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Challenges for progressive policies:
Global North-South divide, European vulnerabilities and increasing Climate Change effects

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Europe’s structural vulnerabilities

Outline

1. Europe’s vulnerabilities
    - Decarbonisation
    - Competitiveness
    - Innovation
2. Member Countries’ heterogeneity and vulnerabilities
3. The European Industrial policy
    - Policy dilemmas
    - An agenda for inclusive growth

Europe's structural vulnerabilities

- Energy intensive industries (EII)
  - Cost of decarbonisation. Energy prices in Europe, significantly higher than those in the US and China, represent an obstacle to the competitiveness of European industry, particularly for energy-intensive sectors.
- Competitiveness
  - Middle technology trap? The specialization of European industry in medium R&D intensity sectors risks relegating the EU to a position of competitive disadvantage, unable to compete with disruptive innovations coming from the US and China.
- Technological dependence
  - Europe has missed the digital revolution, falling behind the US and China in key areas, such as artificial intelligence and biotechnology, and risks falling behind in clean energy technologies.
- Internal divides
  - Heterogeneity between MS in terms of vulnerabilities and economic and technological capabilities. An IP that does not take these differences into account risks exacerbating internal divergences, with negative implications for the Union's cohesion and growth.

1. Decarbonisation

Impact of the energy crisis:

- Difference with previous oil crises: a huge competitiveness shock for the EU
- differences between EU countries

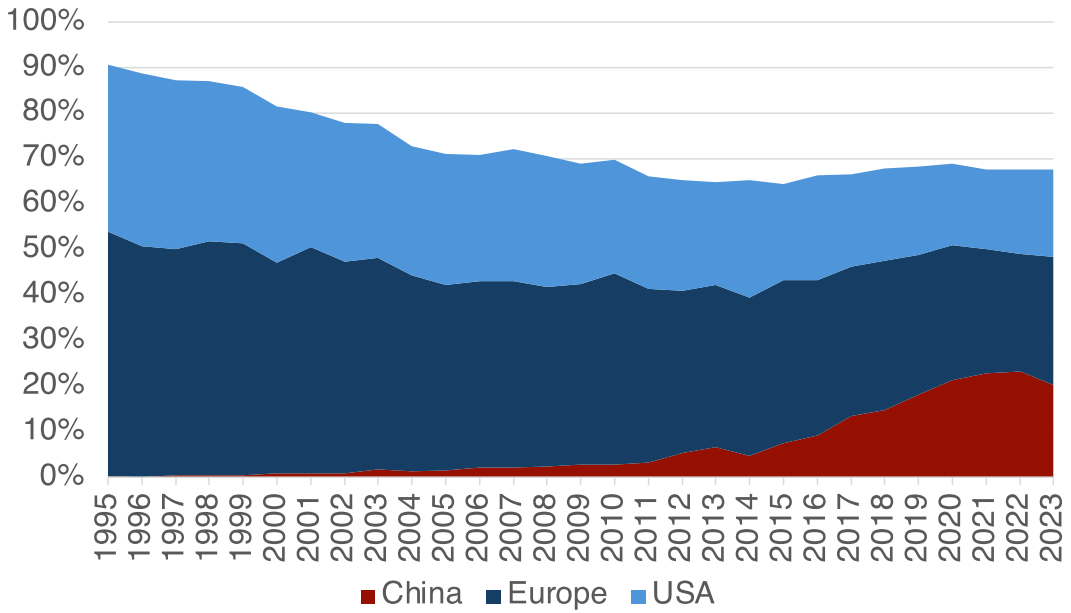
- East/West divide: Germany, Eastern EU and Italy hit hardest by the energy crisis
  - Sectoral specialization
  - Energy dependence from Russia

The share of energy intensive industries: East/West divide

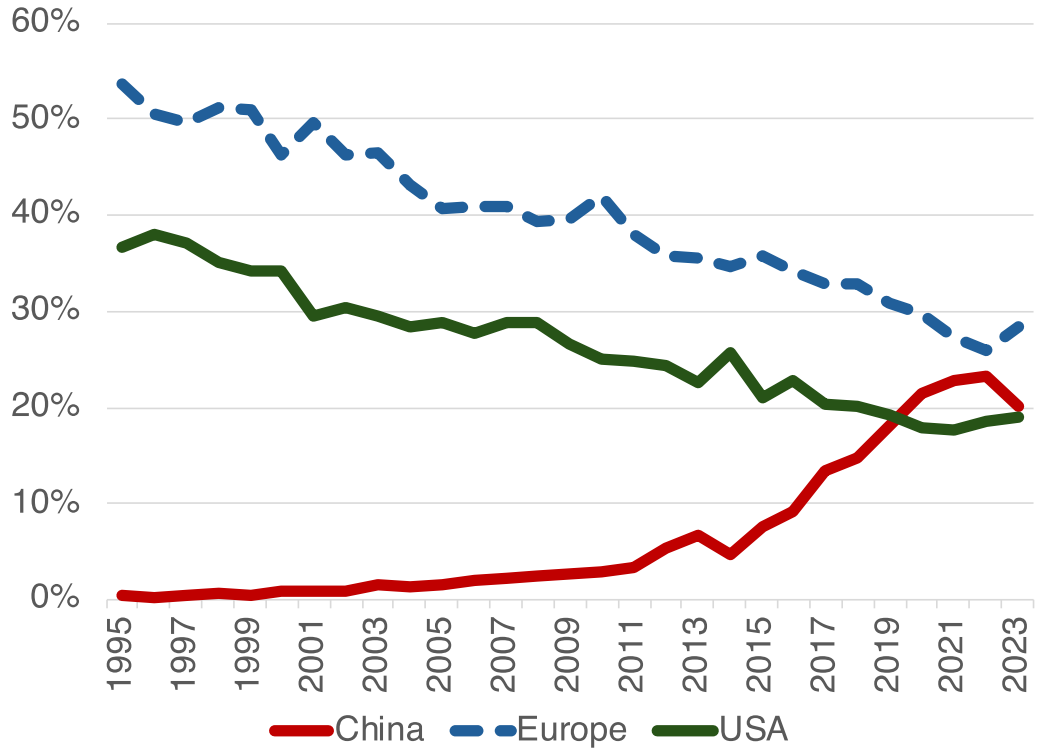
The EU: a world leader in clean technologies - wind turbines, electrolysers, low-carbon fuels - but rapid rise of China.

PCT Applications (WIPO data), 1995-2023

Environmental technology, PCT applications (% of total)



Environmental technologies, % of world

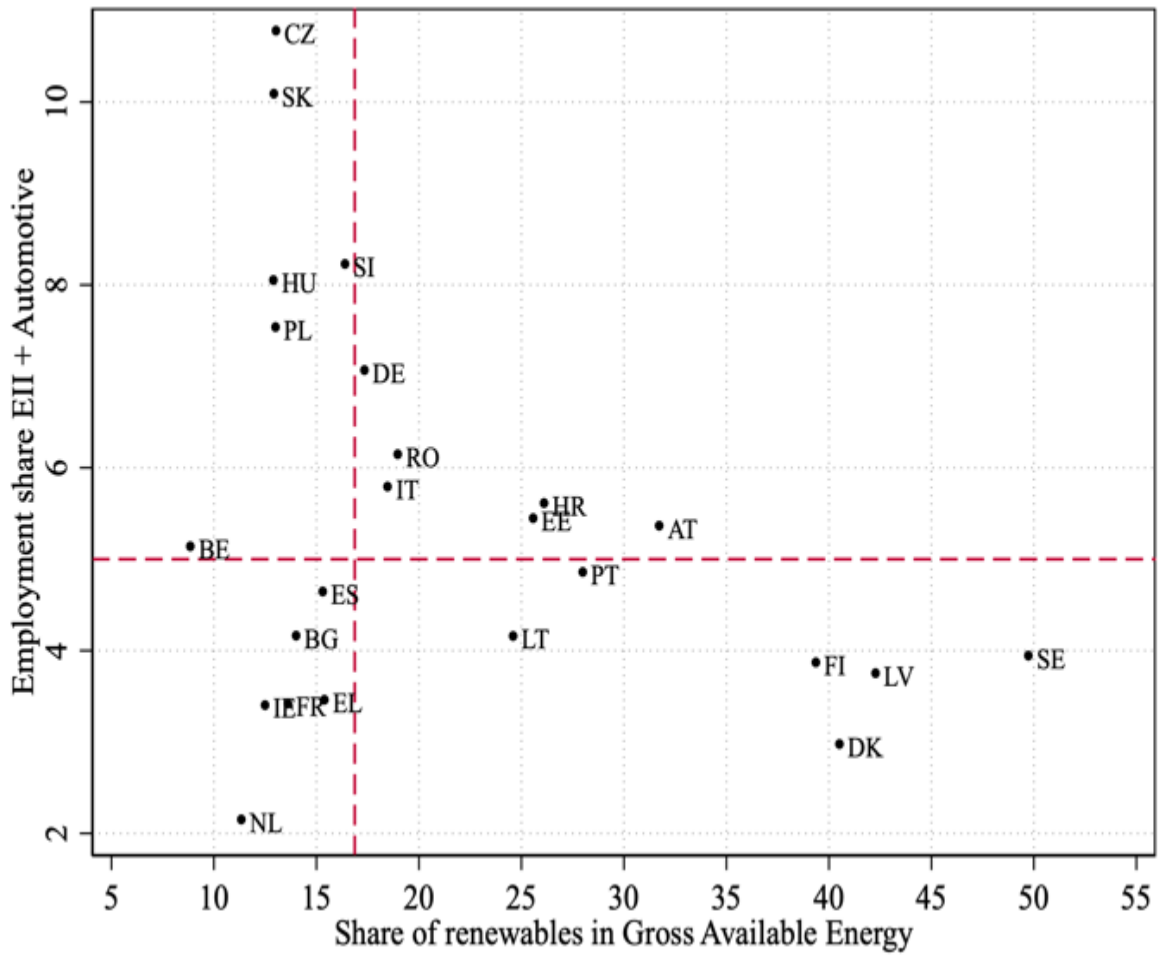


Mapping the capacity of EU MS to achieve the green transition, 2021

- Share of energy-intensive industries (EII) affects the size of restructuring costs and, hence, MS degree of vulnerability
- High restructuring costs can be counterbalanced by different financial and fiscal capacity
- How do the different MS position themselves on the green transition?
- Comparison of the share of EII + the automotive sector with:
  - Renewable energy and relative specialisation in green technologies, as a measure of the resilience of MS to energy shocks and their mastery of green technologies
  - State aid aimed at environmental protection, as a proxy of MS' fiscal space and commitment to green industrial policies

See: Guarascio, Reljic and Simonazzi, United in diversity? EU core-periphery divides at the time of the green transition, 2024

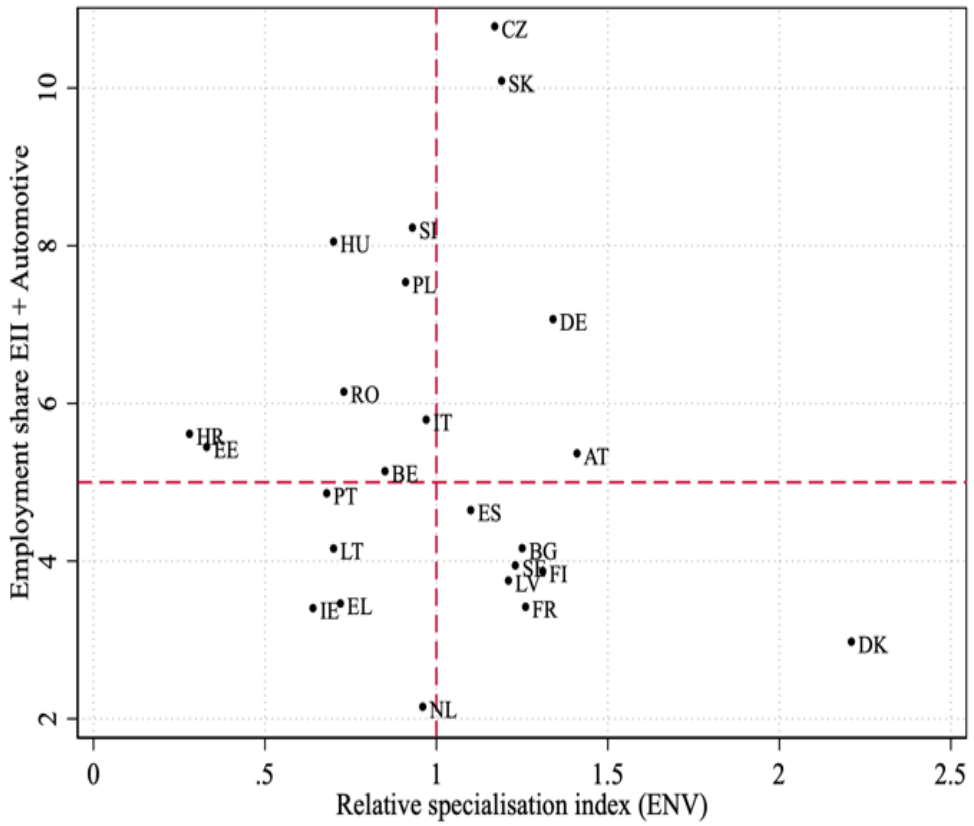
Employment in EII (%) vs renewables in total available energy



Share of renewables

- Visegrad countries, Germany and Italy: highest share of EII, lower share of renewables in their energy mix
- Nordic countries: lower share of EII, higher share of renewables in

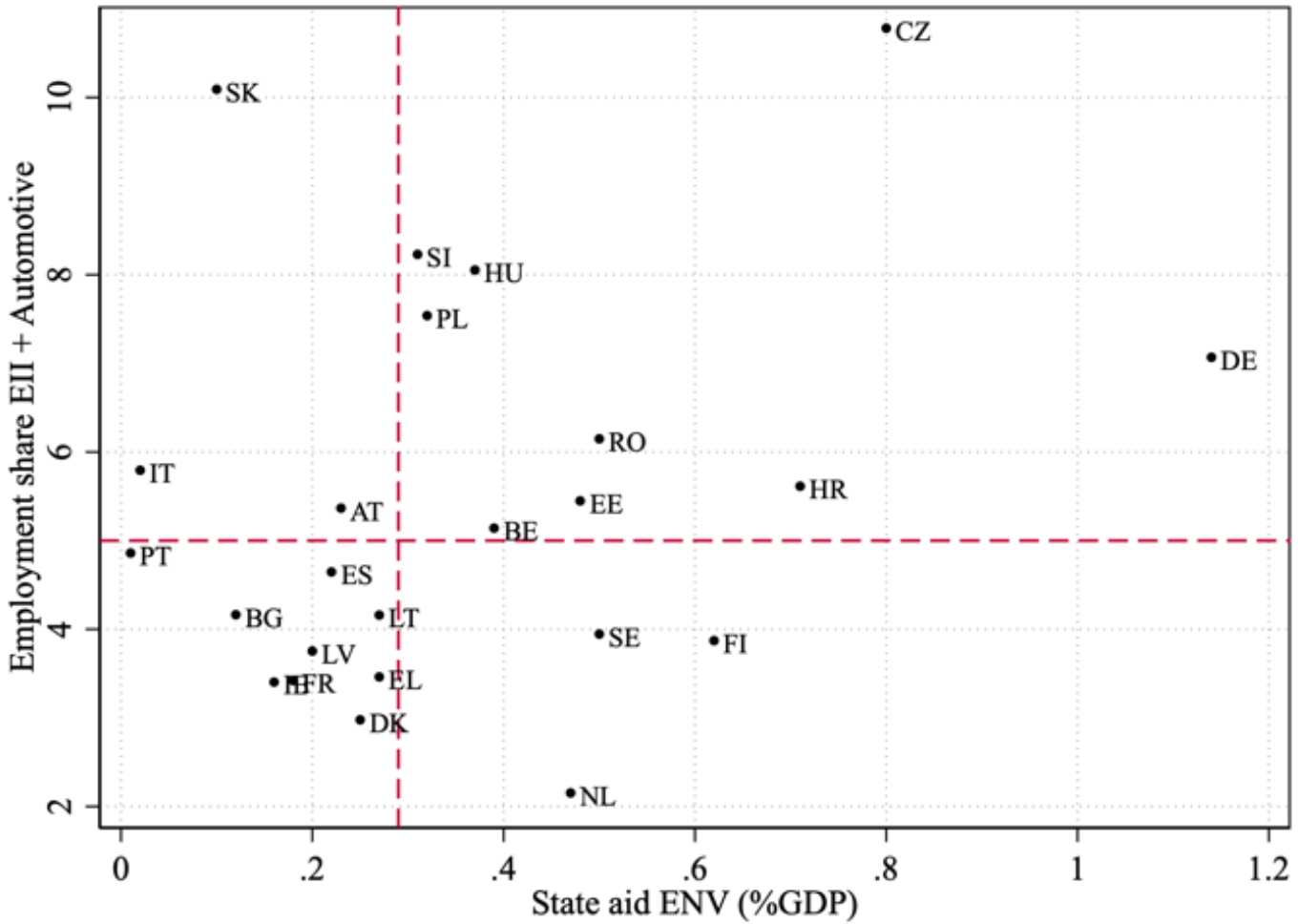
Employment in EII (%) vs relative specialization in green technologies



Green capabilities (Share of green patents in total patents (in all technologies) relative to the world average, OECD):

- higher in the core (Germany, Austria, Nordic cs.);
- problematic in the peripheries

Employment in EII (%) vs environmental State-aid (% of GDP)



State aid

- Greater fiscal capacities of core countries to support restructuring for the green transition.
- No clear correlation between expected restructuring costs and policy commitment as proxied by Environment State-aid

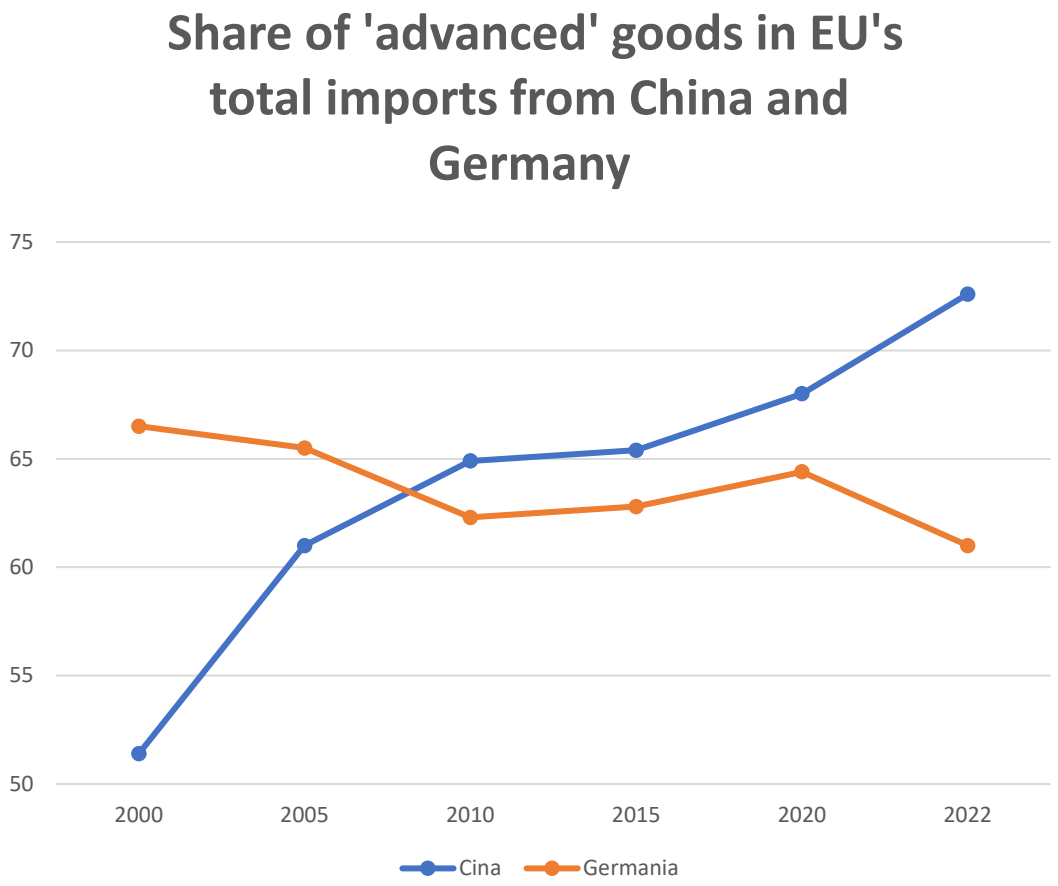
Old and new asymmetries

- Decarbonisation has the potential to reshape the geography of comparative advantage and industrial specialization in Europe, reinforcing existing divisions.
- Lack of a centrally coordinated policy capable of addressing the different vulnerabilities of member countries may jeopardize the EU's collective climate objectives.

2. Competitiveness: the Chinese challenge

- Up-grading of Chinese specialization: competition shifts from the southern periphery (Italy 2000s) to the core (Germany 2010s-20s)
- A very rapid growth of the Chinese share of “advanced goods” (corresponding to German specialization products: automotive, chemical, electrical and mechanical engineering) in total EU imports
- A sharp increase in the number of product categories in which China on the one hand and Italy and Germany on the other specialize

The Sino-German connection: China from market to competitor

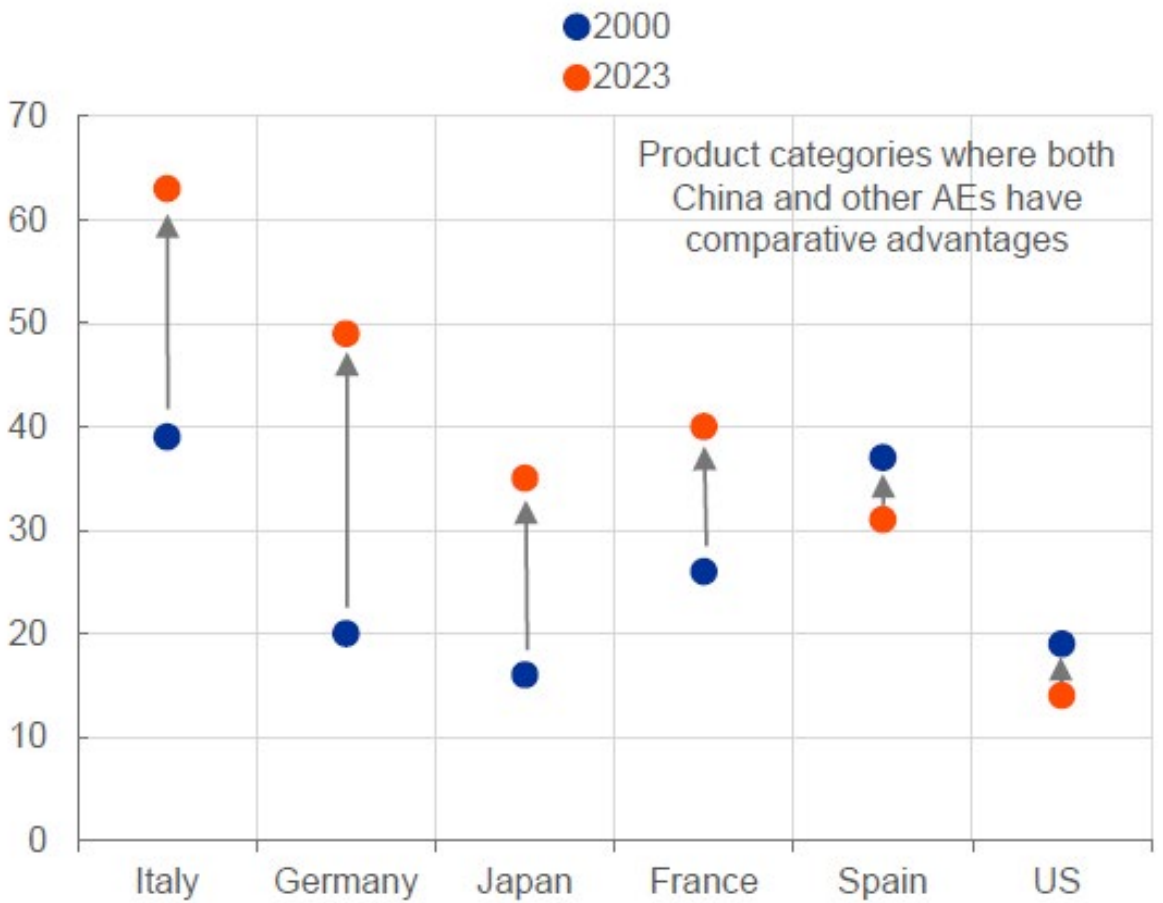


EU's imports of 'advanced' products from China and Germany, 2000 and 2020

	Share of 'advanced' goods in EU's total imports from China and Germany		Share of China and Germany in EU's total imports of advanced goods	
	China	Germany	China	Germany
2000	51,4	65,5	2,5	17,7
2020	72,6*	61,0*	13,0	15,5

Source: Matthes, 2023.

Number of product categories in which both China and other countries specialise



Source: UNCTAD and ECB staff calculations.
Notes: The chart shows comparative advantage, referring to the revealed comparative advantage indicator, measuring the ratio between the share of country's exports in a particular product category in its total exports, and the same share for the world as a whole. A country has comparative advantage if the value of this ratio is above 1. For instance, if Italy and China both specialise in the same specific product category, they are likely to directly compete for exports.
Latest observation: 2023.

Number of product categories with comparative advantage). (ECB 2024)

Asymmetric interdependence

- Chinese Market: relevance for exports and “local” production
- Imports of inputs and technology
- Reverse engineering: Importance of being in China

  The case of automotive: Western automakers are scrambling to catch up, partnering with Chinese companies across the entire value chain to access Chinese technology and know-how
- Chinese competition in domestic and foreign markets. Slowing growth of domestic economy and overcapacity
  - fierce price war squeeze margins, bankruptcies and industry consolidation;
  - flooding foreign markets, eroding market shares of Western competitors
- Germany’s problem? Germany's weight in the European economy

3. Failure to innovate: stuck in middle technology trap?

FIGURE 7

Top-three R&D spenders and their industries in the EU and the US

Top 3 R&D spenders and their industries in the EU and the US			
	2003	2012	2022
US	Ford (auto) Pfizer (pharma) GM (auto)	Microsoft (software) Intel (hardware) Merck (pharma)	Alphabet (software) Meta (software) Microsoft (software)
EU	Mercedes-Benz (auto) Siemens (electronics) VW (auto)	VW (auto) Mercedes-Benz (auto) Bosch (auto)	VW (auto) Mercedes-Benz (auto) Bosch (auto)

Source: Fuest et al. (2024). Based on the EU Industrial R&D Investment Scoreboard.

Macro and micro factors of European delay

Why did the United States and China manage to move forward instead?

- Macro factors: market ideology and fiscal virtue
  - Germany's wasted "golden decade": negative interest rates, budget surpluses, low investment.
  - Conservative macroeconomic governance backfired. Innovation requires growing demand, bigger markets, more investment, industrial guidance
  - US: IP under the radar. Spillover from defense spending to digital and AI
  - China: farsighted policy planning and huge subsidies
- Micro (firms' strategies):
  - Myopia or complacency? (e.g., German auto industry failed to grasp the potential of new technologies, resisted the green transition blocking decarbonization and influencing EU regulatory policies)
- Effects of digital delay on the competitiveness of the entire industry

The EU's response: industrial policy

A swift turn around: since 2017 the EU has created a panoply of innovative policy tools that blend trade and innovation with essential security concerns.

- Multiple purpose: de-carbonization, catching up in green and digital technologies, de-risk, growth and cohesion.
- "Open Strategic Autonomy":
  - Internally, dropped the ideology of the market, liberalized state aid, promoted alliances between European companies in sectors crucial for the twin transitions (national champions?).
  - On the international level, abandoned the dogma of Free Trade, protecting the internal market against (Chinese) imports or "problematic" FDI.
- Europe's ambitious agenda lacks a strategy to ensure its achievement and to address internal conflicts and latent policy dilemmas

Policy dilemmas

- National rather than European policies: competition between states in the attraction of (infra-EU and foreign) investment
- Conflicting interests between the state and its large corporations
- Agglomeration economies: efficiency vs cohesion
- Protection of industry vs. costs of green transition
- Opposition to a common policy (and common financing)

Conflicting interests of member states

The new IP exposes the multiple conflicting interests between (and within) countries that the ideology of the market allowed to hide.

- Lack of agreement on common financing has left the task of financing the transition to the States.
  - Core countries opposition to a common IP leaves the EU effort dramatically inadequate compared to the scale of US and Chinese interventions.
- State aid liberalization: risk of a subsidy war, with unequal capacity to attract investment.
- A protectionist policy
  - risks further distort the functioning of the single market in the very likely case that FDI to circumvent protection were mainly directed towards low-cost, more generous or politically friendlier countries.
  - could clash with countries' broader interests: import duties on Chinese vehicles was opposed by Berlin and its automotive companies, fearful of negative repercussions on Sino-German trade relations.

Companies vs state

- The choice to leave the direction of change to companies may conflict with broader national economic interests.
  - Firms don’t know better, as demonstrated by the strategy of European carmakers to favor the most profitable premium cars (upmarket shift), leaving the market of cheaper e-vehicles to the Chinese competitors.
  - Regulation and governance can reduce uncertainty favouring investement. Lobbying to postpone decarbonization can be a self-defeating strategy.
- Delocalisation of production can conflict with the defense of the national industry and affect the entire value chain
- Decisions about which plants to close and which suppliers to penalize can go beyond the corporate sphere: how to reconcile the conflicting interests between the various national industries and their governments becomes a thorny political problem.

Innovation clusters vs cohesion?

- Concentration of production and R&D in innovation hubs allows to exploit economies of scale, reducing production costs and increasing efficiency.
  - Proximity between companies, research centers and universities favors the creation of synergies and knowledge spillovers, accelerating innovation and diffusion of new technologies. Innovation hubs attract talent and investment, creating a virtuous circle of economic growth and development.
- Spatial concentration of innovations engenders large and persistent regional disparities. High levels of concentration of key technologies in the more developed regions, that mainly collaborate with each other (Kayani et al 2024; Bachtrögler-Unger et al 2023).
- Creation may occur in a different place from where destruction occurs, leaving peripheral and less developed regions behind.
- Innovation policies must go hand in hand with a new type of cohesion policies that care about lagging regions and promote inter-regional collaboration

Security, deindustrialisation and decarbonisation

- Import of low-cost clean technologies from China undermines the European industrial base and creates dependence on a strategic competitor.
- A protectionist policy increases the cost of decarbonization, especially if combined with delays in decarbonization (e.g., the 2035 combustion engine ban).
- If properly managed and monitored, collaboration with China on green technologies could reduce the costs of decarbonization.
  - Western automakers are collaborating with Chinese companies to produce cheaper and more attractive electric vehicles.
  - Chinese FDI in joint venture with EU companies, integrated within an EU common policy preventing competition between MS, could accelerate the catching up process (examples of Tesla in China and TSMC in the US)

If left unanswered, the economic and social costs of green policies could jeopardize the goal of climate neutrality in 2050.

EU, US and Chinese industrial policies compared

IP reflects different economic philosophies, governance models and strategic priorities

- Degree of state intervention: The US and China have adopted more interventionist industrial policies than the EU, with strong state support for strategic industries.
- Conditionality: The US applies stricter conditions than the EU to state aid to companies, and China tends to take a more dirigiste approach.
- Coordination: The US and China have greater industrial policy coordination at the national level than the EU, which faces the challenge of political and economic fragmentation among member states.
- Objectives: The EU places greater importance than the US and China on balancing competitiveness with social cohesion and environmental sustainability.

Focus on Chinese industrial policy

- A far-sighted, targeted, pragmatic policy
- Complementarity between different policies:
  - Innovation and trade policy: generous subsidies and strictly regulated FDI (mandatory joint ventures with local companies) to accelerate the learning process;
  - sectoral complementarities: development of the entire supply chain
  - promote competition between firms and subsidize the successful ones
  - heavily subsidized consumption to achieve dynamic economies of scale
- Continuous adjustment and coordination of multiple well-aligned policies and regulations across different government bodies and over time.

An agenda for inclusive growth

- An integrated approach to innovation and growth
  - Industrial, trade, financial, macroeconomic and cohesion policies
- EU financing of investments of public goods
  - coordination of essential infrastructures (e.g., pan-European grids)
  - reinforcing the knowledge-base (i.e., universities, research and training centers);
  - public-private partnership, public procurement, domestic content and conditionality to sustain domestic production.
- A shared strategy to address regional inequalities, enhancing elements of common interest to avoid internal competition between states
  - production of renewable energy, where the periphery can exploit its comparative advantages
  - inter-regional/inter-country cooperation (e.g., Horizon, IPCEI)

- Macroeconomic and labour policy
  - support demand, innovation and the promotion of skills to capitalize on the common market to take advantage of dynamic and scale economies
  - while avoiding the low road of competition on labor costs
- A coordinated and pragmatic foreign policy strategy to secure global supplies and critical raw materials

This approach requires strong political leadership at European level, a long-term strategic vision and a shared commitment from all Member States.

In the current international context, a fragmented, divided Europe is doomed to decline.