



Europe and Central Asia Productivity Conference

Dependencies, distress and diffusion

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Challenge 1. Dependencies

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The EU strategic dependencies in *sensitive* industrial ecosystems (in number of products)



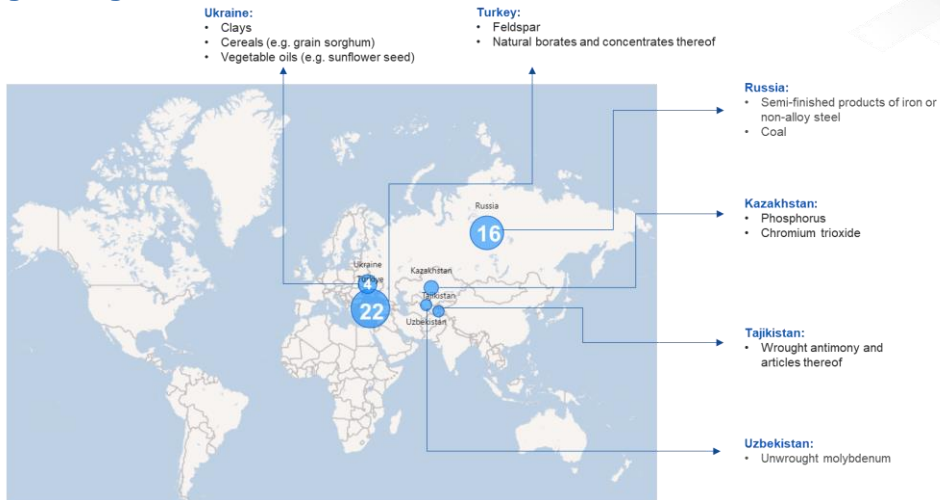
Note:
The examples represent the **top 2 dependent products in terms of value of imports** for each origin.

Source: DG GROW Chief Economist Team's computations based on the *Trade-Figaro-Eurostat* Dataset; Arjona, Connell, and Herghelegiu (2023), SMEP Paper Series WP14, DG GROW, European Commission

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Examples of EU dependent products in *all* industrial ecosystems originating in ECA countries (in number of products)



Note: CET – European Commission, DG GROW's computations based on the *Trade-Figaro-Eurostat* Dataset. The size of the bubbles represents the number of dependent goods for each country.

Source: Single Market Economy WP2022:14 – "An enhanced methodology to monitor the EU's strategic dependencies and vulnerabilities"

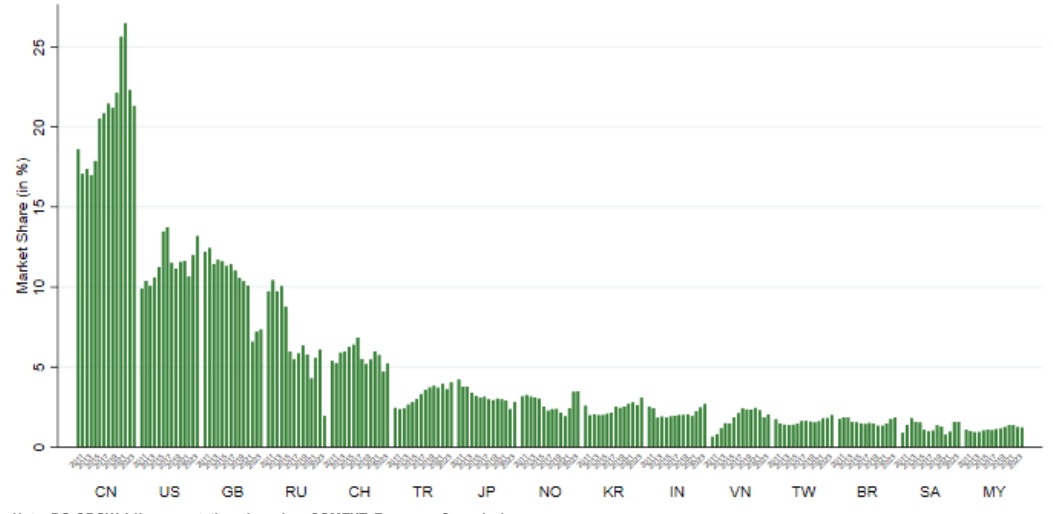
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Signs of shifting patterns in EU supply chains



Evolution of import market shares across all goods for the EU's top 15 partners (2011-2023)



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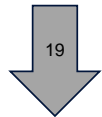


Challenge 2. Distress

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Distress - tech designs for offshore and onshore wind



Onshore Wind

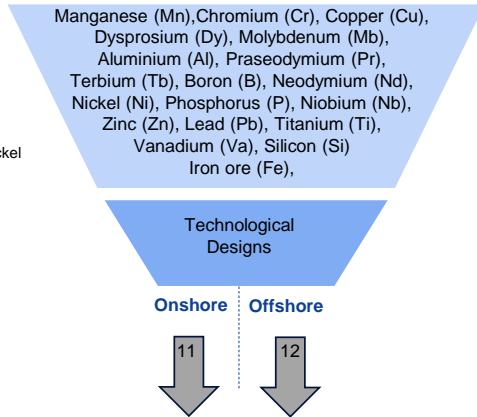
2 designs relevant

- Manganese (Mn), Chromium (Cr), Copper (Cu), Molybdenum (Mb), Aluminium (Al) Nickel (Ni), Phosphorus (P), Zinc (Zn), Lead (Pb), Silicon (Si) Iron ore (Fe),

Offshore wind

1 design relevant

- Manganese (Mn), Chromium (Cr), Terbium (Tb), Boron (B), Phosphorus (P), Lead (Pb), Praseodymium (Pr), Silicon (Si), Neodymium (Nd), Iron ore (Fe), Copper (Cu), Dysprosium (Dy)

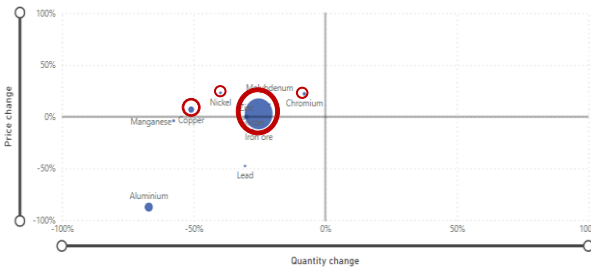


Source: DG GROW, Chief Economist Team

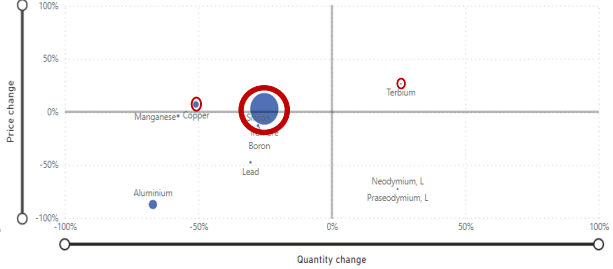
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Distress – monitoring raw materials for wind

Onshore Wind



Offshore Wind



Note: GROW A1's computations based on Surveillance data.

The quadrant chart illustrates price and quantity changes of raw materials in a particular technology. It compares data from January to March of the current year (2024) with the same period from the previous three years (2021, 2022, and 2023).

Continuous monitoring of supply chain distress for Net-Zero Technologies: [SCAN Dashboard](#)

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Source for the methodology: Single Market Economy [WP2022/03](#) – “SCAN” (Supply Chain Alert Notification) monitoring system

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Challenge 3. Diffusion

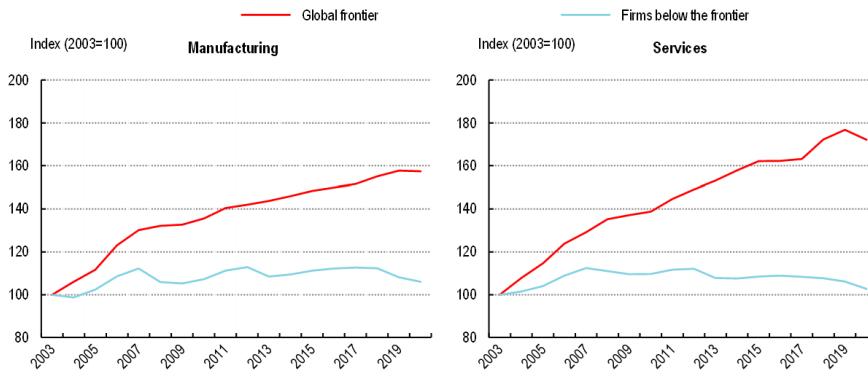


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Diffusion – curbing the productivity gap

Figure 2.2. Productivity divergence of the global frontier

Labour productivity – frontier vs. the rest



Source: forthcoming "SRIP" Report 2024, DG Research & Innovation, European Commission

Note: Index (2003 = 100) of productivity at the frontier and below the frontier, approximated by changes in logs. Average across detailed industries using firm-level data, and 3-year moving average. Labour productivity is defined as value added per employee. The "Global frontier" is defined as the average of the productivity for the top 5% firms in the productivity distribution *within* each detailed (2-digit) NACE Rev.2 industry from 24 OECD countries for which firm level data is available. "Firms below the frontier" is the average productivity of all other firms within the detailed industry. See more details in the paper cited in the source.

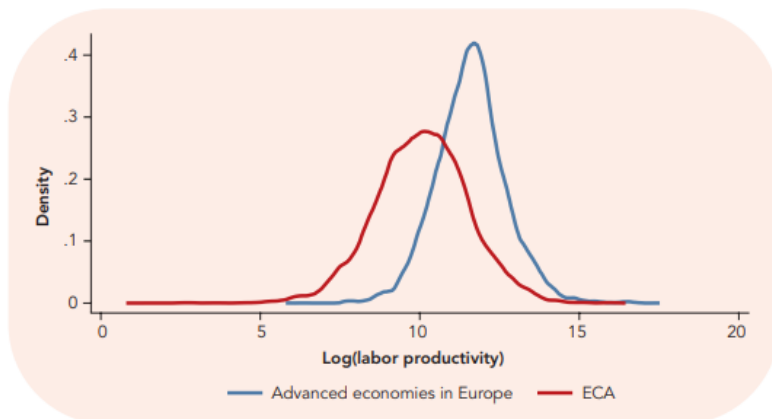
Source: André and Gal (2024_[34]). Updated calculations following the methodology in Andrews, Criscuolo and Gal (2016_[3]).



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Diffusion – curbing the productivity gap

FIGURE 2.5. Firm productivity in ECA lags advanced economies in Europe



Source: [World Bank: Europe and Central Asia Economic Update](#)

Source: Calculations based on data from the latest World Bank Enterprise Surveys (for most countries, 2019).
 Note: The figure plots the distribution of log(labor productivity) across firms, using scaled survey weights, so that each country has equal weight. For the list of countries, see table 2A.1, in annex 2A.
 ECA = Europe and Central Asia.



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Opportunities ahead

Dependencies

- Trade diversification
- Capacity building
- Detection of vulnerabilities

Distress

- Mapping of relevant supply chains
- Identification of potential bottlenecks
- CRM partnerships

Diffusion

- Resources
- Regulation
- Reforms



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