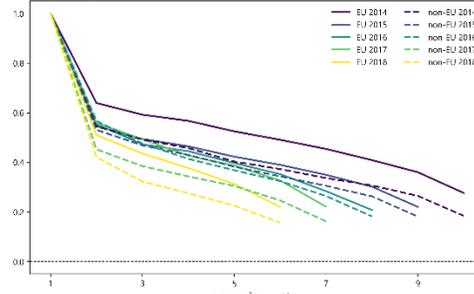
Source: CEPII-BACI, IMF staff calculations

Survival by Initial Export Value
(Survival rate)
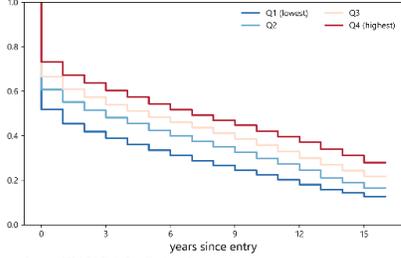
Source: CEPII-BACI, IMF staff calculations

Survival of Export Relationships by Product
(Survival rate)
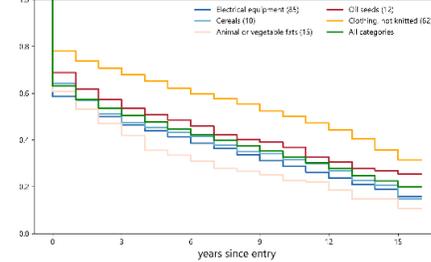
Source: CEPII-BACI, IMF staff calculations

Exit Hazard of Export Relationships
(Exit probability)

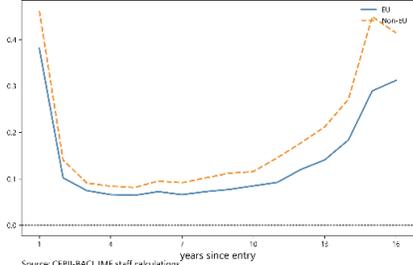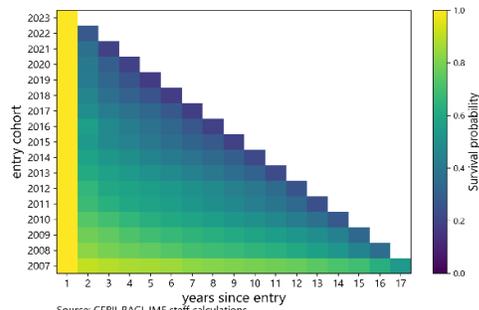Source: CEPII-BACI, IMF staff calculations

Heatmap of survival probabilities

Source: CEPII-BACI, IMF staff calculations

Export Quality

14.   Quality is an important determinant of long-term export growth as it reflects a country's ability to compete in higher-value segments of global markets. Higher-quality exports typically achieve better prices and are less vulnerable to price fluctuations. They are also strongly associated with economic complexity, innovation, and sustained productivity gains. Export quality can be assessed based on product-level value and quantity data, using unit-value (UV) ladders to benchmark Moldova's export prices against those of other exporters at the HS6 level. [7] The intuition is as follows: within identical product categories, exporters charging systematically higher unit values tend to supply higher-quality, more differentiated, or more sophisticated varieties. Additional insights are obtained from the distribution of Moldova's UV over time, the composition of high-UV products, and the income level of destination markets, which serves as a revealed demand–driven measure of sophistication.

15.   The UV ladder results show that Moldova's median position is below that for the EU, fluctuating around 0.3 (Figure 5) vs. an EU average of about 0.55. The interquartile range and 10–90 percentile band also reveal substantial dispersion, suggesting that while some products perform strongly, others remain clustered in lower-value segments. A comparison of the UV distributions between 2014 and 2023 reveals some changes in Moldova's export quality structure. In 2014 the distribution exhibited a bi-modal pattern, with one peak around the 20th percentile and another one around the 80th percentile. This implies the existence of two clusters of products — lower- and higher-value varieties. The 2023 distribution shows that the left peak has become much less pronounced, implying that fewer products occupy the low-UV positions, while the right peak remains strong and clearly defined. The compression occurs more in the middle which could be a sign that some products have either upgraded in relative quantity or new varieties have entered with mid-range UV positions. Moldova has expanded its export basket in the last decade, and new exports generally enter at moderate UV levels and do not reach top percentiles immediately.

16.   A closer look at the composition of top UV performers shows that Moldova's high-UV export basket is dominated by car seats and components and clothing items. This suggests that the country's export-quality frontier is largely anchored in manufacturing linked to European value chains. The presence of multiple apparel-related positions in the top quintile contributors attests to Moldova's competitive capabilities in the garment sector. While Moldova exports significant agricultural products, the high unit-value items are differentiated manufactured goods. This provides more opportunities for quality upgrading through deepening participation in global production networks, where investment in skills, logistics and standards compliance can yield gains.

---

[7] Unit value is only a proxy for quality as it is not a true price and is subject to bias. More generally, quality upgrades may not always be associated with higher prices.

Figure 5. Export Quality

Export Unit-Value Distribution
(Percentile, value-weighted)

Top Contributors in High-UV Exports (2023)
(Share within top-quintile exports)

Sources: CEPII BACI, IMF staff calculations

Sources: CEPII BACI, IMF staff calculations

Distribution of UV

Exports by Importers Income
(Share in total)

Sources: BACI (CEPII) and IMF staff calculations

Sources: CEPII-BACI, World Development Indicators, IMF staff calculations

17.   Moldova's exports destinations are mostly middle-income countries. The breakdown of exports by income level of destination markets provides an additional quality-based perspective. Higher-income markets tend to demand higher-quality varieties and more sophisticated products. Moldova's export destinations comprise mostly middle-income countries (World Bank classification)—about 60 percent of total. A more granular income classification shows (Figure 5) that the largest share of exports goes to countries with per capita GDP in the range $10-20K (constant 2015 US dollars). The noticeable increase in the share of this group after 2016 is due to Romania—Moldova's main trading partner—crossing the threshold. The expansion in the share of importers with income less than $3K in 2022 is largely due to the higher exports to Ukraine. The pattern confirms the UV-based findings that while Moldova does export some high-quality goods, its aggregate export structure remains shaped by mid-range product lines.

C. Export Complexity and the Product Space

18.   "Product space" is a framework providing a useful lens of assessing export capabilities, diversification prospects, and structural constraints. Hausmann et al. (2013) map products based on the similarity of capabilities required to produce and successfully export them. Exports embed a large variety of factors—physical and human capital, policies, institutions, etc. that cannot be separated easily and measured explicitly. Different products require different capabilities and countries that specialize in a particular product tend to export similar products. This leads to the notion of "proximity"—the probability that a pair of products is co-exported, meaning that the same country tends to export both products with revealed comparative advantage (RCA). For example, countries exporting automotive components typically also export machinery parts, suggesting these products require similar capabilities. The "product space" is a network-graph connecting products that are significantly likely to be co-exported. More complex products cluster near the dense core of the network, while simpler or capability-light goods are located on the periphery. By examining which products a country exports with RCA, the product space helps identify feasible diversification paths, capability gaps, and the potential for upgrading toward more complex sectors.

Figure 6. Product Space in 2023

Source: The Atlas of Economic Complexity at http://atlas.cid.harvard.edu/

Products are sized by global export volume. Colored dots indicate products in which Moldova has revealed comparative advantage ($RCA \geq 1$), with different colors corresponding to different groups of products.
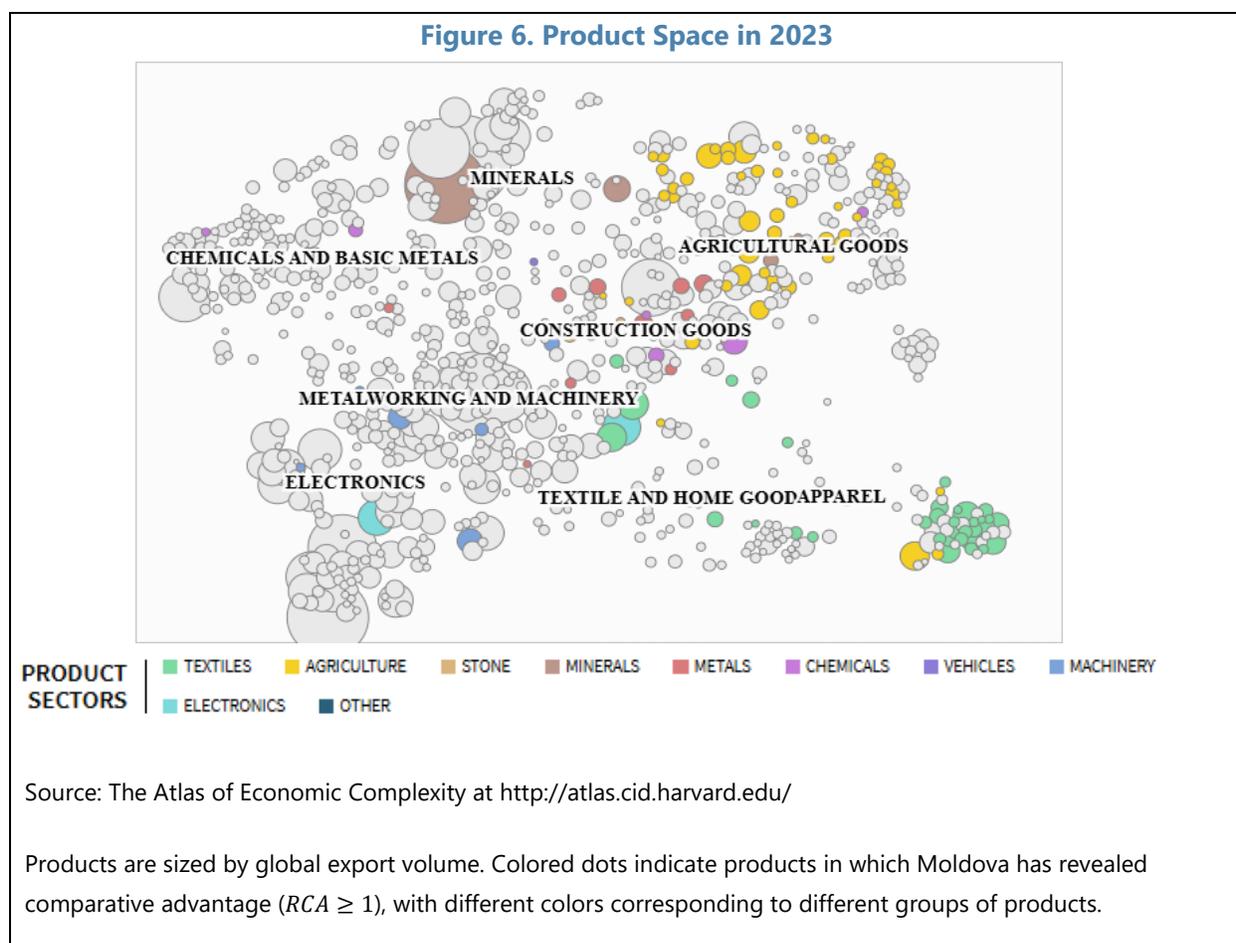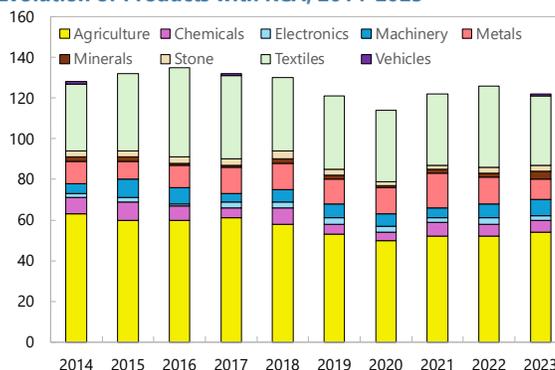
19. **Moldova's current export basket is concentrated in peripheral areas of the product space, with its RCA predominantly in the**

agricultural and textile sectors. These clusters are located far from the dense core of the network that comprises more sophisticated products such as chemicals, machinery, and electronics. Between 2014 and 2023, the number of HS4-level products for which Moldova has RCA declined from 128 to 122. The decline was driven mainly by a loss of RCA in agriculture which has not been offset by sufficient gains in other sectors, in particular those that could have shifted Moldova's export structure toward more sophisticated capabilities and changed the overall

Evolution of Products with RCA, 2014-2023

Sources: The Atlas of Economic Complexity and IMF staff calculations.

pattern of specialization. The RCA trends point to a limited progress in complexity, with the export basket remaining vulnerable to external shocks and terms of trade swings.

20. **Moldova's export structure shows potential for diversification, although the initial conditions appear less favorable than in other transition economies.** Complexity reflects both the diversity of products with RCA and the global ubiquity of those products (the number of countries that have RCA in a given product). Higher complexity is associated with stronger income and growth performance. The product space framework can help assess the feasibility of diversifying

into new products that can raise economic complexity and promote a more varied economic structure. Moldova's current exports are concentrated in low-to-mid complexity goods (Figure 7), and opportunities to diversify using existing capabilities remain limited. Similarly, most products near the current production export mix are also of low-to-moderate complexity; more sophisticated products lie farther away. The small number of products that combine low distance with high opportunity gains or high complexity suggests that Moldova faces a relatively narrow set of "low-hanging fruit" for near-term diversification. In comparison, the

ECI around EU Accession
(Index)

Sources: The Atlas of Economic Complexity at http://atlas.cid.harvard.edu/

export structures of Bulgaria and Romania five years prior to their EU membership pointed to greater feasibility to diversify into high-complexity products. Both countries have seen an increase in the economic complexity index (ECI) following accession. Developments in Moldova over the past decade reinforce this assessment. The ECI declined in the mid-2010s even though model-based projections continued to suggest an increase. Following the entry into force of the DCFTA, the ECI gradually recovered and converged to its projected path. Recent gains, however, reflect growth within existing low-to-mid-complexity categories rather than a shift into more sophisticated products.
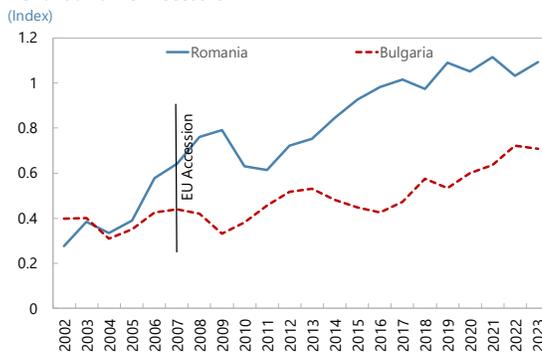
Figure 7. Distance, Opportunity Gain, and Product Complexity in 2023

Product Space Colored by Complexity, 2023[1]
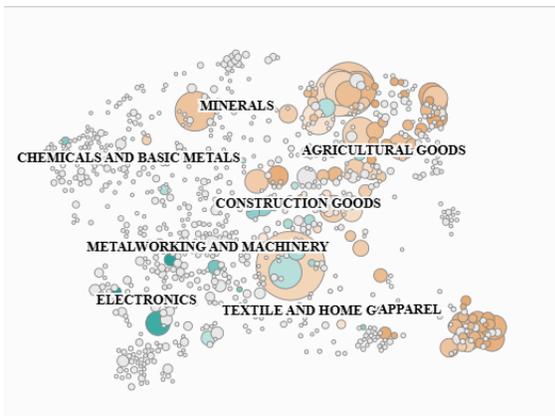
Economic Complexity Index and Projection[2]
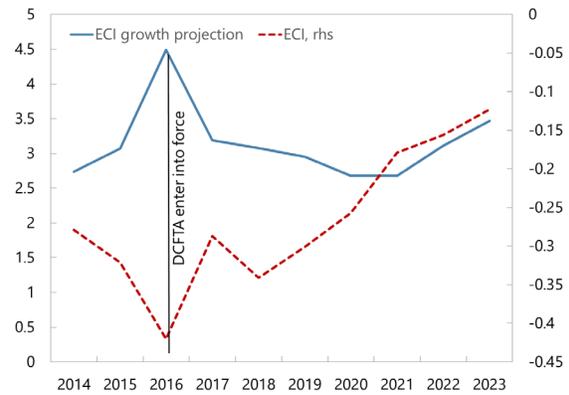
Growth Opportunities: Opportunity Gain, 2023[3]
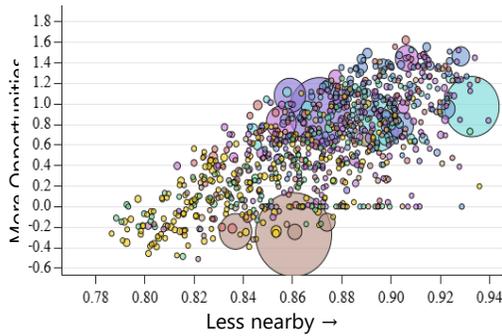
Growth Opportunities: Complexity, 2023[3]
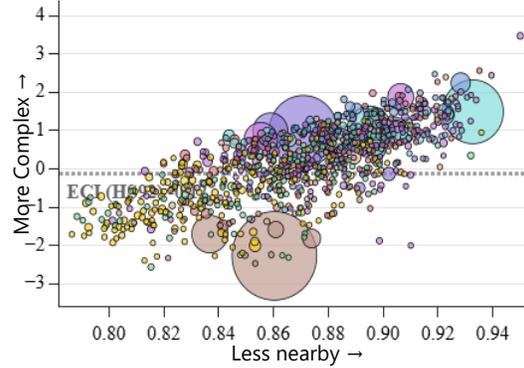
Romania: Product Space Colored by Complexity, 2002[1]
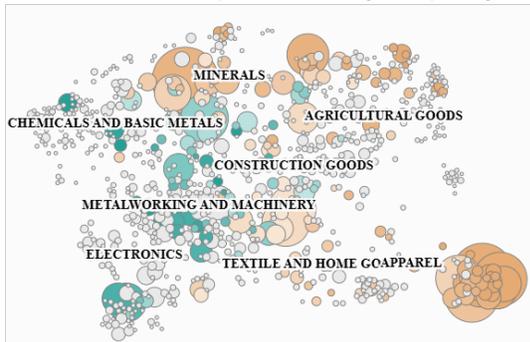
Bulgaria: Product Space Colored by Complexity, 2002[1]

Source: The Atlas of Economic Complexity at http://atlas.cid.harvard.edu/
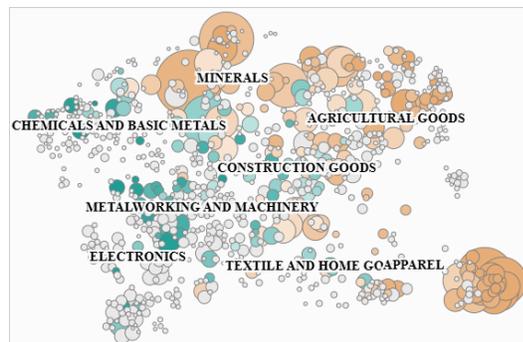
1/ Products are sized by country export volume. Dots are colored according to its complexity from orange (low) to green (high).

2/ ECI growth projection predicts how much the country will grow over the following 10 years based on its current ECI and Complexity Outlook Index (COI), as compared to its current income level and expected natural resource exports.

3/ Product sizes represent their world export volumes, and dots are colored by product sectors. On the x-axis, the farther a point is from the origin, the greater the gap between the current production capacity and the capacity required to produce that product. On the y-axis, greater distance from zero indicates higher opportunity gain (left) or a higher complexity level (right).

D. Potential Effects of EU Membership

21.   The gravity model is a useful tool for explaining bilateral trade flows and evaluating the effects of regional trade agreements (RTAs). Since its formalization in structural form (Anderson and van Wincoop 2003; Yotov et al. 2016), the gravity framework has proven invaluable for capturing the effects of relevant economic and policy variables on trade. Its strengths lie in its ability to integrate theoretical foundations—CES preferences, Armington differentiation, and general equilibrium considerations—and empirical tools that accommodate large, heterogeneous datasets. Importantly, the model's theoretical underpinnings make it an appropriate tool for counterfactual analysis. A particularly valuable feature of the gravity framework is its ability to measure the effects of RTAs such as free trade agreements and customs unions. The structural gravity equation relates bilateral trade flows to several determinants, including exporter's production capacity, importer's demand, bilateral trade costs, and multilateral resistance terms. A typical empirical specification includes bilateral covariates such as geographical distance, contiguity, colonial ties, and common language, alongside policy variables such as EU membership.

22.   Estimating the structural gravity equation entails several challenges. These include controlling for multilateral resistance, zero trade flows, heteroscedasticity of trade data, representing bilateral trade costs and accounting for endogeneity of trade policy (see Yotov et al., 2016 for an excellent exposition). Many researchers approximate multilateral resistance with variables like geographical distance and GDP. Another approach, in the context of panel data, is to use fixed effects. Exporter-time and importer-time fixed effects are shown to account for the unobservable multilateral resistance terms and in addition, absorb the size variables (GDP). The Poisson Pseudo Maximum Likelihood estimator (PPML) proposed by Santos Sylva and Tenreyro (2006) can be used to address the zero trade and heteroscedasticity issues. On bilateral trade costs, in addition to distance, variables such as indicator variables for contiguous borders, common language and historical ties (e.g., colonial relationships) are typically employed. Alternatively, as recommended by Yotov et al. (2016), paired fixed effects (exporter-importer) can take care of time-invariant trade costs and endogeneity of policy variables.

23.   As Moldova advances on its path toward EU accession, an important policy question concerns the extent to which EU membership could influence export performance. To try to answer this question, we estimate a gravity model using panel data of bilateral exports of the former transition economies that are currently EU members and EU accession countries from the Western Balkans, Georgia and Moldova.[8] Disaggregated data for the trade flows are used at the level of 2 digits of the Harmonized System which allows to explore sectoral effects. The sample covers 1996-2023 and in line with recommendations in the literature, the models are estimated using 3-year intervals to allow enough time for variables to adjust. Three specifications are estimated: (i) traditional gravity equation with exporter-time and importer-time fixed effects; (ii) a gravity

---

[8] See the Technical and Data Appendix for more information on the data.

equation with paired fixed effects; and (iii) a model that allows for heterogeneous impacts of EU membership on different industries.

24.   The results suggest positive and meaningful effects of full EU membership. The traditional gravity equation (column (1) in Table 1) estimates a very large effect on exports of joining the EU—nearly 45 percent[9], while the estimated coefficient on the RTA is very small and statistically insignificant. This specification, however, does not account fully for fixed bilateral trade costs and endogeneity which may bias the estimates. Column (2) of Table 1 presents the results from the paired fixed effects estimation. Based on these estimates, both free trade agreements and EU membership contribute positively to exports, the latter being associated with a nearly 16 percent increase. Such an effect is consistent with the findings of a recent study

EU Effect by HS2 Product Group
(Percent)

Source: CEPII, IMF staff calculations

by Hagemejer and Muć (2025) who estimate a positive effect from the EU enlargement of about 14 percent.[10] The sector-specific results (column (3)) highlight that the benefits of EU integration are uneven across industries, likely reflecting structural differences in competitiveness and the degree of participation in European production networks. The strongest positive effects appear in machinery and electrical equipment, consistent with the experience of Central and Eastern European (CEE) countries that joined the EU in the early 2000s. In those cases, accession facilitated rapid integration into EU value chains, especially in automotive components and electrical machinery. Conversely, weaker or negative EU effects in sectors such as textiles may be indicative of shifting comparative advantage. Deeper integration raises incomes and productivity, which improves competitiveness in higher-value manufacturing but gradually erodes price-based advantages in labor-intensive, low-technology sectors. The impact on agricultural and food products is inconclusive as the estimated coefficient is not statistically significant.

---
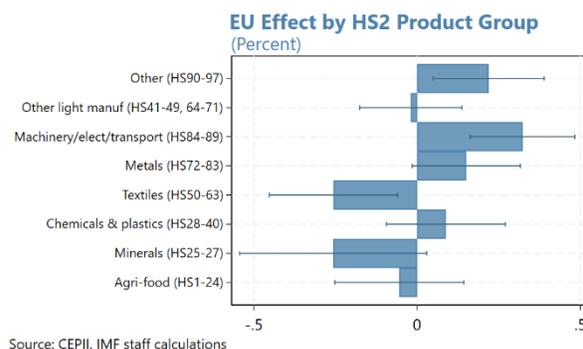
[9] The percentage impact is calculated as 100*(exp(β)-1).

[10] This study uses value added exports as compared to gross exports used in this paper.

Gravity Model Estimates			
	(1)	(2)	(3)
	value	value	value
RTA	0.011	0.117***	0.112***
	(0.079)	(0.037)	(0.037)
EU	0.371***	0.148**	
	(0.098)	(0.063)	
Log (DIST)	-0.790***		
	(0.093)		
CONTIG	0.283***		
	(0.102)		
COMLANG	1.294***		
	(0.201)		
COMCOL	1.320***		
	(0.161)		
1.EU			-0.055
			(0.101)
Agri-food (HS1-24)			-0.055
			(0.101)
Minerals (HS25-27) #1			-0.203
			(0.132)
Chemicals & plastics (HS28-40) #1			0.142
			(0.093)
Textiles (HS50-63) #1			-0.202**
			(0.098)
Metals (HS72-83) #1			0.205**
			(0.095)
Machinery/elect/transport (HS84-89) #1			0.378***
			(0.119)
Other light manuf (HS41-49, 64-71) #1			0.035
			(0.072)
Other (HS90-97) #1			0.273***
			(0.102)
Observations	706306	817773	817773

Note: Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Note: Coefficients for sectoral dummy variables in model (3) are omitted. EU=1 is the estimated effect for the base sector (Agri-food) and $Sector_i$ #1 shows the estimated coefficient on the interaction of the EU indicator variable and $Sector_i$. The effect on $Sector_i$ exports is calculated as $(exp(β_{EU} + δ_g) - 1) * 100$, where $β_{EU}$ is the base effect and $δ_g$ is the interaction term for sector g.

E. Conclusions

25.   Deeper trade integration with the EU has clearly benefited Moldova's exports.
International experience highlights the importance of diversification for raising growth and reducing volatility, especially for small open economies. The EU DCFTA has supported export expansion and regulatory modernization, and Moldova has made progress, particularly in penetrating EU markets and improving the durability of export relationships. Nonetheless, export growth has been uneven, recent shocks have exposed vulnerabilities, and the export basket remains concentrated in a relatively narrow set of products. While quality and complexity have improved gradually, Moldova still lags peers with more diversified and sophisticated export structures.

26.   The analysis suggests that Moldova's export model is at an important turning point.
Longer-lived export relationships with the EU, improved quality distribution, and growing

participation in certain manufacturing segments point to emerging strengths. At the same time, the product space reveals persistent capability gaps: most products with revealed comparative advantage remain low- to mid-complexity and located in peripheral areas of the network, limiting near-term diversification options. Recent gains in economic complexity reflect expansion within existing specializations rather than a shift toward more advanced capabilities.

27.   EU membership could amplify existing positive trends but will not automatically overcome structural constraints. Gravity model estimates suggest that accession could meaningfully increase exports, with particularly strong effects in machinery, electrical equipment, metals, and other sectors linked to European production networks. However, without improvements in infrastructure, skills, firm capabilities, and the investment environment, Moldova risks remaining concentrated in a small set of low-complexity sectors and/or losing competitiveness in areas where cost advantages dominate.

28.   Realizing the full benefits of deeper integration will require targeted reforms in several priority areas:

- Reducing trade costs through investments in transport corridors, border infrastructure, and logistics services would help exporters scale and diversify, particularly SMEs and firms producing time-sensitive goods.

- Improving access to finance, including through export-oriented credit instruments, would support the survival and growth of new export relationships, which currently face high early-stage attrition.

- Upgrading skills, standards, and firm capabilities—especially in the manufacturing and agri-food sectors—would help bridge capability gaps highlighted by the product space analysis and facilitate movement toward more complex products. Universities can play an essential role in the process by providing students with relevant technical and analytical skills and by supporting firms through research and development. Realizing these benefits requires close collaboration between the corporate sector and academia to ensure effective transfer of knowledge and innovation.

- Strengthening the investment climate and governance, including regulatory predictability and public administration reforms, remains essential to attract foreign direct investment. FDI not only anchors higher-value export upgrading, as seen in past EU-accession cases, but also directly enhances domestic firm capabilities through the introduction of new technologies and practices.

29.   The EU Reform and Growth Facility provides a timely opportunity to align public investment with these priorities. Focused use of concessional EU resources to address infrastructure bottlenecks, expand quality infrastructure, and support firm-level upgrading can help crowd in private investment and accelerate integration into European value chains. With sustained reform momentum, Moldova can transition from a low- to a mid-complexity export structure and achieve more resilient, export-led growth.

References

Anderson, J., van Wincoop, E. (2003). *Gravity with Gravitas: A Solution to the Border Puzzle*. American Economic Review, Vol. 93, No. 1, pp. 170-192.

Besedeš, T., Prusa, T. (2006). *Ins, Outs, and the Duration of Trade*. Canadian Journal of Economics, Vol. 39, Issue 1, pp. 266-295.

Beyer, R., Yi, C. L., Weber, S. (2025). *Economic Benefits from Deep Integration*. IMF Working Paper WP/25/47, Washington, DC.

Conte, M., P. Cotterlaz, Mayer, T. (2022). *The CEPII Gravity database*. CEPII Working Paper N°2022-05, July 2022.

Frankel, J., Romer, D. (1999). *Does Trade Cause Growth?* American Economic Review, Vol. 89, No. 3, pp. 379-399.

Gaulier, G. , Zignago, S. (2010). *BACI: International Trade Database at the Product-Level. The 1994-2007 Version*. CEPII Working Paper, N°2010-23.

Growth Lab at Harvard University (2025). *Growth Projections and Complexity Rankings*, https://doi.org/10.7910/DVN/XTAQMC, Harvard Dataverse.

Growth Lab at Harvard University (2024). *The Atlas of Economic Complexity*. Web application. Harvard Kennedy School. https://atlas.hks.harvard.edu.

Hagemejer, J., Dąbrowski, M. (2025). *Future Outlook of Moldova Trade and Investment Relations*. European Parliament.

Hagemejer, J., Mućk, J. (2019). *Export-led Growth and its Determinants: Evidence from Central and Eastern European Countries*. The World Economy, Vol. 42 (7), pp. 1994-2025.

Hagemejer, J., Mućk, J. (2025). *EU Enlargements, Brexit and Value Added Trade: A Structural Gravity Approach*. PLoS ONE 20(4), https://doi.org/10.1371/journal.pone.0299738.

Hausmann, R., Hidalgo, C., Bustos, S., Coscia, M., Chung, S., Jimenez, J., Simoes, A., Yildirim, M (2013). *The Atlas of Economic Complexity*. Cambridge, MA, MIT Press.

Hummels, D. , Klenow, P. (2005). *The Variety and Quality of a Nation's Exports*. American Economic Review, Vol. 95, No.3, pp. 704-723.

Nitsch, V. (2009). *Die Another Day: Duration in German Import Trade*. Review of World Economics, Vol. 145, No. 1, pp. 133-154.

Santos Sylva, J.M.C., Tenreyro, S. (2006). *The Log of Gravity*. The Review of Economics and Statistics, Vo. 88, No. 4, pp. 641-658.

UNCTAD (2018). *Indicators Explained #1: Export Market Concentration Index*. STAT/IE/2018/1.

UNCTAD (2019). *Indicators Explained #3: Export Product Concentration Index*. STAT/IE/2019/1.

World Bank (2016). *Moldova Trade Study: Note 1. Analysis of Trade Competitiveness*. World Bank Group, Washington, DC.

World Bank (2018). *From Uneven Growth to Inclusive Development: Romania's Path to Shared Prosperity*. Systematic Country Diagnostic, World Bank Group, Washington, DC.

Yotov, Y., Piermartini, R., Monteiro, J.A., Larch, M. (2016). *An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model*. World Trade Organization, Geneva.

Appendix I. Methodology and Data

Data

1. Data used in this paper comes from the [CEPII BACI](#) (Gaulier, G. , Zignago, 2010) and [CEPII Gravity](#) (Conte et al., 2022) databases, and the [Atlas of Economic Complexity](#) (Hausmann et al., 2013). Specifically, CEPII BACI annual bilateral trade flows data at the HS6 level (2007 edition) in the period 2007-2023 are used for the calculation of diversification metrics and survival analysis and export quality indicators. The section on economic complexity and product space is based on data and visualizations from the Atlas of Economic Complexity. Finally, the gravity model is estimated with CEPII BACI bilateral data covering the period 1996-2023, aggregated to the HS2 level, and augmented with variables from the CEPII Gravity data base – geographical distance (DIST), contiguous borders (CONTIG), common official language (COMLANG), common colonial history (COMCOL), existence of a free trade agreement (RTA) and EU membership (EU). As noted in the main text, the gravity model is estimated on a subsample of the BACI data including former transition economies from Central and Eastern Europe that are currently EU members — Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia — and accession countries — Albania, Bosnia and Herzegovina, Georgia, Moldova, Montenegro, North Macedonia, and Serbia.

Export Concentration

2. To evaluate export market and product concentration, the normalized Herfindahl-Hirschman indices are used (UNCTAD, 2018,2019):
Market concentration

$$H_i = \frac{\sqrt{\sum_{j=1}^{N}\left(\frac{X_{ij}}{X_i}\right)^2} - \sqrt{\frac{1}{N}}}{1 - \sqrt{\frac{1}{N}}}$$

Product concentration

$$H_j = \frac{\sqrt{\sum_{i=1}^{N}\left(\frac{X_{ij}}{X_j}\right)^2} - \sqrt{\frac{1}{N}}}{1 - \sqrt{\frac{1}{N}}}$$

where X_{ij} is the value of exports of product i by country j, X_i is the world value of exports of product i, X_j is total exports of country j, and N stands for the total number of exporting countries in the first formula, and the total number of products exported in the second formula.

Extensive and Intensive Margins

3.   The decomposition of export shares into extensive and intensive margins implements the approach proposed by Hummerls and Klenow (2005). In particular, the following definitions are used:

$$EM_{jm} = \frac{\sum_{i \in I_{jm}} X_{kmi}}{\sum_{i \in I} X_{kmi}}$$

$$IM_{jm} = \frac{\sum_{i \in I_{jm}} X_{jmi}}{\sum_{i \in I_{jm}} X_{kmi}},$$

where j denotes the country of interest (Moldova in this case), k is a reference country, m is the importer and i is the product. The sets I and I_{jm} represent the sets of all export products and the products where country j has positive exports to m. For the purposes of this paper, we consider a country's exports to the rest of the world, the EU and non-EU countries. So in this setting X_{kmi} is simply global exports in the first case, and global exports to the EU and non-EU countries in the latter two cases, respectively. Accordingly, X_{jmi} represents Moldova's exports to the rest of the world, to the EU and non-EU countries, respectively. The Moldova's share in global exports, exports to the EU and outside of the EU is given by the product of the two margins.

$$S_{jm} = EM_{jm} IM_{jm}.$$

Survival Analysis

4.   The presentation below follows Cox and Oakes (1984) and Kleinbaum and Klein (2012). Survival analysis is concerned with estimating the time until an event occurs. In the context of this paper, an event is the end of an export relationship. The time elapsed between the beginning and the end of such a relationship is the survival time. Often times the sample ends before the event occurs, which is known as right censoring of the survival data. Let T denote the random variable for survival time and t denote a specific value of T. The survivor function $S(t)$ represents the probability that the random variable T exceeds some specified time t.

$$S(t) = \Pr(T > t).$$

The survivor function starts at 1 and decreases as t increases. In practice, the estimated survivor curves are step functions. A widely used non-parametric estimator of the survivor function is the Kaplan-Meier (KM) estimator:

$$\hat{S}(t) = \prod_{j=1}^{t} (1 - \hat{h}_j) = \prod_{j=1}^{t} \left(1 - \frac{d_j}{r_j}\right),$$

where $\hat{h}(t)$ is the estimator of the hazard function (the instantaneous potential of the event to occur, given that the relationship has survived up to time t), d_j is the number of failures (exits) and r_j is the number of surviving relationships at j.

Gravity Model

5.   The gravity model setup broadly follows Yotov et al. (2016). The following equations are estimated:

Model (1)

$$ln\,X_{ij,t} = exp\big[\pi_{i,t} + \chi_{j,t} + \beta_1\,ln\,D\,IST + \beta_2 CONTIG + \beta_3 COMLANG + \beta_4 COMCOL + \beta_{RTA} RTA_{ij,t} + \beta_{EU} EU_{ij,t}\big]\epsilon_{ij,t},$$

Model (2)

$$ln\,X_{ij,t} = exp\big[\pi_{i,t} + \chi_{j,t} + \mu_{ij} + \beta_{RTA} RTA_{ij,t} + \beta_{EU} EU_{ij,t}\big]\epsilon_{ij,t},$$

Model (3)

$$ln\,X_{ij,t} = exp\left[\pi_{i,t} + \chi_{j,t} + \mu_{ij} + \beta_{RTA} RTA_{ij,t} + \beta_{EU} EU_{ij,t} + \sum_k \gamma_k D_g^k + \sum_k \big(D_g^k \times EU_{ij,t}\big)\right]\epsilon_{ij,t},$$

where $ln\,X_{ij,t}$ is the log of exports from country i to country j at time t, $\pi_{i,t}$, $\chi_{j,t}$ and μ_{ij} are exporter-time, importer-time and exporter-importer fixed effects, respectively; ln*DIST, CONTIG, COMLANG* and *COMCOL* denote log of distance, contiguous borders, common official lingual and colonial history, respectively; the indicator variables *RTA*$_{ij,t}$ and *EU*$_{ij,t}$ show whether at time t the exporter and importer had a free trade agreement or were part of the EU, respectively, and D^k_g is an indicator variable for the aggregated sector k.
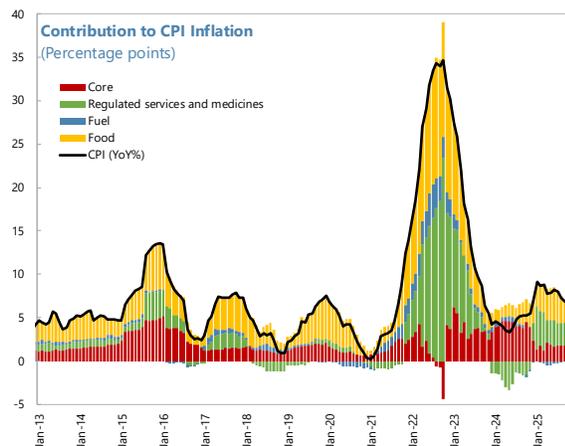
MOLDOVA'S INFLATION TARGETING REGIME [1]

This paper examines the challenges of the National Bank of Moldova (NBM) in building its inflation targeting (IT) regime since 2013. It describes its evolving use of instruments and some of those instruments' effects. It also describes the welcome shift away from de facto targeting the exchange rate towards a more standard IT regime. The paper further describes the benefits of reducing reserve requirements and discusses policy options going forward.

A. Context

1.   Moldova's inflation targeting (IT) regime started in 2013. The National Bank (NBM) adopted a formal IT regime in late 2012, following preparatory steps in 2010 that introduced quantitative targets. Operationalization in 2013 marked a significant institutional shift: the amended NBM Law enshrined price stability as the primary objective with an inflation target range of 5+/- 1.5 percent, strengthened governance provisions, and clarified the Bank's autonomy in setting monetary policy instruments. To enhance transparency, the NBM began publishing quarterly Inflation Reports which included detailed macroeconomic forecasts, risk assessments, and policy rationale. To operationalize more forward-looking policies, forecast-based decision-making was introduced, supported by a newly developed macroeconomic model and scenario analysis. This was supported by improved communication via regular press releases and policy statements explaining how decisions align with projected inflation paths, helping to anchor inflation expectations.

2.   Inflation has been volatile and exogenously driven with high pass-through from exchange rates to the CPI, posing a challenge for IT. While for the first two years of the IT regime inflation remained close to the 5 percent target, has been very volatile since end-2014. The main reason [2] for the volatility is the high share of goods in the CPI whose prices are largely exogenously determined and highly volatile, notably food and fuels. Regulated prices like gas and electricity have been prone to occasional large adjustments related to Russian gas supply and pricing up to 2025. Furthermore, the large share of imported goods in the CPI

Contribution to CPI Inflation
(Percentage points)
- Core
- Regulated services and medicines
- Fuel
- Food
- CPI (YoY%)

Source: NBS.

has contributed to a sizable pass-through from the exchange rate to consumer prices. Estimates from a vector autoregression model that distinguishes between monetary and exchange rate shocks reveal that for the MDL-US dollar exchange rate, changes driven by shocks to the exchange rate
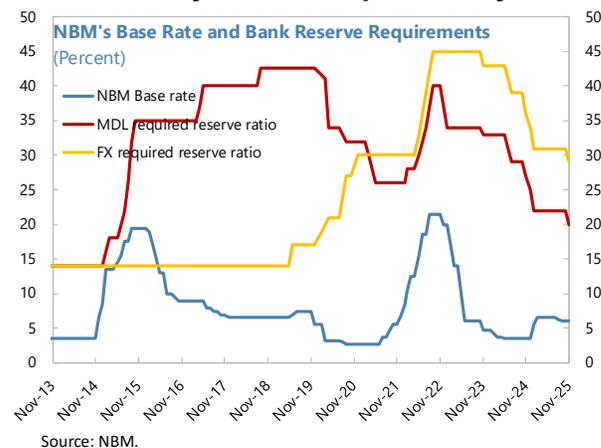
---

[1] Prepared by Philipp Engler (EUR) and Roland Meeks (MCM) with contributions from Sergio Sola (MCM).

[2] One episode of accelerated inflation followed the bank fraud in 2014 that caused a banking crisis, capital flight, and a strong depreciation in 2015 (see German Economic Team Moldova, 2015).
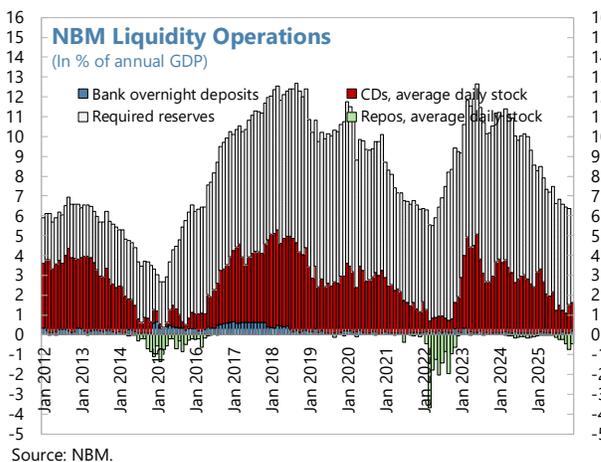
have a median pass-through to the CPI of 45 percent; while for the MDL-euro exchange rate the pass-through elasticity is 53 percent. For exchange rate changes driven by domestic monetary policy shocks the pass-through from an exchange rate change to the CPI is 62 percent for both the MDL-US dollar rate and the MDL-euro rate. That means around half of an exchange rate movement transmits to the CPI for those shocks (see technical annex A for details).

3.   The challenging environment has led the NBM to intensely use its complementary monetary policy tools. The NBM, like all inflation targeting central banks, uses a short term interest rate, the base rate, as its main operating target. The focus on a single operating target simplifies communication about the policy stance, bolstering transparency and credibility. But the NBM has various complementary instruments to control market liquidity and ensure control over the base rate. These include reserve requirements (RRs), open market operations, and standing facilities. As is typical in low-income countries (LICs), the NBM has faced an environment that has made IT challenging to implement:

NBM's Base Rate and Bank Reserve Requirements (Percent)
- NBM Base rate
- MDL required reserve ratio
- FX required reserve ratio

Source: NBM.

a.   *Fear of floating* caused by liability dollarization or very high pass-through can lead an IT central bank to treat the exchange rate as a de-facto additional target. In reaction to conflicting signals from inflation and exchange rate movements the central bank may then guide its interest rate setting by exchange rate movements and heavy use of foreign exchange interventions (FXI), diluting the inflation targeting focus.

NBM Liquidity Operations (In % of annual GDP)
- Bank overnight deposits
- Required reserves
- CDs, average daily stock
- Repos, average daily stock

Source: NBM.

b.   *Shallow financial markets*, rendering transmission from the operating target to other interest rates and the overall economy weak. In Moldova, a contributing factor was excess liquidity in the banking system after the bank fraud in 2014 and emergency lending operations (see IMF (2022) for details). The NBM increased RRs to exceptionally high levels and also issued short-term certificates of deposit (CDs) to mop up excess liquidity and support monetary transmission.

The remainder of the paper will discuss in detail the NBM's practice of base rate setting, its intensive use of FXI in the early years of the IT regime, and its liquidity operations.

B. The NBM's Evolving Monetary Policy Operations and Implications

4.   The NBM's use of the base rate as its main operating target has evolved away from steering the exchange rate and towards conventional inflation targeting. To get a sense of the evolving nature of the NBM's policies since the start of the IT regime a Taylor rule is estimated on a sample of quarterly data split into the pre- and post-2020 periods. The timing of the split is motivated by the adoption of explicit rules guiding FXI by the NBM in late-2019. Those rules limited use of FXI to easing of FX market disruptions while not permitting interventions to stem trend exchange rate movements. The split reveals a striking contrast: while one would expect a significant reaction of the base rate to the inflation gap (the difference between the year-on-year inflation rate and the NBM's 5-percent-target) in an

Taylor Rule Coefficients: Subsamples

	2013Q1-2025Q2	2013Q1-2019Q4	2020Q1-2025Q2
Inflation gap	0.1	-0.03	0.54***
Output gap	0	-0.15	-0.03
Change in exchange rate	0.07***	0.07***	0.04*

Sources: NBS and IMF staff calculation.
Notes: *0.05<p≤0.1, ** 0.01<p≤0.05, *** p≤0.01.

inflation targeting regime, the data reveal no such reaction from 2013 to 2019. Instead, the base rate increased by 7 basis points to a quarterly depreciation in the leu-dollar exchange rate of 1 percent. The estimated coefficient is significant at the 1 percent level. The NBM thus targeted inflation indirectly by aiming to mitigate exchange rate fluctuations and the ensuing pass-through to the CPI. In contrast, since 2020, the NBM has acted much more like a conventional inflation targeter: the base rate has displayed a significant reaction to the inflation gap while the exchange rate coefficient is smaller and significant only at the 10 percent level. The exchange rate has thus continued to play a role in base rate setting, but the reactions were less systematic and quantitatively smaller (see technical annex B for details of the estimation approach).

5.   Transmission from the base rate to deposit and lending rates has strengthened over the past decade while T-bill rates have reacted quickly and strongly.[3] While several distinct transmission mechanisms determine the effects of monetary policy (see IMF, 2022 for an overview), with the largely bank-based financial sector, a key mechanism in Moldova operates from changes in the base rate to changes in bank lending and deposit rates which then affect lending and aggregate demand. Between 2010 and 2014 monetary policy was ineffective in steering bank rates, with no effect on deposit rates and only a small and very transitory effect on the lending rate. This has changed in the past decade as both the deposit and lending rate display a significant effect within a few months. Since 2021, the deposit rate rises 0.19 percentage points on impact after a one-percentage point increase in the base rate. Pass-through is complete after about 4 months with a total increase of 0.55 percentage points. The lending rate does not react on impact and also rises less over time. After 3 months it settles at 0.3 percentage points higher than before the base rate

---

[3] See also Engler and Giucci (2015) and IMF (2022) for earlier analyses of interest rate pass-through in Moldova.

hike.[4] A recent example is the pass-through following the energy price hike in January 2025 which was somewhat higher at 0.38 as the base rate increase of 290 bps was followed by an increase of bank loan rates of 110 bps until July 2025. The lower pass-through to lending than deposit rates in the estimation likely reflects strong borrower-lender relationships that render banks reluctant to quickly change lending rates when the policy stance changes; deposits, in contrast, may not be very elastic with respect to deposit rate changes so banks can pass on base rate changes more forcefully. Lastly, T-bill rates have always reacted quickly to base rate changes and more strongly than bank rates. Since 2021, 71 percent of base rate hikes were transmitted to T-bills within a few months (see technical annex C for details of the estimation approach).

Effect of 1 Percent Policy Rate Change in Market Rates

		2010-2014	2015-2020	2021-2025M4	2010-2025M4
Lending rate	ST	0.34***	0.02	-0.01	0.05
	LT	0.13	0.27***	0.30***	0.27***
Deposit rate	ST	0.06	0.06	0.19***	0.14***
	LT	0.04	0.61***	0.55***	0.53***
Tbill rate	ST	0.69***	0.11	0.26**	0.27***
	LT	0.91***	1.23***	0.71***	0.95***

Source: IMF staff calculations.
Notes: *0.05<p≤0.1, ** 0.01<p≤0.05, *** p≤0.01.

6.   Use of FXI has declined substantially in recent years. A reaction function of monthly FXI shows a systematic reaction to changes in the leu-dollar exchange rate in the pre-2020 sample but not in the post-2020 sample (see technical annex D for details). A one percent month-over-month depreciation of the leu against the dollar was associated with FX sales of 0.09 percent of annual GDP in the first subsample. In the second sub-sample the reaction coefficient is not significant. In line with that observation, the data also shows that interventions have become smaller relative to GDP and less biased toward dollar sales, hinting at a reduced focus on preventing depreciations. Over the past two years interventions have also become smaller relative to FX interbank transactions, rendering a much smaller footprint in the FX market. Overall, the degree of exchange rate management, measured as the ratio of FXI volatility over the sum of FXI and exchange rate volatility[5] has decreased. This analysis suggests that the NBM has changed its approach to exchange rate management (for the previous analysis see IMF 2022).[6]

---

[4] Engler and Giucci (2015) interpreted the result of a significant short-term effect on lending rates in their 2009-2015 sample as an improvement over the previous period due to the establishment of the base rate as the NBM's main policy tool since 2009/2010 when the inflation targeting framework was being set up. At the time the long-term effect was not significant suggesting still little traction of monetary policy action. This has changed with the still small but highly significant long-term effect as shown in this paper.

[5] See Adler et al. (2020) and Poghosyan (2020) for a discussion of this indicator.

[6] Despite the now dominant role of the euro for Moldova's economy and the NBM's FX operations the leu-euro exchange rate the NBM has not targeted the euro rate with FXI. The FXI reaction function with the dollar replaced by
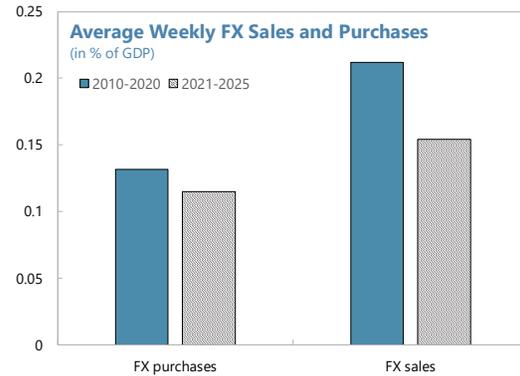
Figure 1. The NBM's FXI Practice

FXI Reaction Function

	2013-2019	2020-2025M7
FXI (-1)	0.37***	0.17***
ΔUS-$	-0.09***	-0.13
π_gap	0.01	0.01

Sources: NBS and IMF staff calculation.

Notes: *** 0.01<p≤0.05, *** p≤0.01.

Average Weekly FX Sales and Purchases
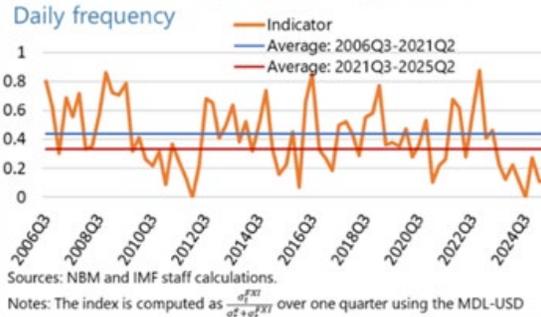(in % of GDP)

Sources: NBM and IMF staff calculations.

NBM FXI and Interbank Market
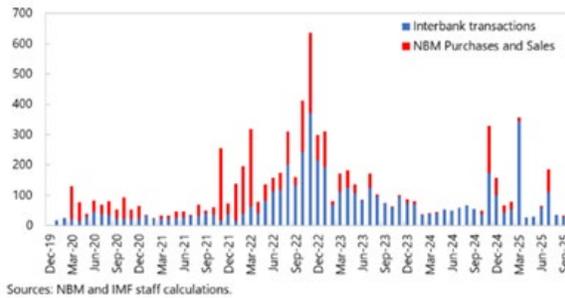
Sources: NBM and IMF staff calculations.

Degree of Exchange Rate Management
Daily frequency

Sources: NBM and IMF staff calculations.
Notes: The index is computed as $\frac{\sigma_d^{FXI}}{\sigma_d^2 + \sigma_d^{FXI}}$ over one quarter using the MDL-USD

7.   The intense use of high RRs, while appropriate during times of excess liquidity, is becoming distortive for the banking system as conditions normalize. In response to the banking crisis following the fraud, the NBM raised the reserve requirement ratio on deposits in lei from 14 to 35 percent between February and November 2015 and then to 42.5 percent in October 2018 to reduce excess liquidity and support monetary transmission. But high RRs come at a cost. By the requirement to hold a fraction of deposits as central bank reserves which are only partially remunerated[7], banks face a friction in intermediating deposits to loans that creates an inefficient wedge between lending and deposit rates, raising the spread between the two. While the spread is

the euro does not show any significant reaction to the euro rate. Hence, despite the growing role of Moldova's trade in euros over time and the switch from the US-dollar to the euro as reference currency in January 2025 the NBM has not influenced the euro rate in any systematic way. This is a welcome development and shows a change in the NBM's commitment to targeting inflation while taking an easier approach to exchange rate volatility.

[7] The amount of required reserves equal to the equivalent of five percent of the reserve base is not remunerated while the remaining amount is remunerated at the overnight deposit rate, which is currently two percentage points below the base rate.

determined by a host of factors, the large increases in the RR ratio over short periods of time in 2015 and 2022 had visible effects with a delay of a few months. The distortion can be measured as an opportunity cost of total required reserves (see technical annex E). In December 2025, as the NBM reduced the RR ratio to 20 percent, the cost still stood at about MDL 487 mln, which was still sizable at roughly 1.6 percent of banks' equity.

8.   Model simulations indicate that a reduction of RRs may ease credit conditions. We calibrate an extended version of the quantitative IPF model (Adrian et al, 2021) to key features of the Moldovan economy. We consider the effect of a 10 percent reduction in the RR from 22 to 12 percent as an indicative experiment, starting from a rate that is close to that currently imposed on local currency deposits. The reduction is assumed to be perfectly credible and perfectly anticipated by all agents in the economy. Adjustment is gradual, such that the RR adjusts fully within four years, with the half-way point reached after 18 months. The near-term response of the banking variables is consistent with a dominant effect from reduced leverage as reserves are shed from balance sheets easing financial frictions. Nominal loan rates and spreads fall on announcement, while the stocks of loans and deposits rise. The trend towards higher loan volumes drives profitability; banks' market-to-book ratios undergo a sustained rise. In the model, the overall macroeconomic effects are small; but an important caveat is that new credit is directed to households and so it boosts asset prices and consumption (at least in the short term); the likely benefits from boosting business lending, e.g., more capital deepening and improvements in labor productivity, are not captured.

Figure 2. Reserve Requirements

Reserve Requirements and the Bank Spread

Sources: NBM and IMF staff calculations

Costs of Reserve Requirements

Sources: NBM and IMF staff calculations
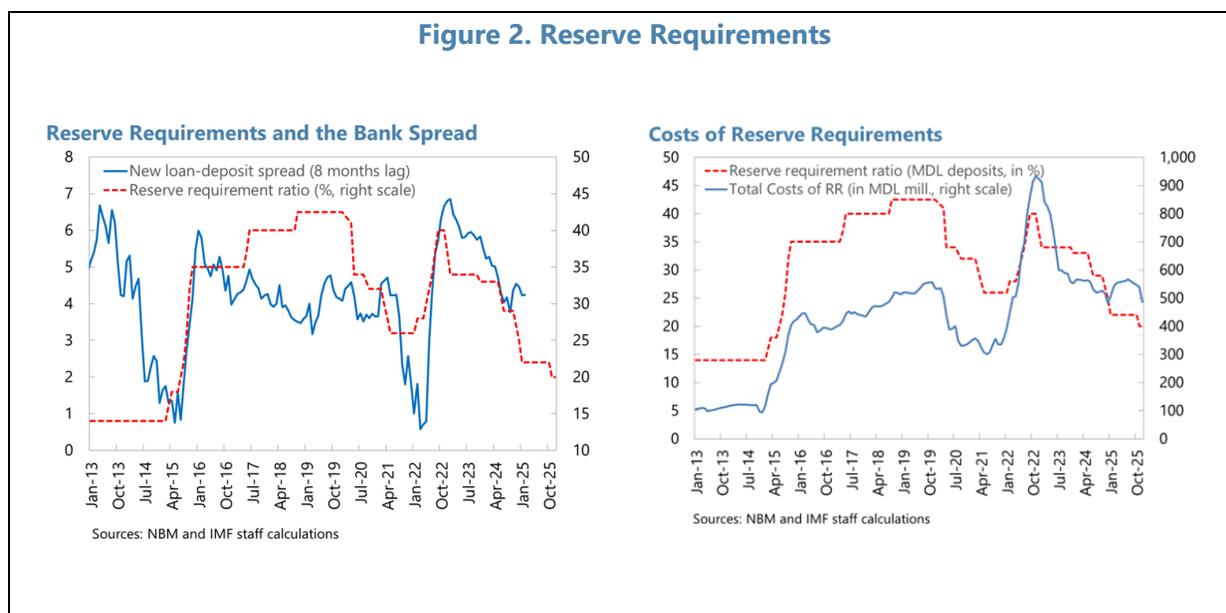
9.   CDs and repos are the NBM's bank specific tools to regulate liquidity but may have acted as a substitute for the interbank market. While RRs are applied to all bank deposits to regulate aggregate liquidity, CDs and repos are money market instruments to regulate bank specific liquidity needs. The NBM applies the base rate for CDs while the repo rate is set at +0.25 pp above

the base rate; maturities are generally 14 days. CDs have been used intensely during the past decade as banks shed excess liquidity from their balance sheets beyond what was withdrawn through RRs. As a share of GDP, CDs peaked at just below 5 percent in March 2018 and again in July 2023. By December 2025 CDs had declined to 1.4 percent of GDP, reflecting the drainage of excess liquidity related to the rapid credit growth over the past two years. Repos, in contrast, have generally been used less, but saw a pickup in activity in late 2025. Their use during this time coincided with sales of CDs, implying that the NBM provided liquidity to some banks at a time when it absorbed liquidity from other banks. Both banks short and long in liquidity thus conducted transactions with the NBM rather than with each other on the interbank market.

C.   Policy Discussion

10.   The greater focus on the inflation gap in setting the base rate is a welcome step towards normal IT practices. The significant coefficient on the inflation gap in the estimated Taylor rule signals a determination by the NBM to keep inflation within its target band and bolsters the NBM's credibility and accountability. Credibility will further grow over time with an increasing track record of following IT principles.

11.   FXI practices have improved markedly. The more limited response of the base rate and FXI to exchange rate movements in recent years has allowed the exchange rate to reflect market forces to a larger extent. The rules set up in 2019 clarified that FXI should address FX market disruptions but not fundamental exchange rate changes. While those rules clarify the limits to FXI use, they leave enough discretion to react to turbulence. The IPF describes three "use cases" for FXI (see IMF (2023)) and references therein): i) to address destabilizing premia from arbitrage frictions in shallow FX markets, ii) to counter financial stability risks from FX mismatches and iii) to support price stability when exchange rate changes risk de-anchoring inflation expectations. The first case is relevant for Moldova as FX markets remain shallow, at times resulting in occasional non-fundamental exchange rate volatility. The second case is also relevant as liability dollarization is still sizable with a 20-percent share of FX loans in total loans despite a steady decline in recent years; however, macroprudential instruments are an effective first line of defense that effectively limit currency mismatches. Lastly, while inflation expectations have remained well-anchored in Moldova, unanchoring risks cannot be disregarded. The best strategy to avoid unanchoring is to further strengthen the NBM's credibility, by continuing to build a track record of effectively fighting inflation, by following the recommendations in the Central Bank Transparency Code Review so that a clear communication ensures the public understands its deliberations and decisions, and by strengthening the NBM's political, institutional, and financial independence.

12.   The NBM should reduce the level of RRs further once inflationary pressures have subsided. While the high levels of RRs were initially justified by the large excess liquidity in the banking system and the lack of trust among banks after the bank fraud, the strong lending growth since early-2024, which has increased the credit to GDP ratio from 21 to 29 percent, has reduced excess liquidity substantially. Credit growth slowed towards the end of 2025, likely due to the monetary tightening at the beginning of the year, but is projected to continue in the coming year

and, over time, to further reduce excess liquidity. The NBM should therefore pursue a carefully calibrated reduction of RRs while monitoring closely inflation developments.

13.   Lower RRs would also support government debt and interbank market development. With excess liquidity fading, the NBM will turn from a liquidity absorber to a liquidity provider. Repos could increasingly be used for open market operations to manage aggregate rather than bank specific liquidity with government debt as collateral. Valuations of government debt would rise with higher demand, providing a needed boost to the development of the government bond market. Scarcity of liquidity and a better functioning sovereign bond market should also help revive the interbank market, supported by ending the fixed-rate-full-allotment and improving liquidity management and forecasting practices both by banks and the NBM.

14.   Further work is needed to calibrate the path towards lower RRs and endpoint. A plan for a reduction path would need to consider how the released reserves are used by banks. A slow release over time would be one option that would avoid a possibly undesirable credit boom with any remaining excess liquidity to be absorbed by issuance of CDs. But as an induced credit expansion could be stronger during economic booms and strong credit demand than during recessions and low credit demand, some variation in the speed of reducing RRs might be desirable, depending on an optimal credit expansion path. The endpoint for the RR ratio level also requires careful calibration. Among regional peers local currency RRs are currently in the range of 5.5 and 10 percent. To determine the optimal level for Moldova banks' specific liquidity needs given certain shocks and the degree of interbank market development would need to be taken into consideration.

Minimum Reserve Requirements on Local Currency Deposits						
Albania	Bosnia and Hercegovina	Kosovo	Montenegro	North Macedonia	Serbia	Moldova
7.5% (<1 yr), 5.0% (1-2 years)	10%	10%	5.5% (<1 yr), 4.5% (>1 yr)	9% (< 2 years), 0% (> 2 years)	7% (<2 years), 2% (>2 years)	20%
Note: Respective maturities in brackets. Sources: Respective central banks						

References

Adler, G., Chang, K. S., and Z. Wang (2020). *Patterns of Foreign Exchange Intervention under Inflation Targeting*. IMF WP/20/69.

Adler, G., Chang, Mano, R., K. S., Shao, Y. (2025). *Foreign Exchange Intervention: A Dataset of Public Data and Proxies*. Journal of Money, Credit and Banking, Volume 57 (5), pp. 1241-1273.

Adrian, T., Erceg, C.J., Kolasa, M., Linde, J. and Zabczyk, P. (2021). *A Quantitative Microfoundd Model for the Integrated Policy Framework*. IMF WP 2021/292.

Engler, P., Giucci, R. (2015). *The Transmission Mechanism in Moldova. Reasons for its Weakness and Recommendations for its Strengthening*. GET Moldova Policy paper 1/2015.

Forbes, K., Hjortsoe I., Nenova, T. (2018). *The shocks matter: Improving our estimates of exchange rate pass-through*. Journal of International Economics 114 (2018) 255–275.

Gabaix, X., and Maggiore, M. (2015). *International Liquidity and Exchange Rate Dynamics*. The Quarterly Journal of Economics (2015), 1369–1420.

German Economic Team Moldova (2015). Newsletter No. 29, May-June 2015.

Gertler, M., and Karadi, P. (2011). *A model of unconventional monetary policy*. Journal of Monetary Economics, Vol. 58(1), 17-34.

Iacoviello, M. (2005). *House Prices, Borrowing Constraints, and Monetary Policy in the Business Cycle*. American Economic Review, Vol. 95(3), 739–764.

International Monetary Fund (2022). *Challenges of IT Implementation in LLMICS: A Case Study of Moldova*. Selected Issues Paper. IMF Country Report No 22/61.

International Monetary Fund (2023). *Integrated Policy Framework – Principles for the Use of Foreign Exchange Intervention*. Washington, DC.

Mishra, P., Montiel, P.J., and Spilimbergo, A. (2010). *Monetary transmission in low income countries*. IMF WP 10/223.

Poghosyan, T. (2020). *Unveiling the Effects of Foreign Exchange Interventions: Evidence from the Kyrgyz Republic*, IMF WP 20/2019.

Rojas, D., Vegh, C., Vuletin, G. (2022). *The macroeconomic effects of macroprudential policy: Evidence from a narrative approach*. Journal of International Economics 139.

Appendix I. Methodology

A. Pass-Through Estimation

1. To estimate exchange rate pass-through (ERPT) from changes in the nominal exchange rate (NER), denoted as ΔS, to the CPI, a flat prior BVAR is estimated on monthly data for 2006-2025. Identification is achieved through standard sign restrictions (Forbes et al., 2018) for monetary policy and exchange rate shocks. ERPT is calculated based on VAR impulse-response functions (Δx_h):

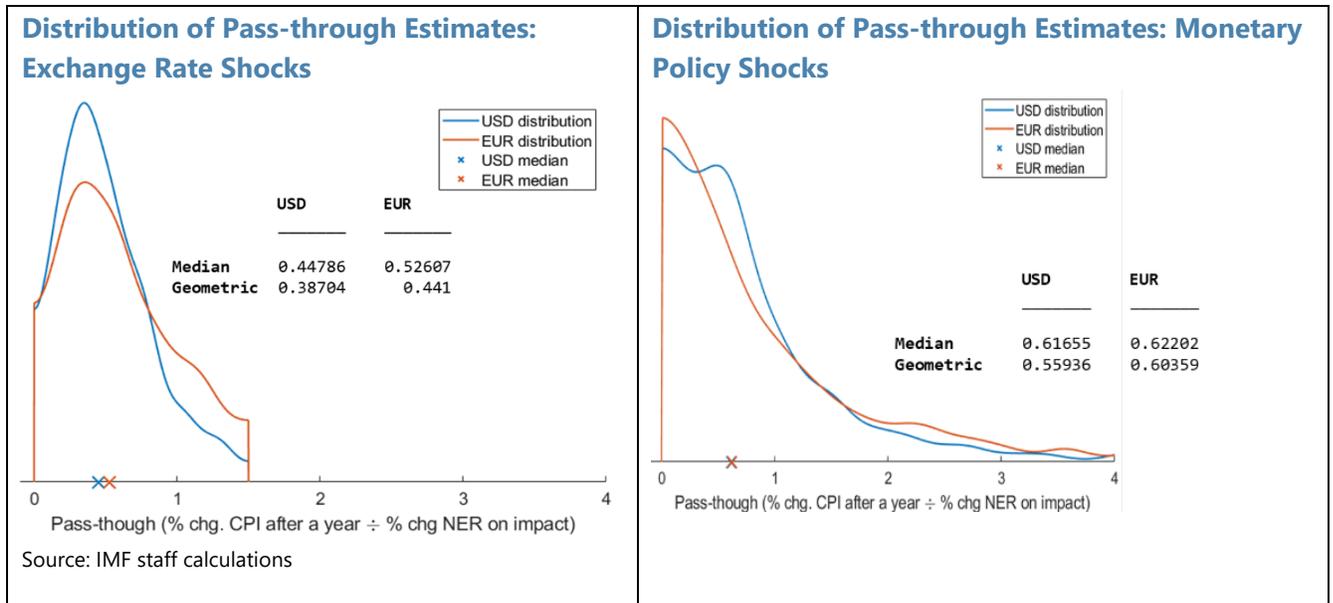$$ERPT_k^{(d)} = \left. \frac{\Delta\, CPI_h^{(d)}}{\Delta S_1^{(d)}} \right|_{\varepsilon_k}$$

for posterior draws $d = 1, \dots, D$, a horizon $h = 12$ months, and a structural shock ε_k.

2. The sign restrictions are shown in the table below.

	Base rate	CPI^	Euro NER *	Dollar NER*	Free reserves	FXI**
Monetary policy shock	> 0	< 0	< 0	< 0	< 0	n/a
Exchange rate shock	> 0	> 0	> 0	> 0	n/a	< 0
Note: * A decrease denotes an *appreciation* of the Moldovan leu vs. the named currency; ** A decrease denotes sales of reserves (purchases of Lei); ^ CPI restriction holds at the 12-month horizon for y/y inflation; shaded fields: Forbes et al. (2018) restrictions (originally for quarterly data, so imposed for 3 months)						

ERPT is calculated as a distribution, conditional on a particular source of disturbance. The problem to address is that ERPT estimates can be very high (even after discarding ΔS very close to 0). Here a *reasonableness* prior is proposed as another restriction that limits ERPT up to 150 percent which allows for a more credible identification as outcomes are more theory consistent. The distributions for domestic monetary policy and exchange rate shocks after one year are shown below:

Distribution of Pass-through Estimates: Exchange Rate Shocks

	USD	EUR
Median	0.44786	0.52607
Geometric	0.38704	0.441

Source: IMF staff calculations

Pass-though (% chg. CPI after a year ÷ % chg NER on impact)

Distribution of Pass-through Estimates: Monetary Policy Shocks

	USD	EUR
Median	0.61655	0.62202
Geometric	0.55936	0.60359

Pass-though (% chg. CPI after a year ÷ % chg NER on impact)

B. Taylor Rule Estimation

3. A Taylor type rule with the base rate as the NBM's policy instrument is estimated at a quarterly frequency for two subsamples of the IT regime, 2013Q1-2019Q4 and 2020Q1-2025Q2. The regression included a constant and two lags of the base rate. The inflation gap is computed as the year-over-year CPI inflation rate minus the target rate of 5 percent. The output gap was proxied by a series of industrial production, using a Hodrick-Prescott filter to remove the trend. For the change in the exchange rate the quarter-over-quarter change in the MDL-dollar exchange rate was used.

C. The Transmission of the Base Rate to Bank Rates

4. To estimate the pass-through effect of base rate changes on lending, deposit, and T-bill rates the approach of Mishra et al. (2010) was applied. The following autoregressive distributed lag model was estimated with monthly data:

$$\Delta x_t = \alpha \Delta x_{t-1} + \beta \Delta x_{t-2} + \gamma \Delta y_t + \delta \Delta y_{t-1} + \varepsilon \Delta y_{t-2} + \mu_t$$

where x_t is the respective endogenous variables of interest (lending rate, deposit rate, T-bill rate) and y_t is the base rate. The short term (ST) effect is the estimate of coefficient γ and the long-run (LT) effect is the ratio $(\gamma + \delta + \varepsilon)/(1 - \alpha - \beta)$ of all five estimated parameters.

D. The FXI Reaction Function

5. For the FXI reaction, FXI, expressed as a percentage of GDP, was regressed on one lag of FXI, the m/m percentage change in the MDL-dollar exchange rate and the inflation gap measured as the y/y CPI inflation rate minus the target rate of 5 percent. The data was monthly and the sample was

split between the 2013-2019 and 2020-2025M7 subsamples. The FXI series is from Adler et al. (2020).

E.   Costs of Reserve Requirements

6.   The costs of reserve requirements for banks can be measured in terms of a unit opportunity cost and total costs. The unit cost is the difference between the policy rate and the remuneration of reserves and determines the wedge between lending and deposit rates. The NBM pays interest to banks at the overnight deposit rate (ONDR) on the share of required reserves that exceeds 5 percent of the reserve base (RB) which is currently 2 percentage points below the base rate. The first five percent of the reserve base are not remunerated. The unit cost of required reserves can thus be expressed as

$$[5\%*RB*\text{Base rate}+(\text{RR ratio}-5\%)*RB*(\text{Base rate - ONDR})]/(\text{RR ratio}*RB)$$

which simplifies to

$$(5\%/\text{RR ratio})*\text{base rate}+[(\text{RR ratio}-5\%)/\text{RR ratio}]*(\text{base rate - ONDR})$$

As the gap between the base rate and the ONDR is changing rarely, the unit cost varies mostly with the base rate and the RR ratio. In this paper these costs are calculated for the banking system as a whole. At the required reserve ratio of 20 percent of the reserve base and a base rate of 5 percent in December 2025, the unit cost was 2.8 percent. The total cost is the unit cost times the required reserves holdings.

F.   Effects of Changes of the Required Reserve Ratio

7.   The framework we use is adapted from a quantitative model of the integrated policy framework (QIPF, Adrian et al. 2021). The QIPF is a two-country open economy New Keynesian model, featuring trade linkages and frictions in the foreign exchange market that lead to a home country premium, as in Gabaix and Maggiore (2015). A rich array of nominal and real rigidities geared towards ensuring congruence with macroeconomic data are included, with the prices of domestic, imported, and exported goods sticky in local currency. The model features monetary, fiscal, and foreign exchange policy tools. In the extended model employed here, we additionally allow financial intermediaries to operate, making loans and taking deposits in local currency.

8.   The model structure is as follows. Firms produce goods for domestic and foreign consumption using capital and labor inputs, with the former being fixed. Households consume a bundle of domestic and foreign goods and housing services, and supply labor. Households are divided into equal-sized blocks of 'saver' and 'borrower' types, with the latter having a higher rate of time preference than the former, as in Iacoviello (2005). Loans to borrowers fund consumption and the purchase of housing services. The housing market plays a key role in the model as borrowers face a limit on the overall credit that they can obtain from intermediaries, which is based on the

value of the housing collateral that they own (a 'loan-to-value' or LTV limit). Fluctuations in asset prices directly affect this borrowing limit, and therefore credit demand and consumption.

9.   Credit supply is constrained by the ability of banks to raise funding from depositors. As in Gertler and Kiyotaki (2010) and Gertler and Karadi (2011), depositors are aware that bankers can extract a private benefit from the funds entrusted to the bank, causing it to fail and be unable to repay its creditors. This moral hazard problem places a limit on banks' leverage, and leads them to charge an interest rate spread which acts as an incentive payment that induces "good behavior", as it makes the hidden action financially unattractive. The loans banks extend are for one period and carry an interest rate that is ex ante fixed in nominal terms. Banks accumulate net worth from retained profits, and loan supply is proportional to net worth.

10.   When a bank accepts deposits, it must hold a minimum level of reserves at the central bank that depends on the reserve requirement ratio (RR). In the model, banks have no use for reserves other than to satisfy their reserve requirement. Reserves are remunerated at the central bank's policy rate. As deposits are also remunerated at the policy rate, banks do not suffer a direct bottom-line impact from reserve requirements; there is no "tax on banks". However, reserves are assumed to occupy balance sheet "space": the requirement to hold reserves raises banks' overall leverage (the ratio of loans plus reserves to net worth), meaning that all else equal banks face a tighter incentive constraint than otherwise. That in turn leads them to charge higher spreads on loans, and reduces their lending capacity. However, a key assumption in our model is that the bank's creditors consider reserves to be better collateral than loans, which are more opaque than reserves, non-traded, and likely require the banker to undertake possibly costly actions such as monitoring in order to make them perform. The tightness of the constraint on banks therefore depends on the mix of loans and reserves they hold, as well as overall leverage.