

# Moldova – Export Developments and Prospects

Rossen Rozenov and Yiran Zha

SIP/2026/024

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on February 10, 2026. This paper is also published separately as IMF Country Report No 26/060.

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**Moldova – Export Developments and Prospects, Republic of Moldova**  
**Prepared by Rossen Rozenov and Yiran Zha\***

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

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SELECTED ISSUES PAPERS

# **Moldova – Export Developments and Prospects**

Republic of Moldova

Prepared by Rossen Rozenov and Yiran Zha<sup>1</sup>

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<sup>1</sup> “The authors would like to thank Philipp Engler, Mark Horton and Alina Iancu for their helpful comments and suggestions.



# REPUBLIC OF MOLDOVA

## SELECTED ISSUES

February 10, 2026

Approved By  
**European Department**

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# MOLDOVA – EXPORT DEVELOPMENTS AND PROSPECTS<sup>1</sup>

*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, Hagemeyer 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.<sup>2</sup> 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.

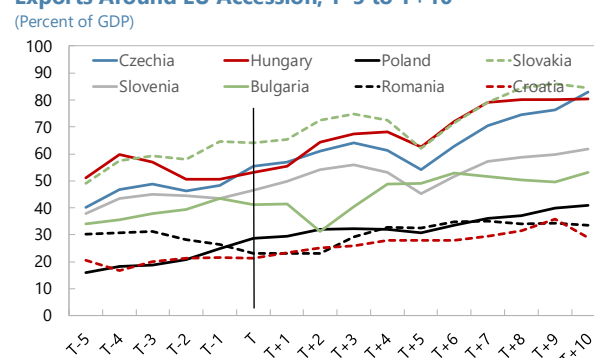
**4. Joining the EU would consolidate the gains already realized under the DCFTA and open new possibilities** for trade diversification, supply chain integration, and participation in EU-

<sup>1</sup> Prepared by Rossen Rozenov and Yiran Zha (both EUR).

<sup>2</sup> 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 (Hagemeyer 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, 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.

**Exports Around EU Accession, T-5 to T+10**



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.

**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](#).

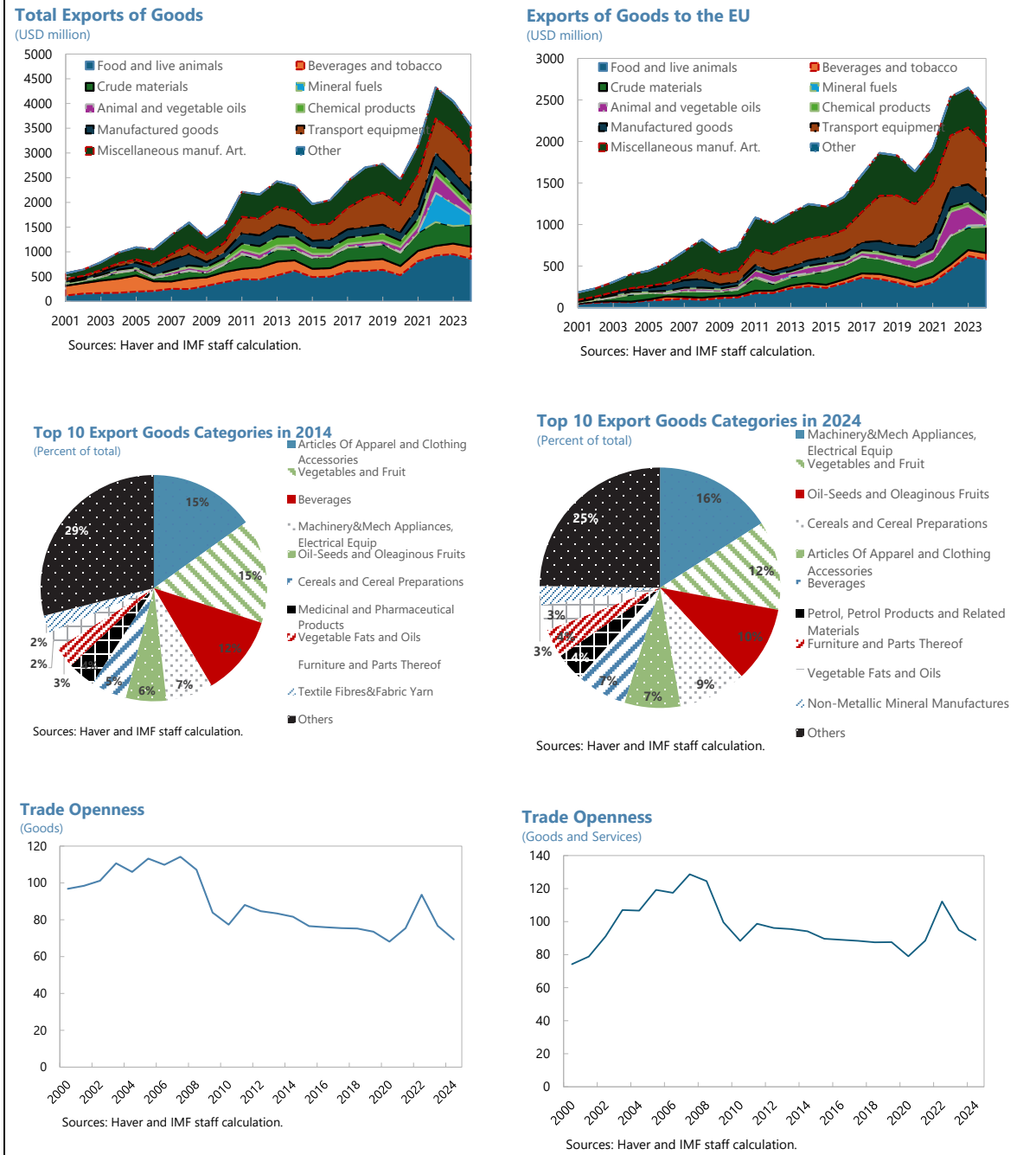
## B. Export Performance Indicators

**6. Moldova's exports expanded notably following the DCFTA.<sup>3</sup>** 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

<sup>3</sup> 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).

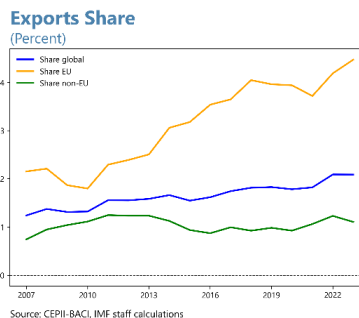
very strong gains in 2021-22, exports have declined in the last couple of years, likely due to difficulties related to the war in Ukraine. Geographical reorientation since the signing of the EU association agreement has been associated with changes in the structure of trade. While vegetables and fruit 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**



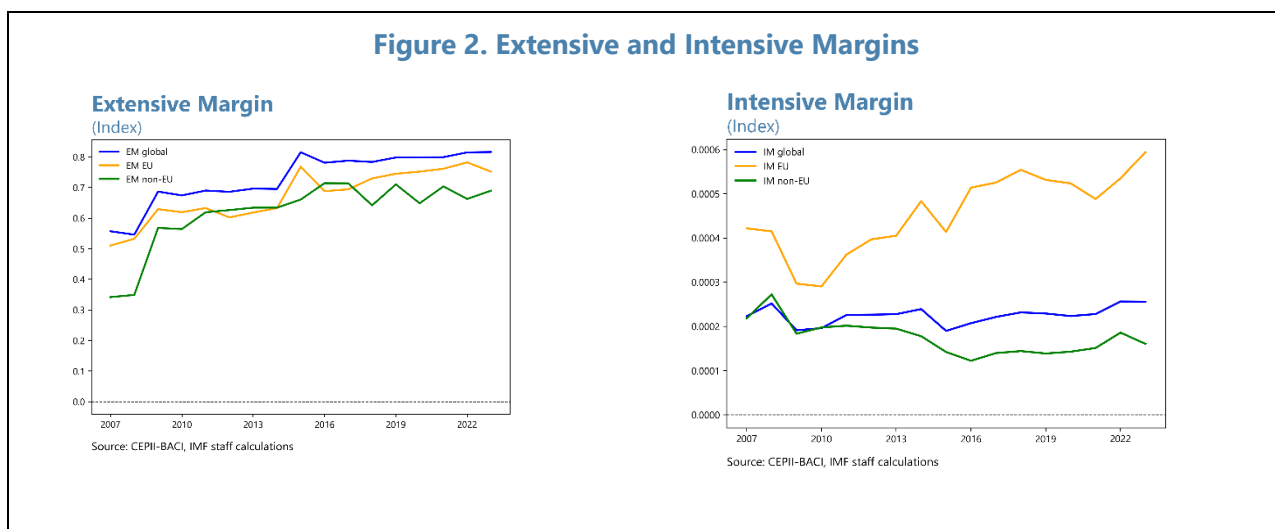
**Diversification**

**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.



**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).<sup>4</sup> 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.

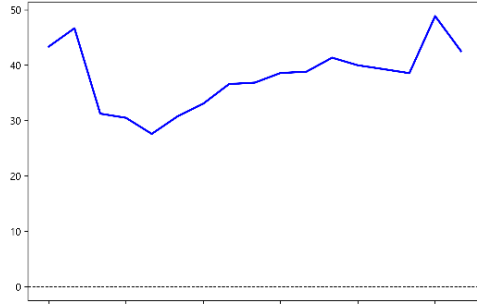
**Figure 2. Extensive and Intensive Margins**



<sup>4</sup> See Technical and Data Appendix for definitions.

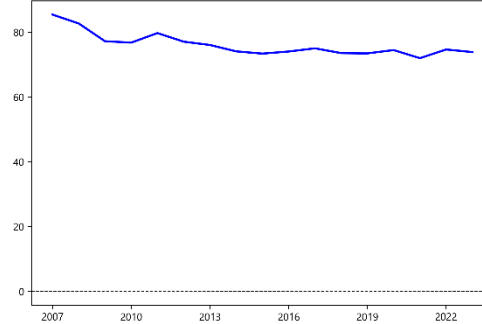
**Figure 3. Export Diversification Indicators**

**Top 10 Product Share**  
(Percent)



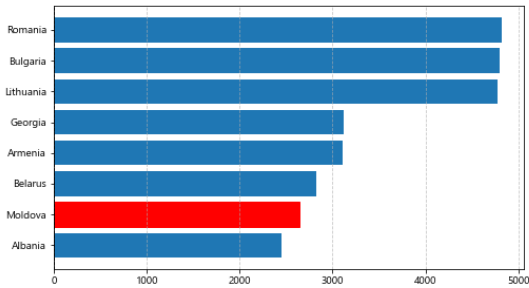
Source: CEPII-BACI, IMF staff calculations

**Top 10 Destinations Share**  
(Percent)



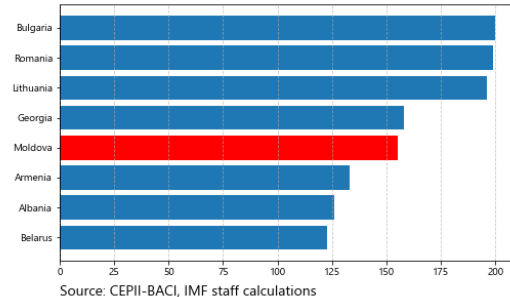
Source: CEPII-BACI, IMF staff calculations

**Number of Products Exported (2023)**



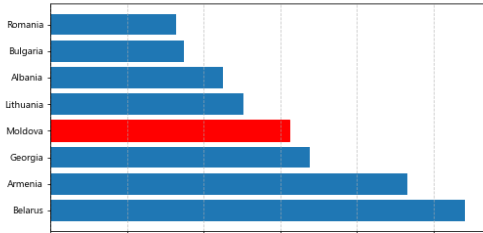
Source: CEPII-BACI, IMF staff calculations

**Number of Export Destinations (2023)**



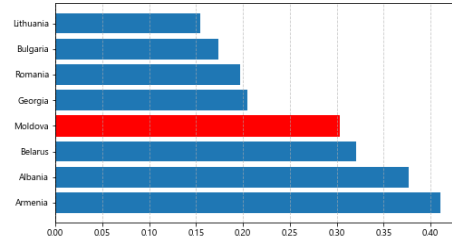
Source: CEPII-BACI, IMF staff calculations

**Product Concentration (2023)**  
(Herfindahl-Hirschman Index)



Source: CEPII-BACI, IMF staff calculations

**Market Concentration (2023)**  
(Herfindahl-Hirschman Index)



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.<sup>5</sup>

**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

<sup>5</sup> 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.

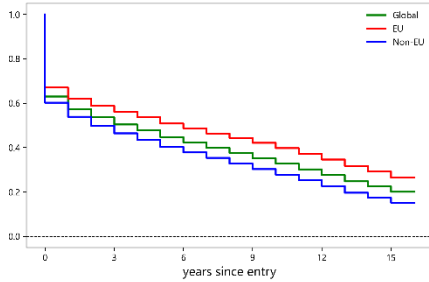
- **EU vs non-EU countries.** Comparing markets, export survival in the EU is consistently and materially higher than in non-EU destinations. For example, after three years, the EU survival rate stands at about 0.6, compared to 0.5 for non-EU markets. This is the case across all horizons and cohorts (Figure 4), and the difference is highly statistically significant.<sup>5F6</sup> 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. Overall, 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.

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

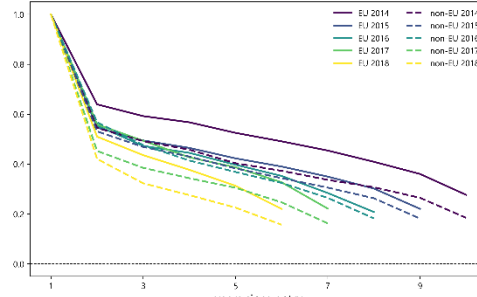
**Figure 4. Export Relationships Survival**

**Export Relationships**  
(Survival rate)



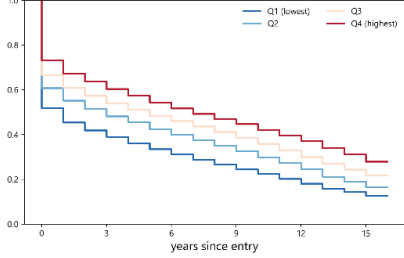
Source: CEPII-BACI, IMF staff calculations

**Export Relationships by Cohort**  
(Survival probability)



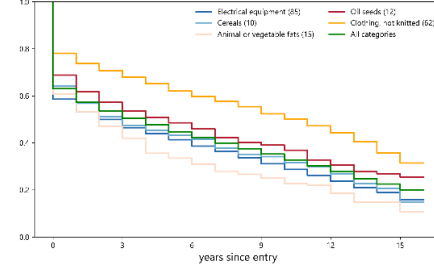
Source: CEPII-BACI, IMF staff calculations

**Survival by Initial Export Value**  
(Survival rate)



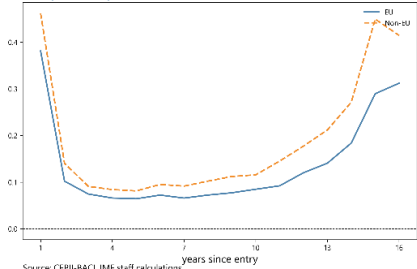
Source: CEPII-BACI, IMF staff calculations

**Survival of Export Relationships by Product**  
(Survival rate)



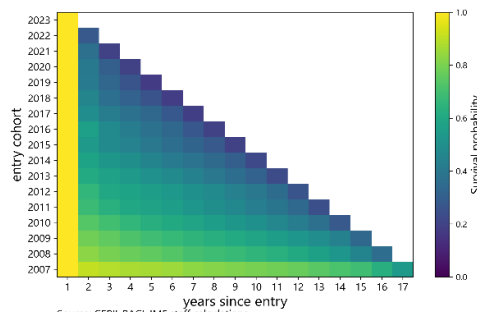
Source: CEPII-BACI, IMF staff calculations

**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

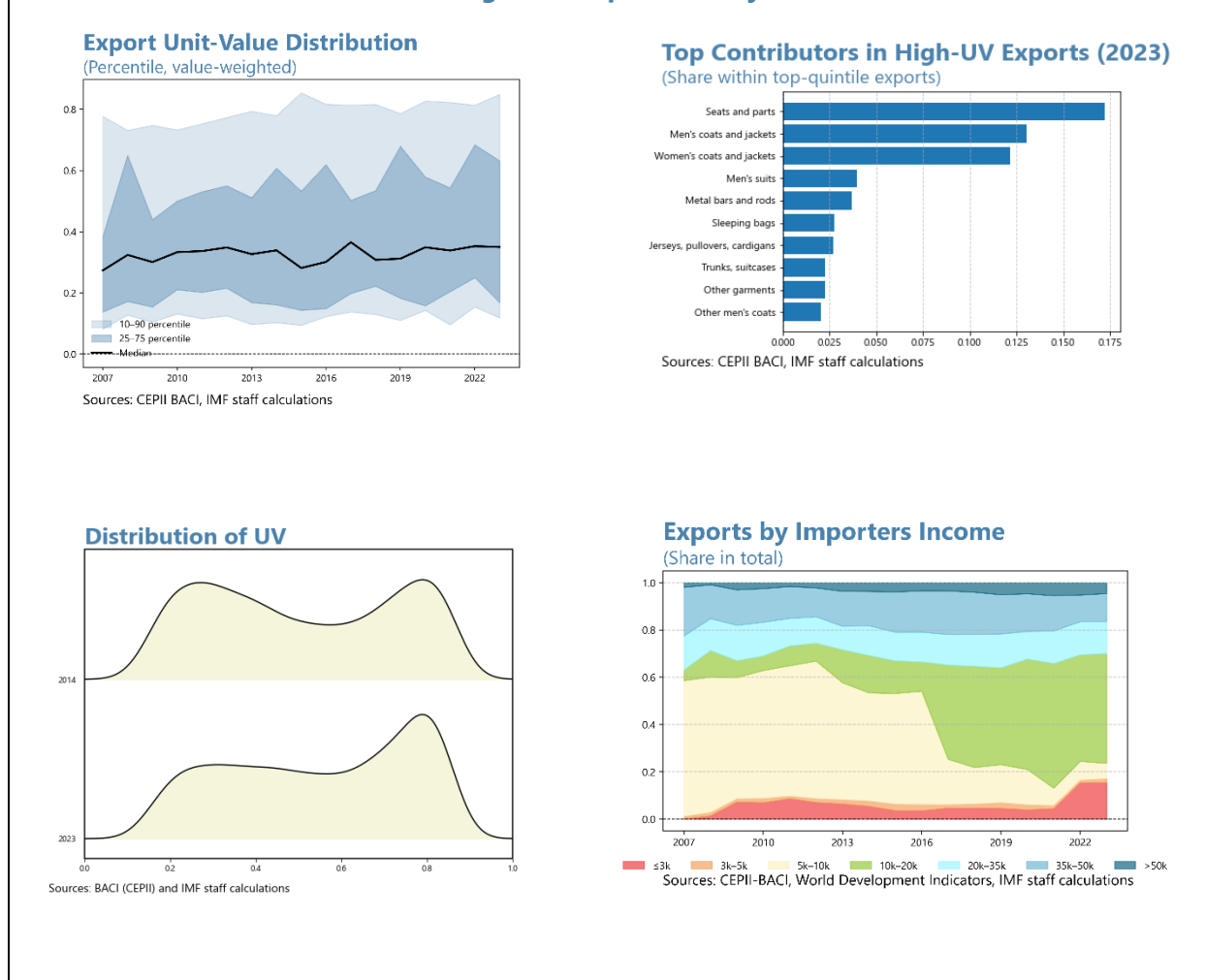
**14. Quality is an important determinant of long-term export growth as it reflects a country's ability to compete in higher-value segments of global markets.** Higher-quality exports typically achieve better prices and are less vulnerable to price fluctuations. They are also strongly associated with 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.<sup>7</sup> 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 20<sup>th</sup> percentile and another one around the 80<sup>th</sup> 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.

<sup>7</sup> 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**

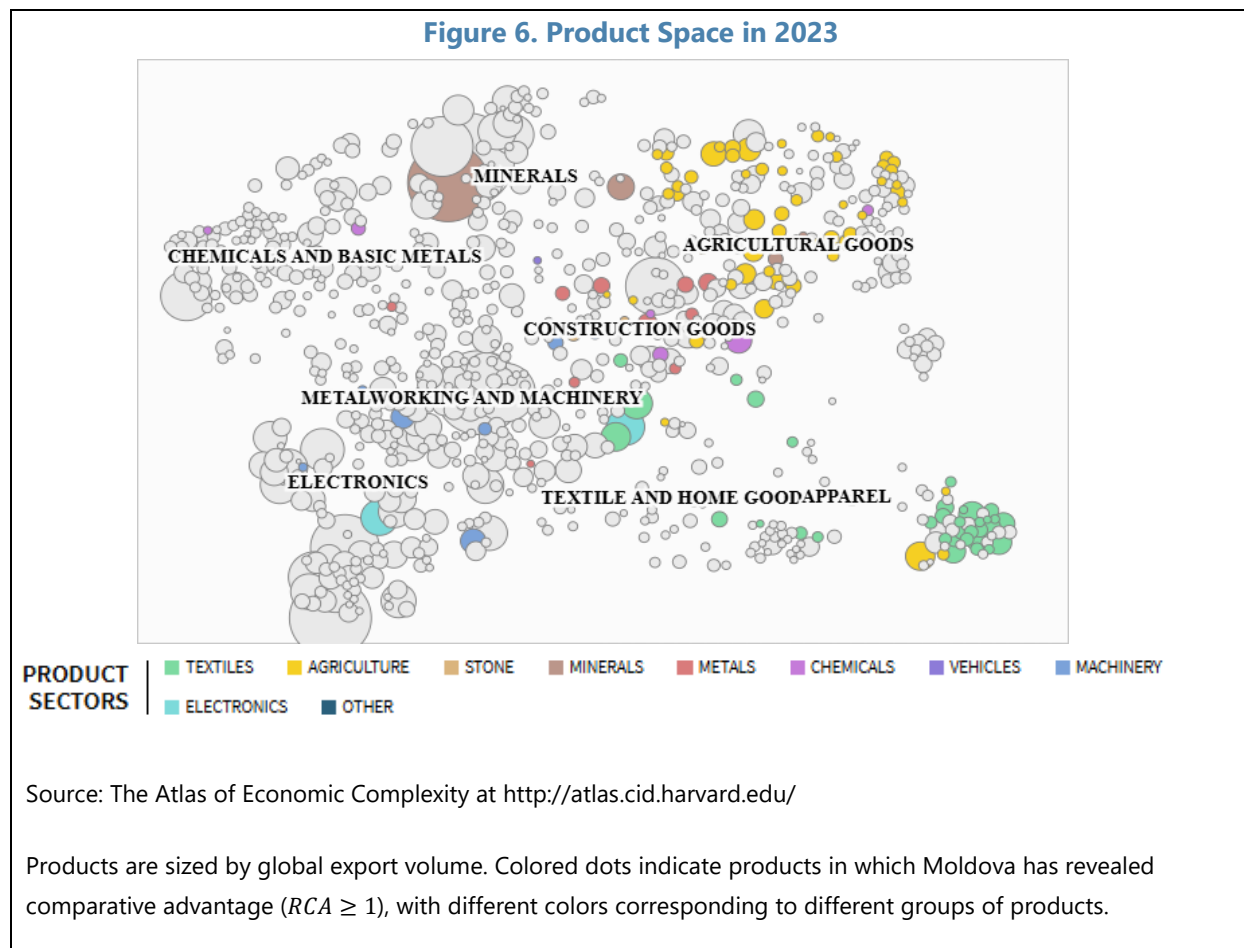


**17. Moldova’s exports destinations are mostly middle-income countries.** The breakdown of exports by income level of destination markets provides an additional quality-based perspective. Higher-income markets tend to demand higher-quality varieties and more sophisticated products. Moldova’s export 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.

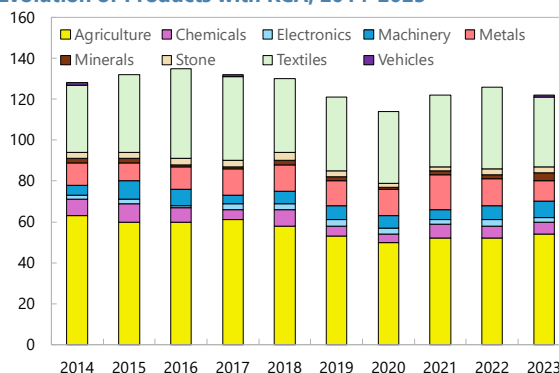
**Figure 6. Product Space in 2023**



**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 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.

**Evolution of Products with RCA, 2014-2023**

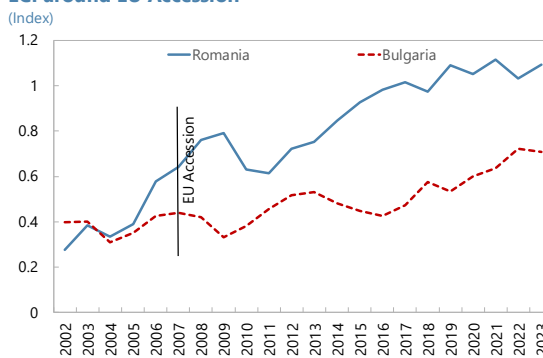


Sources: The Atlas of Economic Complexity and IMF staff calculations.

**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 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.

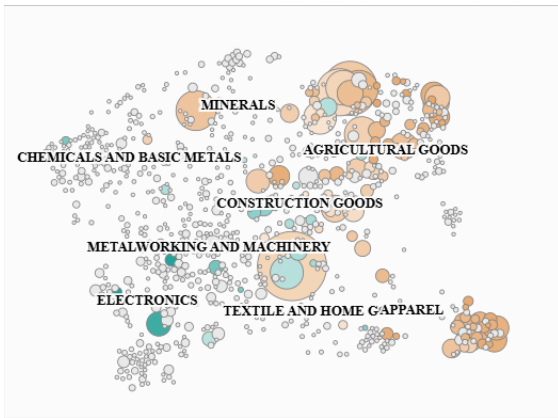
**ECI around EU Accession**



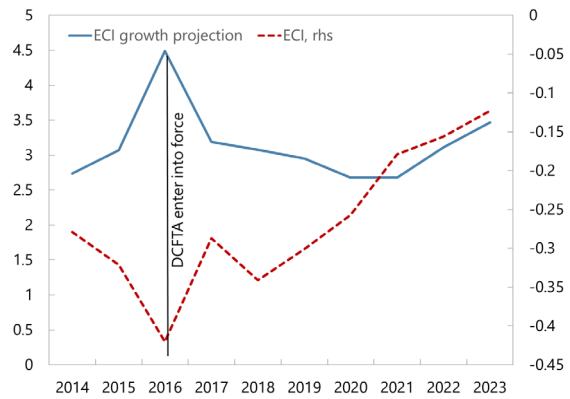
Sources: The Atlas of Economic Complexity at <http://atlas.cid.harvard.edu/>

**Figure 7. Distance, Opportunity Gain, and Product Complexity in 2023**

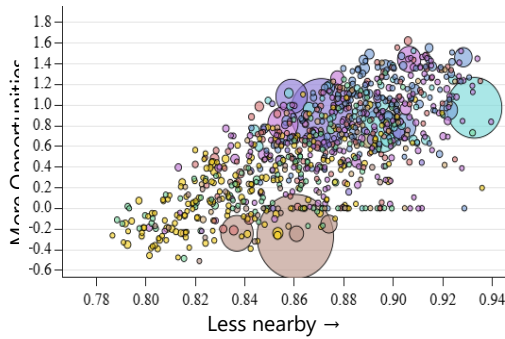
**Product Space Colored by Complexity, 2023<sup>1</sup>**



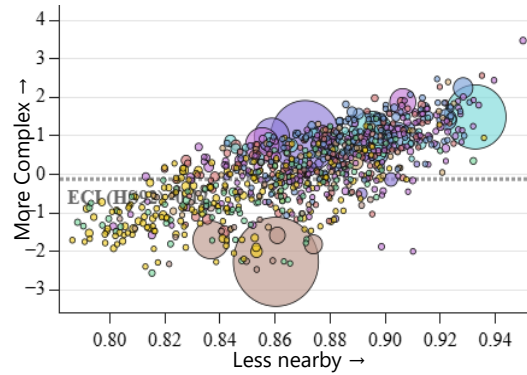
**Economic Complexity Index and Projection<sup>2</sup>**



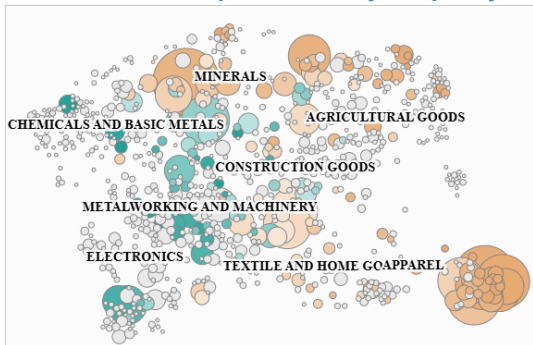
**Growth Opportunities: Opportunity Gain, 2023<sup>3</sup>**



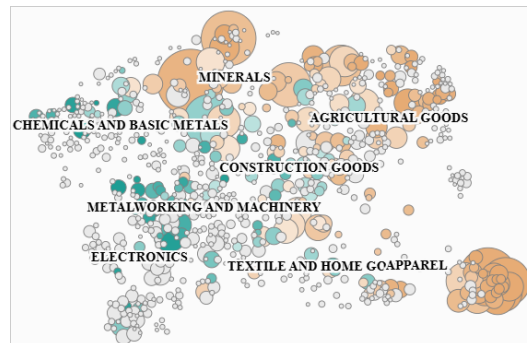
**Growth Opportunities: Complexity, 2023<sup>3</sup>**



**Romania: Product Space Colored by Complexity, 2002<sup>1</sup>**



**Bulgaria: Product Space Colored by Complexity, 2002<sup>1</sup>**



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.

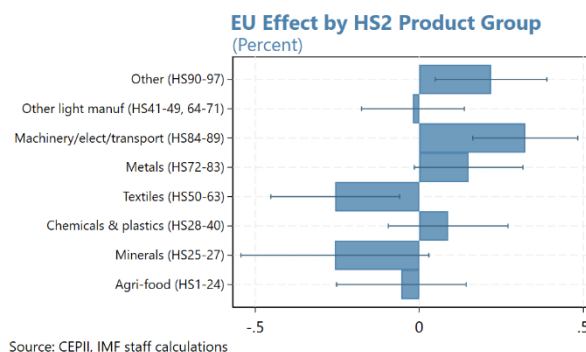
**23. As Moldova advances on its path toward EU accession, an important policy question concerns the extent to which EU membership could influence export performance.** To try to answer this question, we estimate a gravity model using panel data of bilateral exports of the former transition economies that are currently EU members and EU accession countries from the Western Balkans, Georgia and Moldova.<sup>8</sup> 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

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<sup>8</sup> 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<sup>9</sup>, 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 by Hagemeyer and Mućk (2025) who estimate a positive effect from the EU enlargement of about 14 percent.<sup>10</sup> 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.



<sup>9</sup> The percentage impact is calculated as  $100 \cdot (\exp(\beta) - 1)$ .

<sup>10</sup> This study uses value added exports as compared to gross exports used in this paper.

<b>Gravity Model Estimates</b>			
	(1)	(2)	(3)
	value	value	value
RTA	0.011 (0.079)	0.117*** (0.037)	0.112*** (0.037)
EU	0.371*** (0.098)	0.148** (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 $(exp(\beta_{EU} + \delta_g) - 1) * 100$ , where $\beta_{EU}$ is the base effect and $\delta_g$ 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.

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## 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)

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

Model (2)

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

Model (3)

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

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  $\mu_{ij}$  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  $D_g^k$  is an indicator variable for the aggregated sector  $k$ .