Industrial policy in the 21st century

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Outline

An introduction to industrial policy: Evolving objectives

Promoting structural change: Services-led growth

Regional inequality and special economic zones

Industrial policies supporting firms

Structural reform

An introduction to industrial policy

What are industrial policies?

Industrial policies

- seek to address increasingly pressing **market failures** and **externalities** – for example, environmental degradation
- may also address **coordination failures** – for example, in innovation and transfer of knowledge
- government intervention is warranted as markets will not deliver an efficient outcome

Alternatives

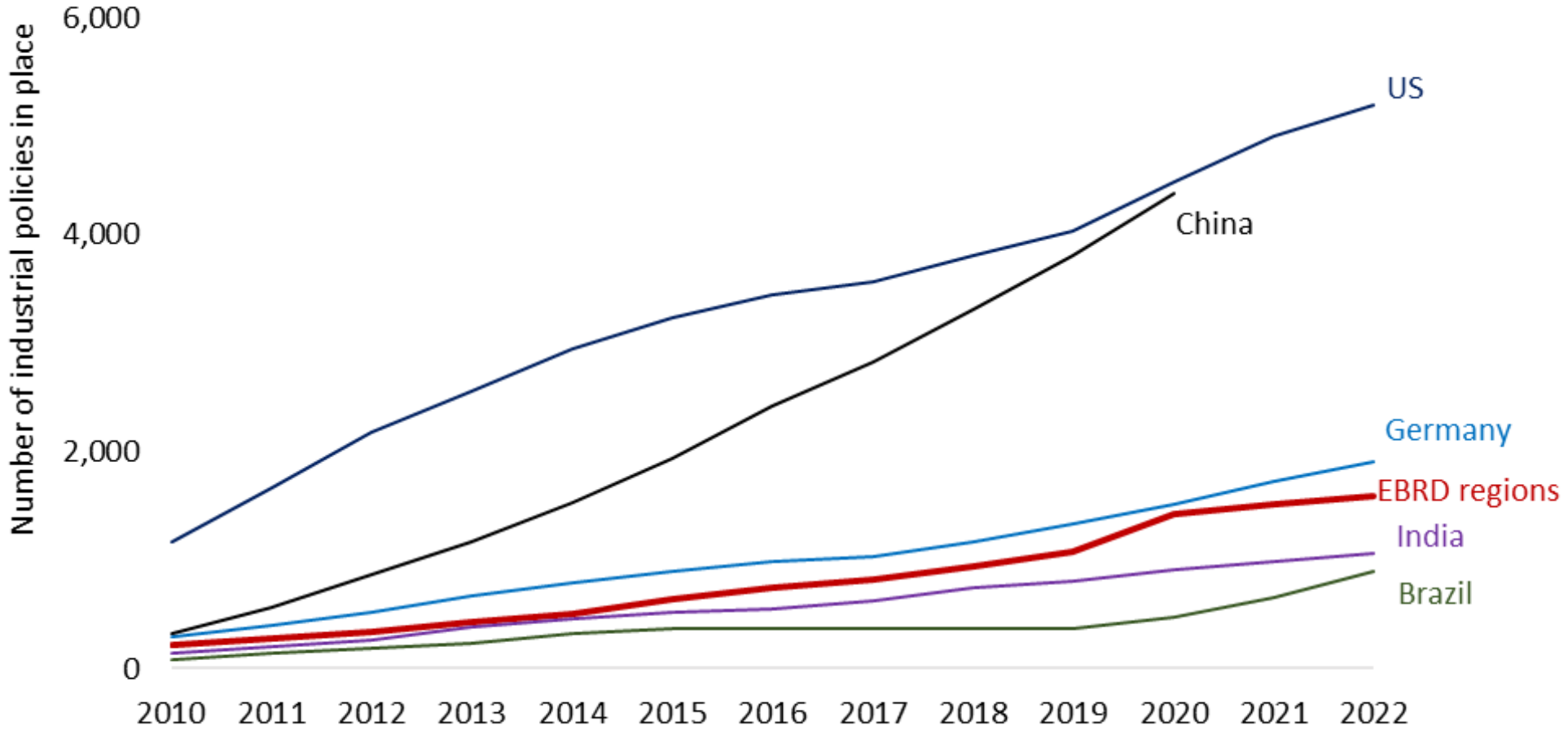
Other policies with level playing field can provide effective, non-distorting ways to boost growth, promote green transition, etc

- Improving the business environment, skills, infrastructure
- Correcting externalities through prices and taxes

Yet voters (and firms) may prefer subsidies to taxes

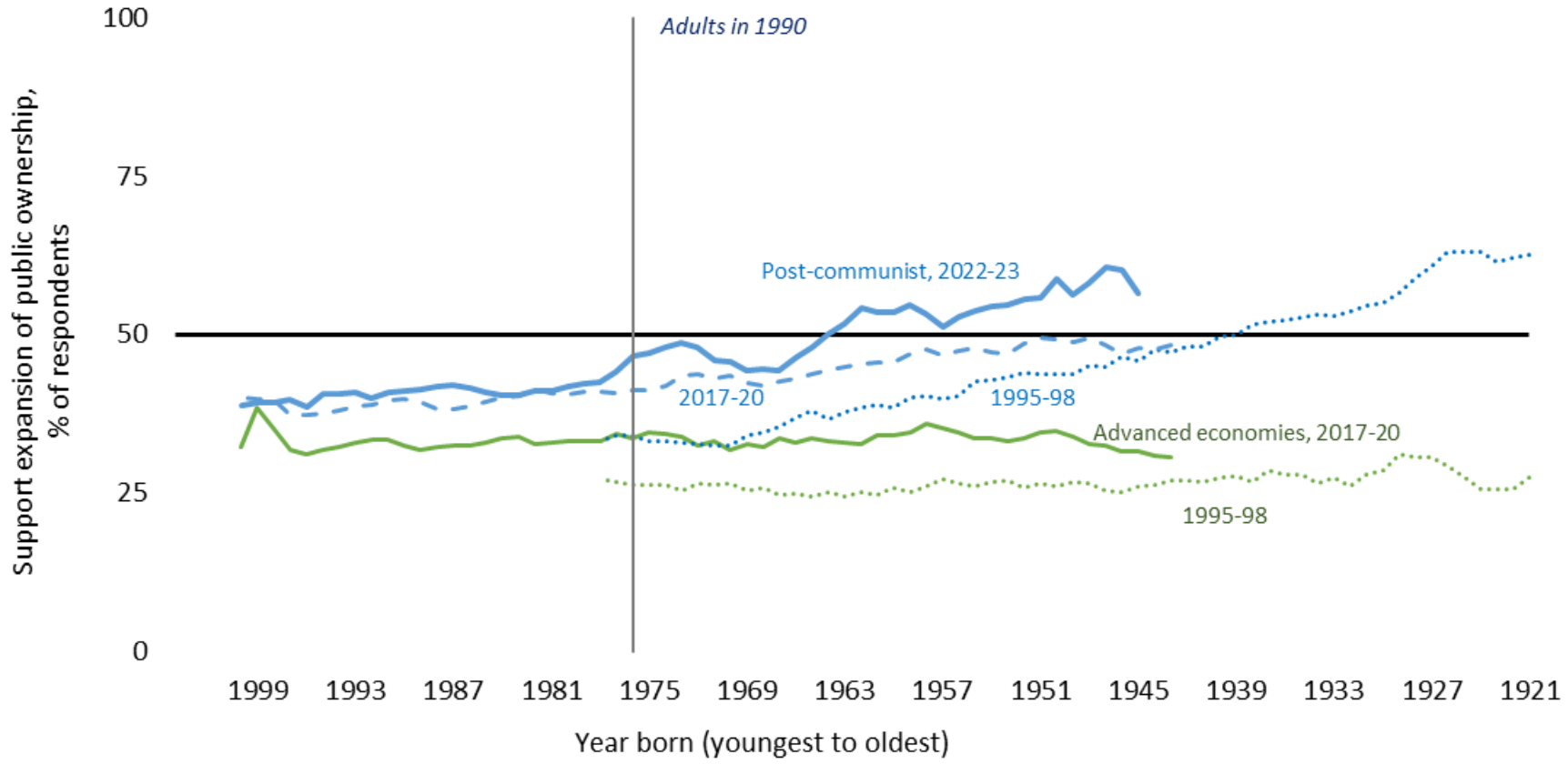
Large firms and governments may collude

Industrial policies - policies aimed at changing the sectoral composition of production in an economy - **have seen a resurgence in recent years**



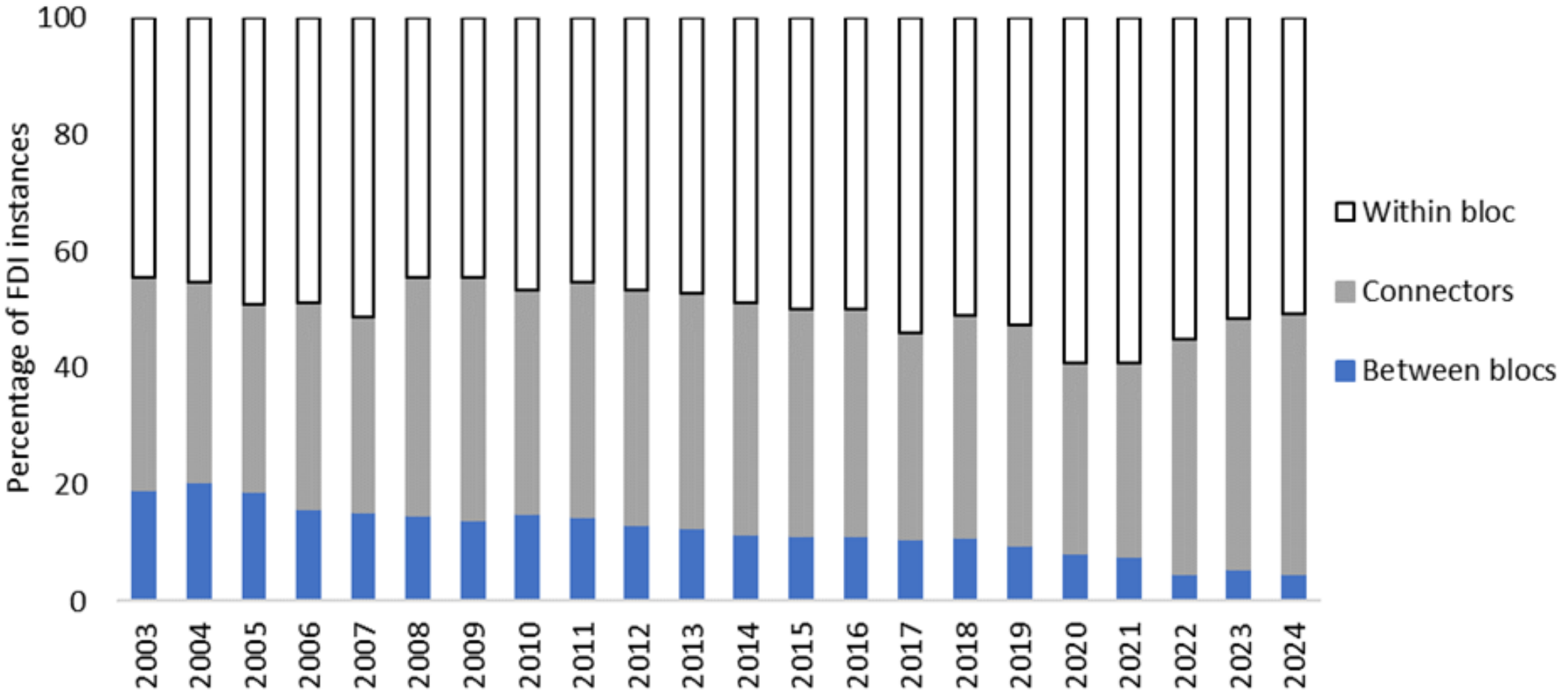
Source: GTA, Koczan et al. (2024), Juhász et al. (2023) and authors' calculations. Consistent data on China not available for 2021-22 due to lags in reporting.

Popularity of industrial policy may be primarily dictated by the constraints imposed by the **domestic political economy**: **Support for larger state and subsidies**



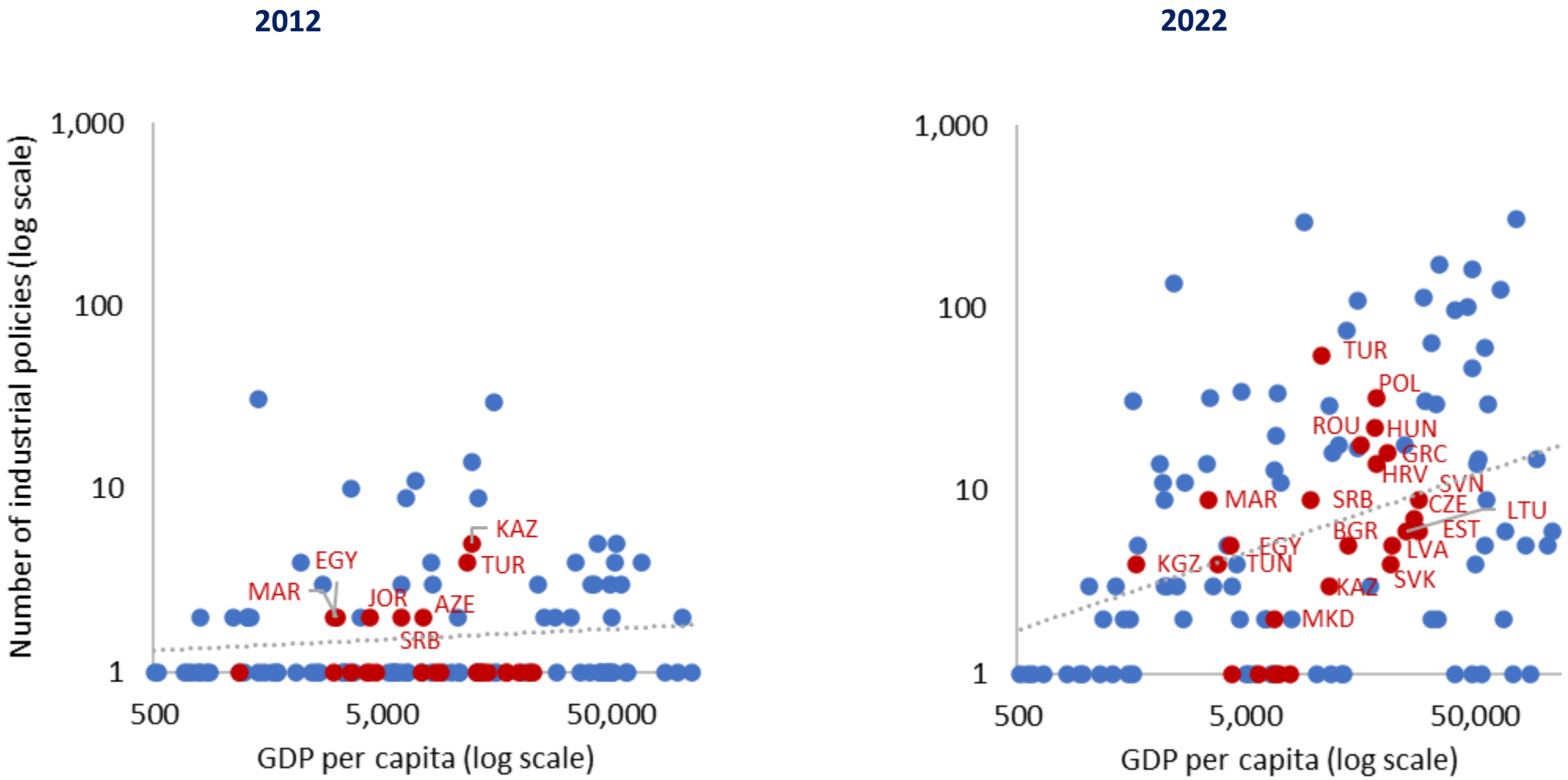
Source: EBRD (2020), World Values Survey, Life in Transition Survey IV, authors' calculations. 5-year moving averages. % agree 1-5 on a 1-10 scale "there should be more public ownership." 45 economies in both World Values Survey waves, of which 20 in the EBRD regions. Post-communist economies 2022 based on LiTS IV. Vertical line = adults in 1989.

Rising geopolitical tensions also raise demand for industrial policy: Industrial policy responds to rivals' industrial policies in what may be a "Prisoner dilemma" equilibrium



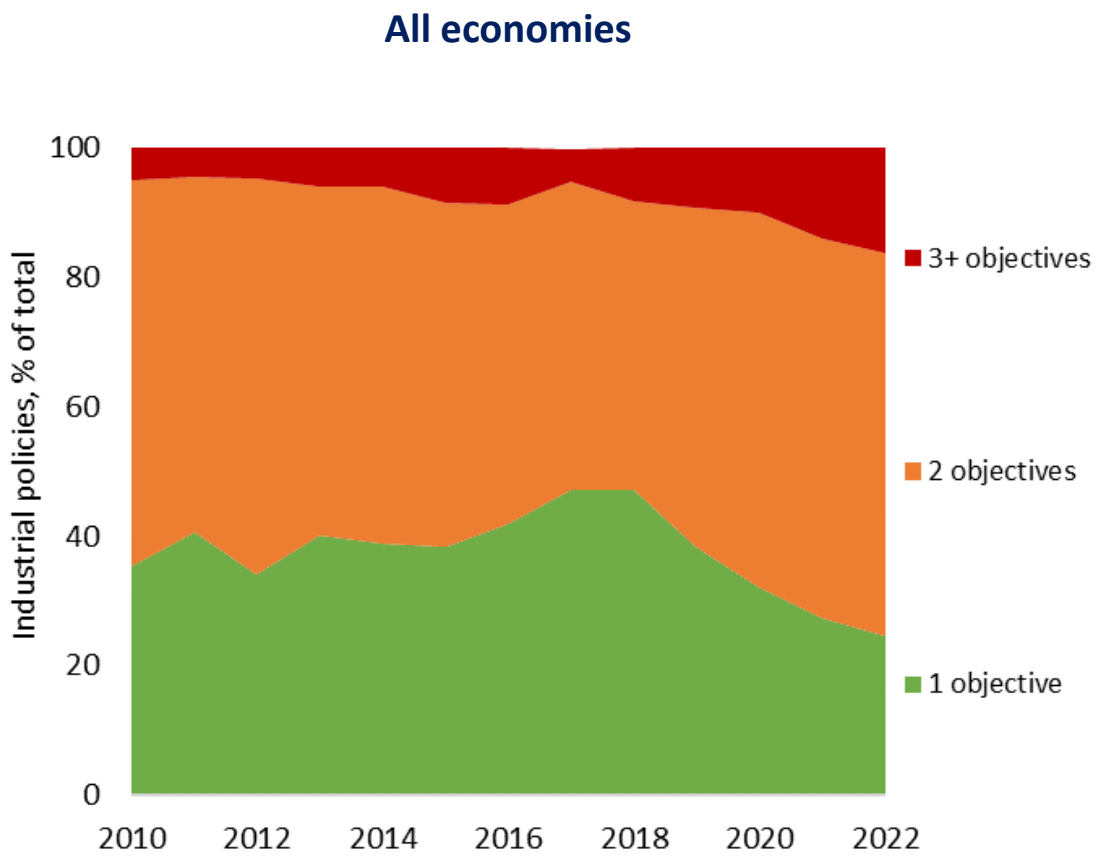
Source: Cheng et al. (2024) based on FT fDi Markets. Bloc West = sanctions against Russia; bloc East = Belarus, China, Hong Kong, Macau, Mali, Nicaragua, Russia and Syria. Other = connectors. Within-bloc = source and destination within same bloc, between blocs = source and destination in different blocs, connectors = at least one country is connector.

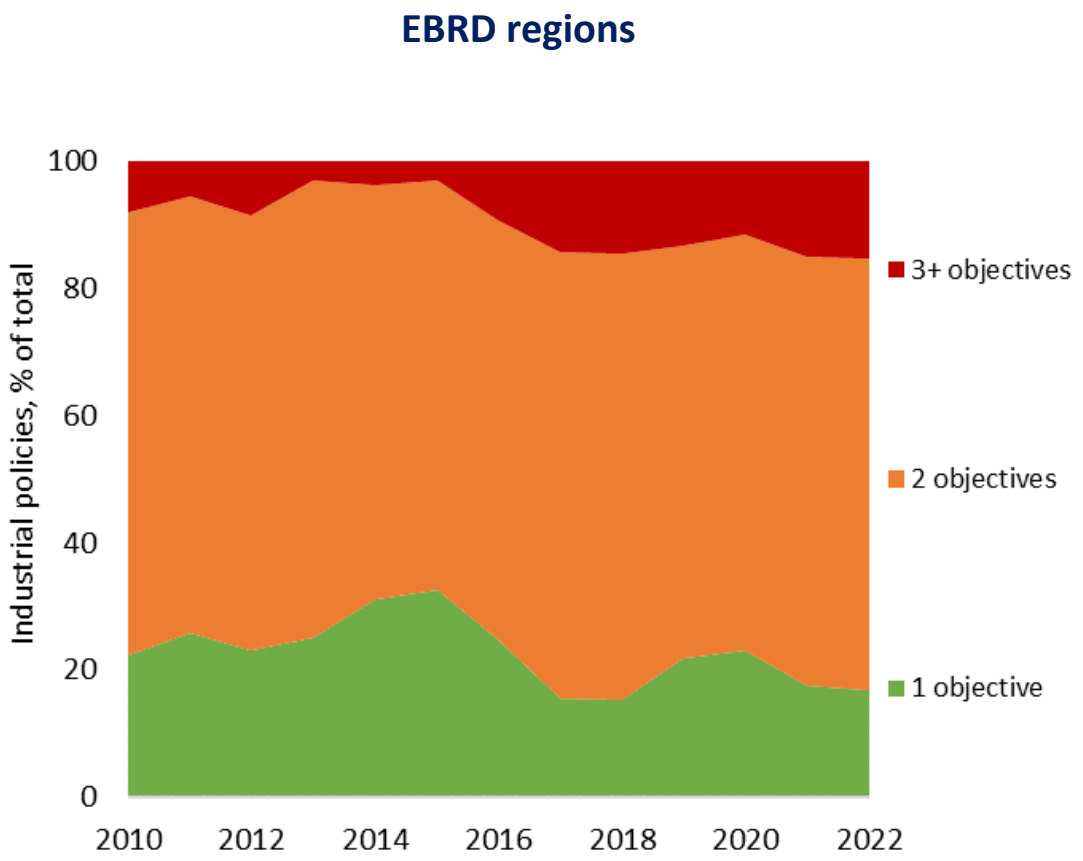
More common in higher-income economies, industrial policies are **increasingly frequently deployed in economies with lower administrative and fiscal capacity**



Source: Source: Koczan et al. (2024), Juhász et al. (2023), World Bank and authors' calculations. GDP per capita in US dollars at market exchange rates. Log (1 + x) transformation applied.

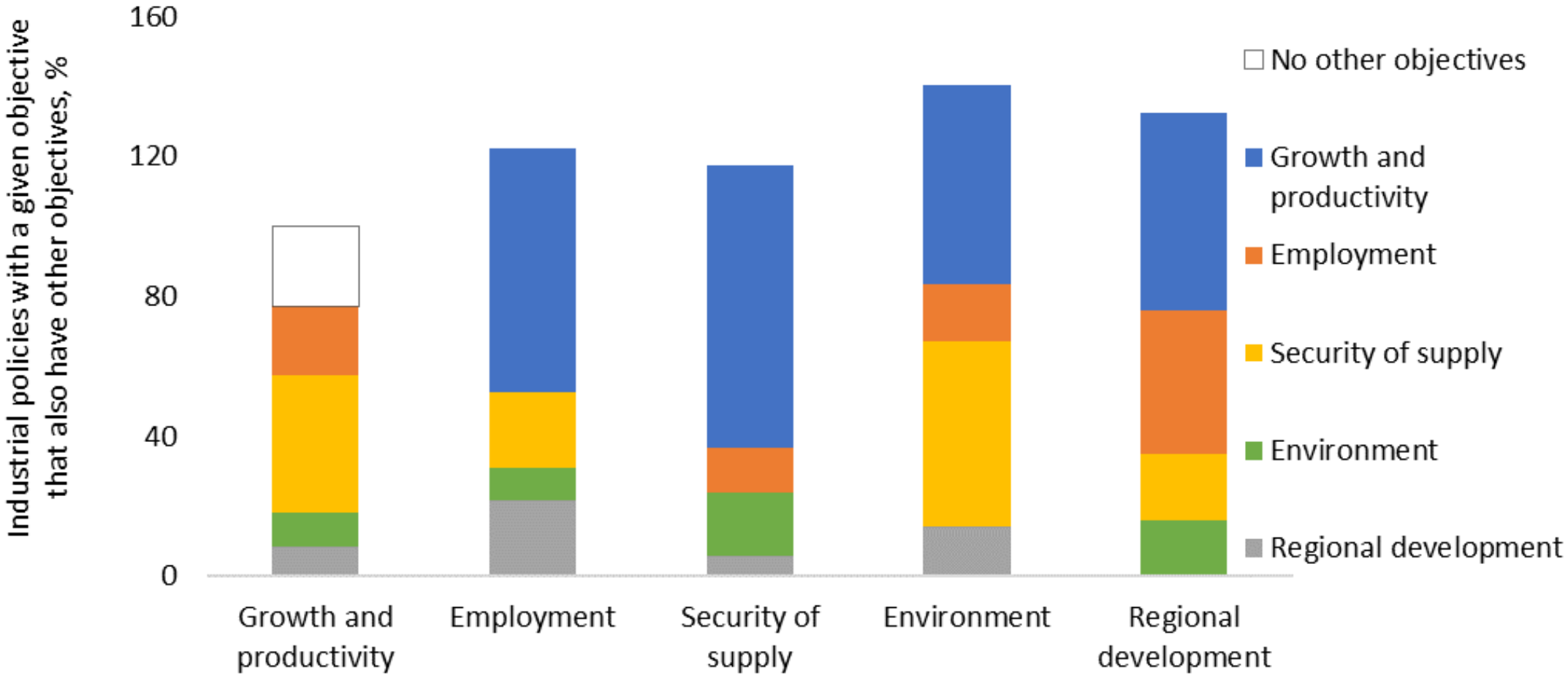
A typical industrial policy increasingly **targets multiple objectives** with no clear subordination of one to the other





Source: Koczan et al. (2024), Juhász et al. (2023) and authors' calculations. Note: Simple averages across 28 economies in the EBRD regions and 105 comparators. Based on years of announcement, same year restriction applied. 3-year moving average for the EBRD regions.

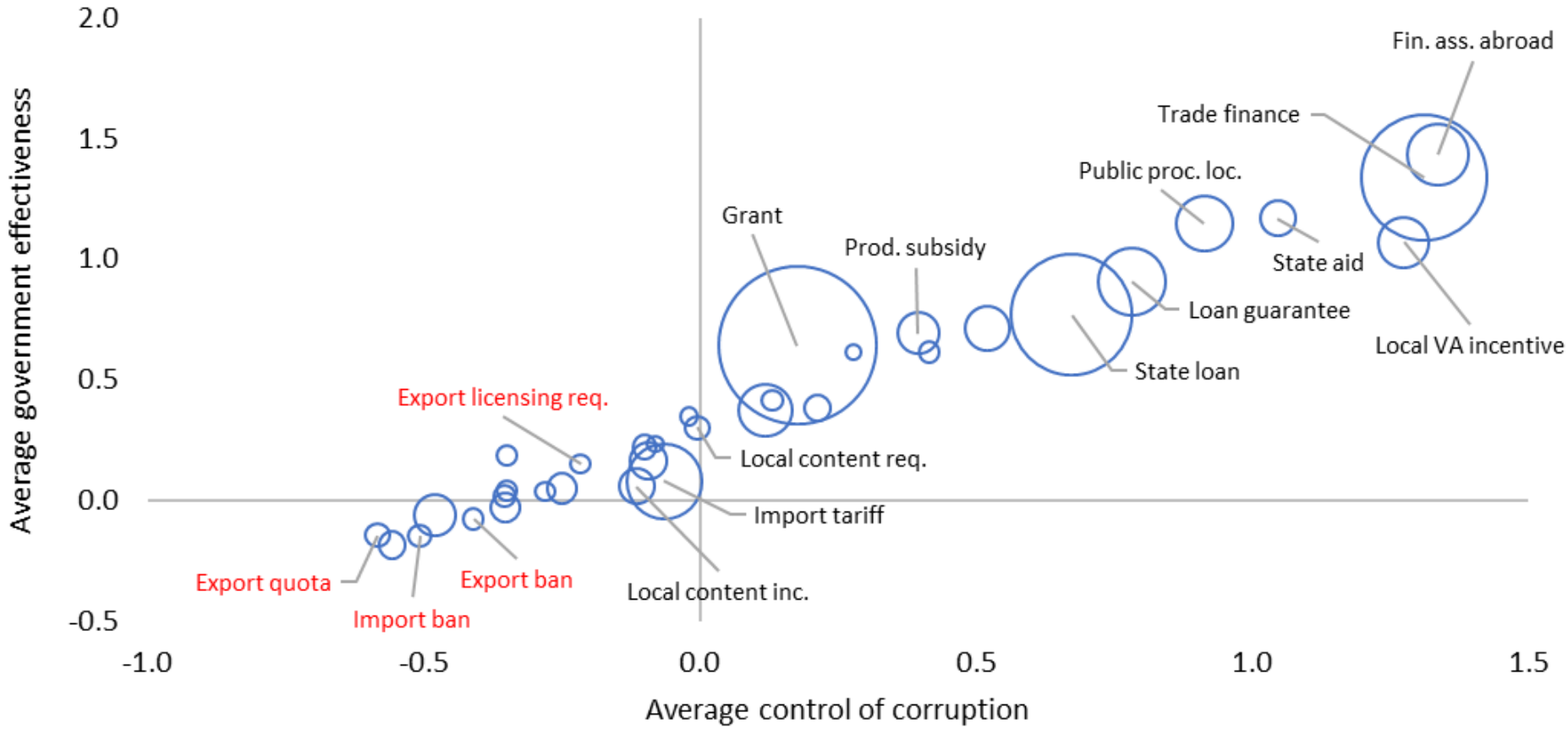
For example, environmental objectives and secure supply of technology are often bundled together; only growth objectives are ever pursued on their own



Source: Koczan et al. (2024), Juhász et al. (2023) and authors' calculations. Simple averages across 28 economies in the EBRD regions and 105 comparators, 2010-22. Various figures can add up to more than 100%, as individual industrial policies can have multiple objectives.

While industrial policies can be effective in overcoming coordination failures, they carry **high risks** and are **associated with distortions**

Instruments such trade finance and financial assistance abroad carry lower risks of capture and distortions compared with export / import bans, quotas and licensing requirements



Source: Juhász et al. (2023), Worldwide Governance Indicators, authors' calculations. Bubbles = N policies. 29 economies in the EBRD regions and 107 comparators, 2010-22. Average control of corruption and government effectiveness in economies using given instruments. Select instruments labelled. Red = highly distortive in IMF (2024) FM.

Discrimination against foreign interests is a frequent feature of industrial policies

Source: GTA, Juhász et al. (2023), authors' calculations. Based on 28 economies in the EBRD regions, 30 advanced economies and 81 emerging market and developing economy comparators. Firm-specific policies based on GTA classification

Industrial policies often **deliver** on their narrowly defined objectives but **costs may outweigh benefits**, **distortions** spill over to **other sectors**

Buy American for final goods has created jobs

- Costs estimated at US$ 111,000-238,000 per job (Bombardini et al., 2024)

China's support to **shipbuilding** in 2016-23 = RMB 550 bn (1% of 2013 GDP)

- Entry and production subsidies attracted many firms, increased global market share by 40%
- ¾ of market share increase displaced producers in other countries; ¼ added to world supply
- Extra RMB 145 bn in net domestic profits + RMB 230 bn of extra worldwide consumer surplus < spending on subsidies
- Large number of inefficient producers, excess capacity -- due to entry subsidies being 60% of total spending
- No higher industry profits over the long run (Barwick et al., 2019)

Regional Selective Assistance business support scheme in the **UK** offered investment subsidies to firms in depressed areas on condition they create or protect jobs

- Created jobs at US$ 6,300 per job (Criscuolo et al., 2012)

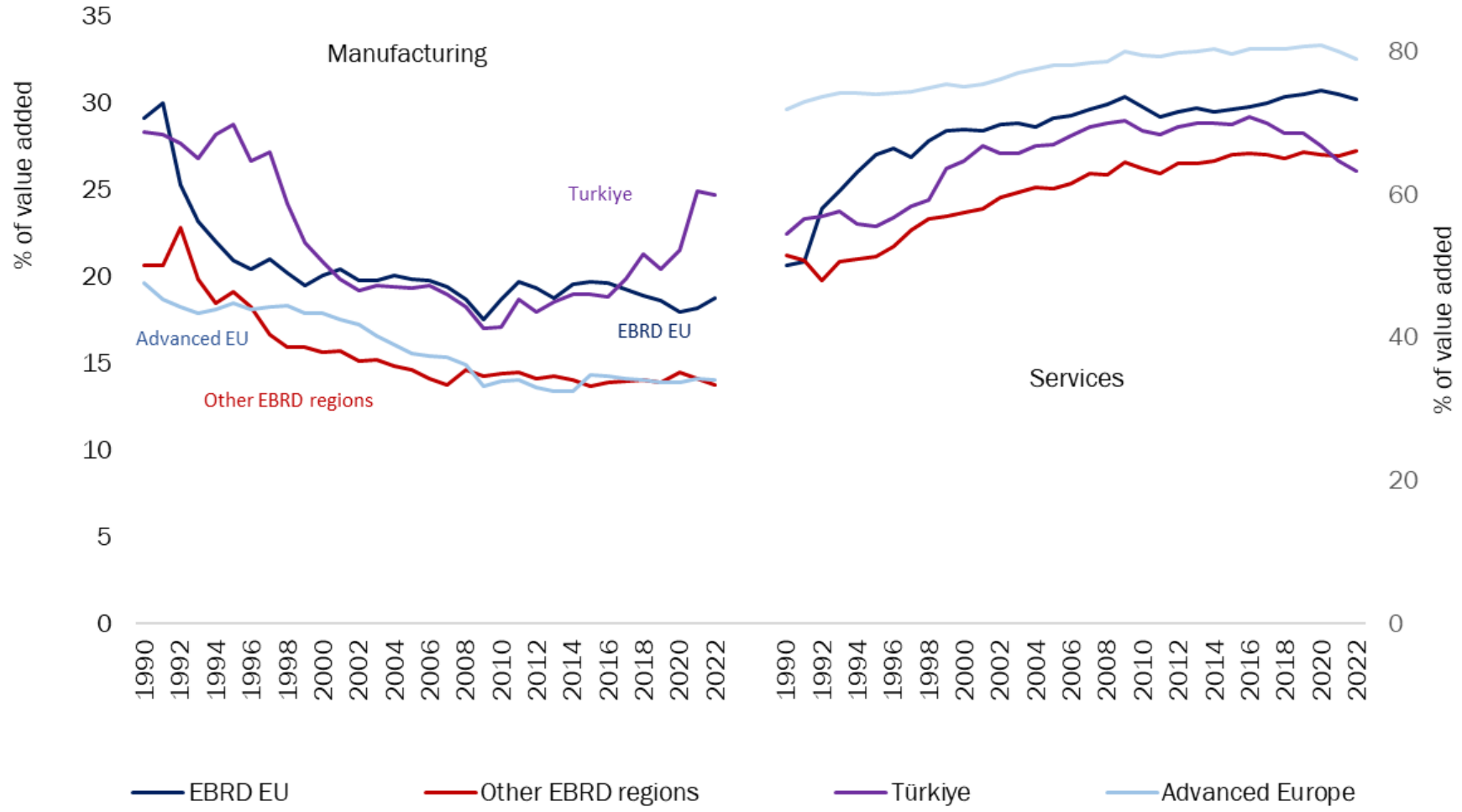
Industrial policies aimed at boosting **steel industries** across **21 countries**

- On average, sharply cut the export competitiveness of local industries using steel

More so in less-developed countries (Bloningen, 2016)

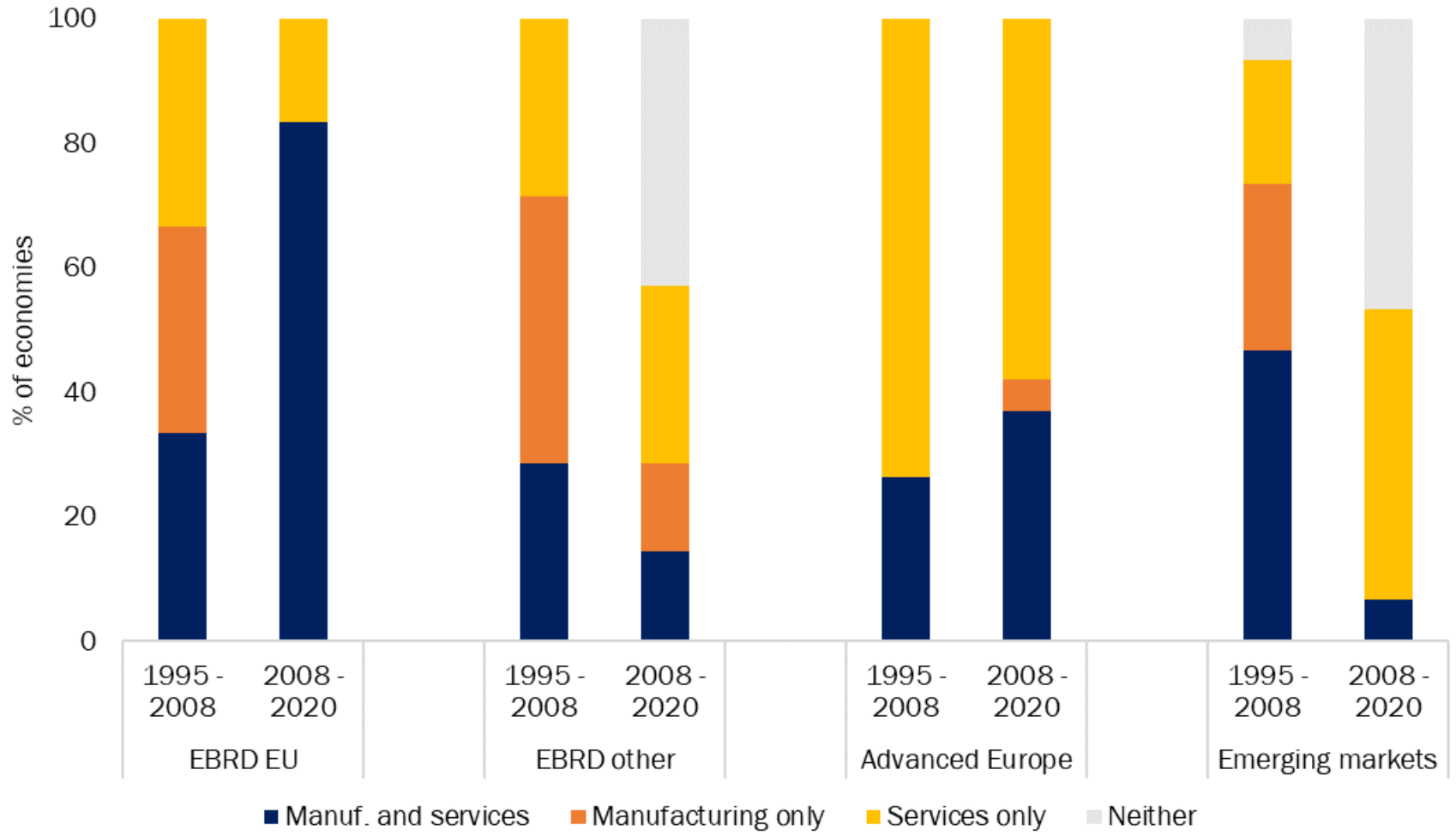
Promoting structural change

Structural change: shift from **manufacturing** to **services**



Source: UN Statistical Division, harmonized National Accounts, and authors' calculations. EBRD EU excludes Greece.

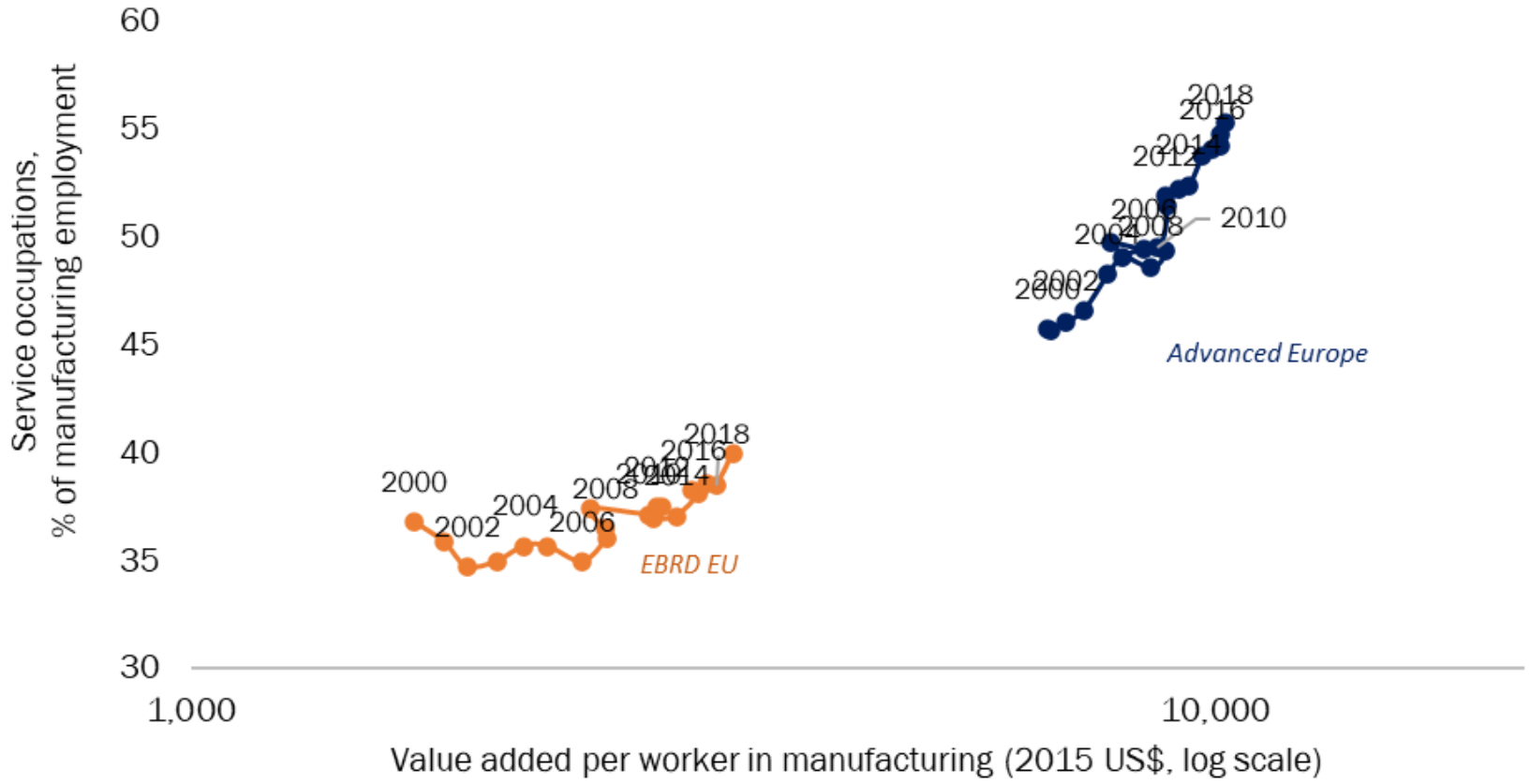
Pursuing **manufacturing-exports-led growth** has become **increasingly challenging**



Source: OECD TiVA and authors' calculations. Manufacturing export-led growth is defined as domestic value-added content of manufacturing gross-exports growing faster than GDP. Service export-led growth is defined as domestic value-added content of global innovator services gross exports growing faster than GDP.

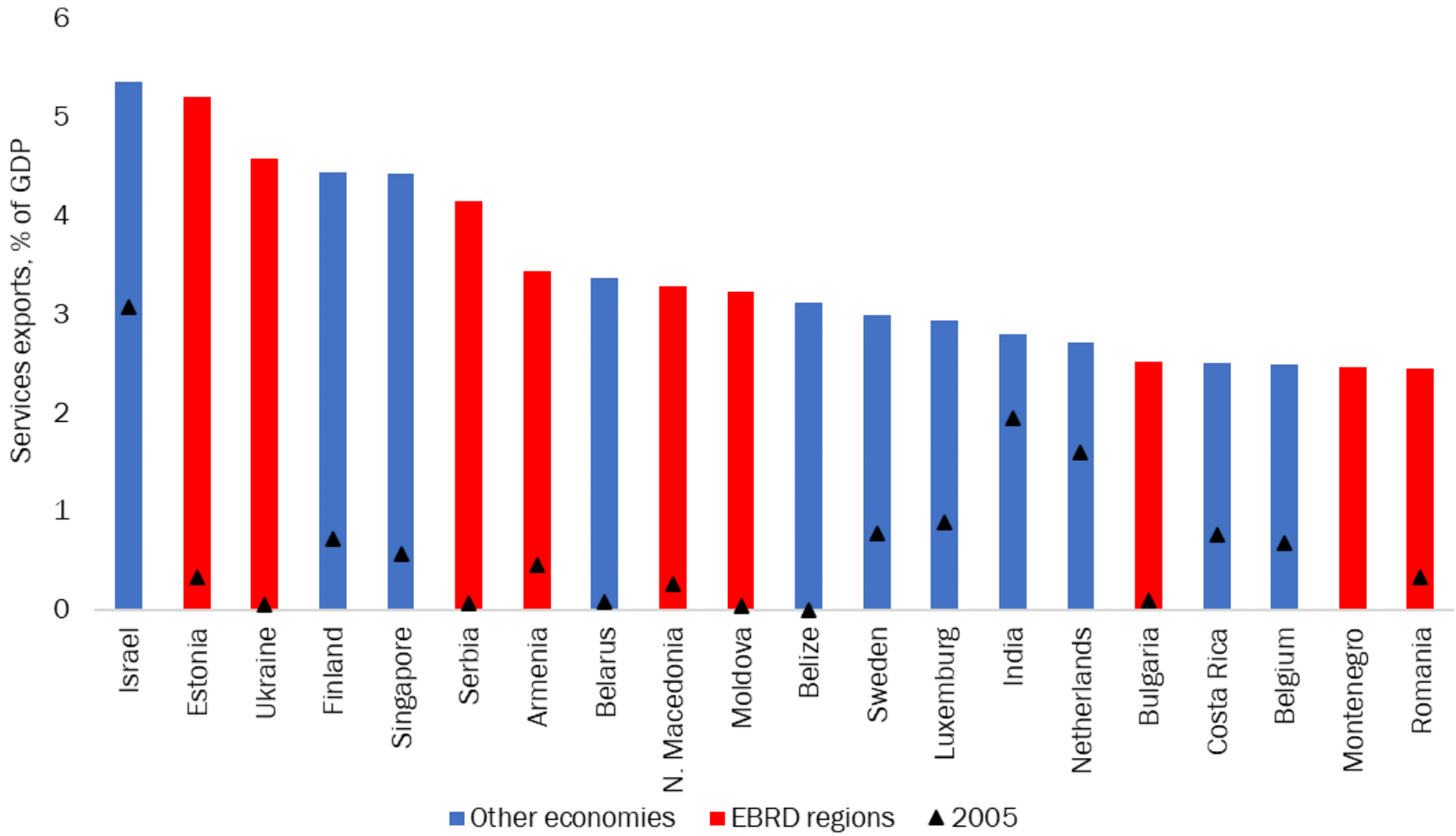
With digitalisation, services are easier to trade across borders, while **manufacturing has become increasingly reliant on services inputs**

The employment share of service occupations within the manufacturing sector has increased in EU economies



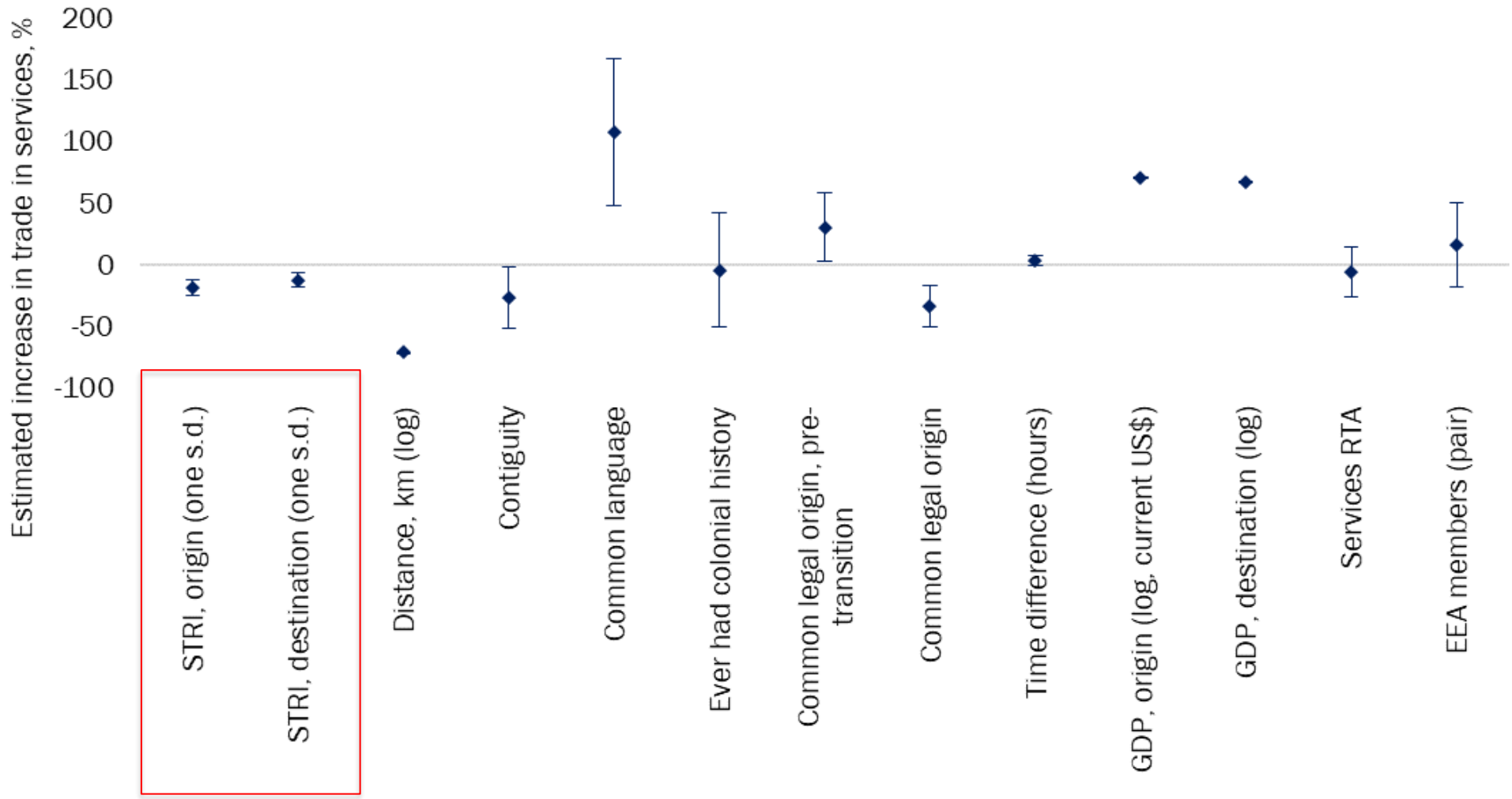
Source: EU KLEMS, EU-LFS, World Bank's World Development Indicators and authors' calculations. Unweighted average of the share of employees in service-related occupations in the manufacturing sector for each country, against the log of manufacturing value added per worker (manufacturing labour productivity).

Some economies in the **EBRD regions** are **among the top computer services exporters**, others need to upgrade infrastructure, skills, institutions to excel at high-value services



Source: Trade in Services data by Mode of Supply (TiSMoS), World Bank's World Development Indicators and authors' calculations. Ireland and Cyprus are excluded.

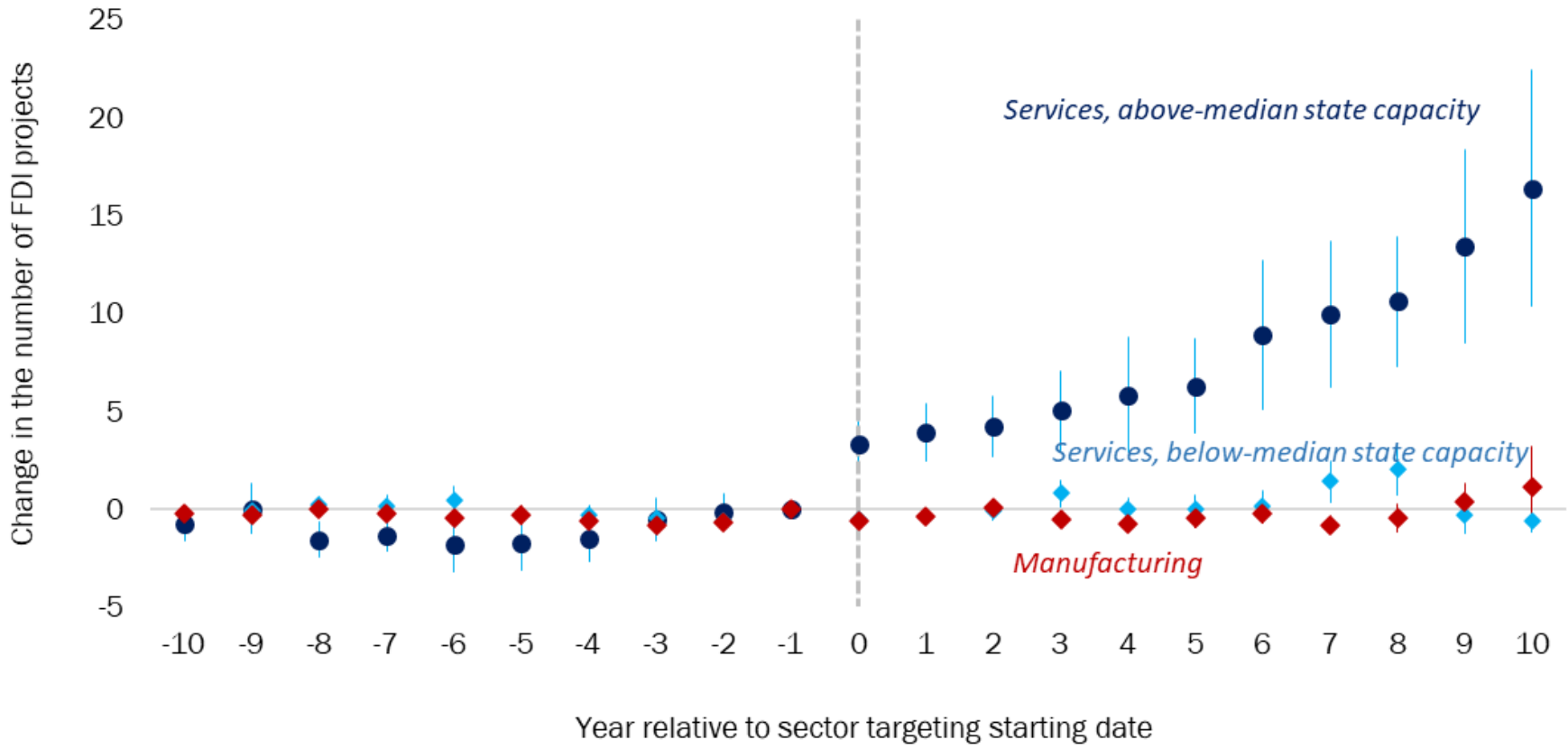
Services trade liberalisation can support **shift towards exports of high-value-added services**, with positive impact on the country's manufacturing competitiveness as well



Source: OECD-WTO BaTIS-BMP6, OECD STRI, CEPII, authors' calculations. PPML coefficients from regressing bilateral services exports on variables shown, sector and year FE. Sectors = transport, insurance, finance, telecoms, computer, information services, other business services and personal services. 95% conf. int., s.e. clustered on country pairs.

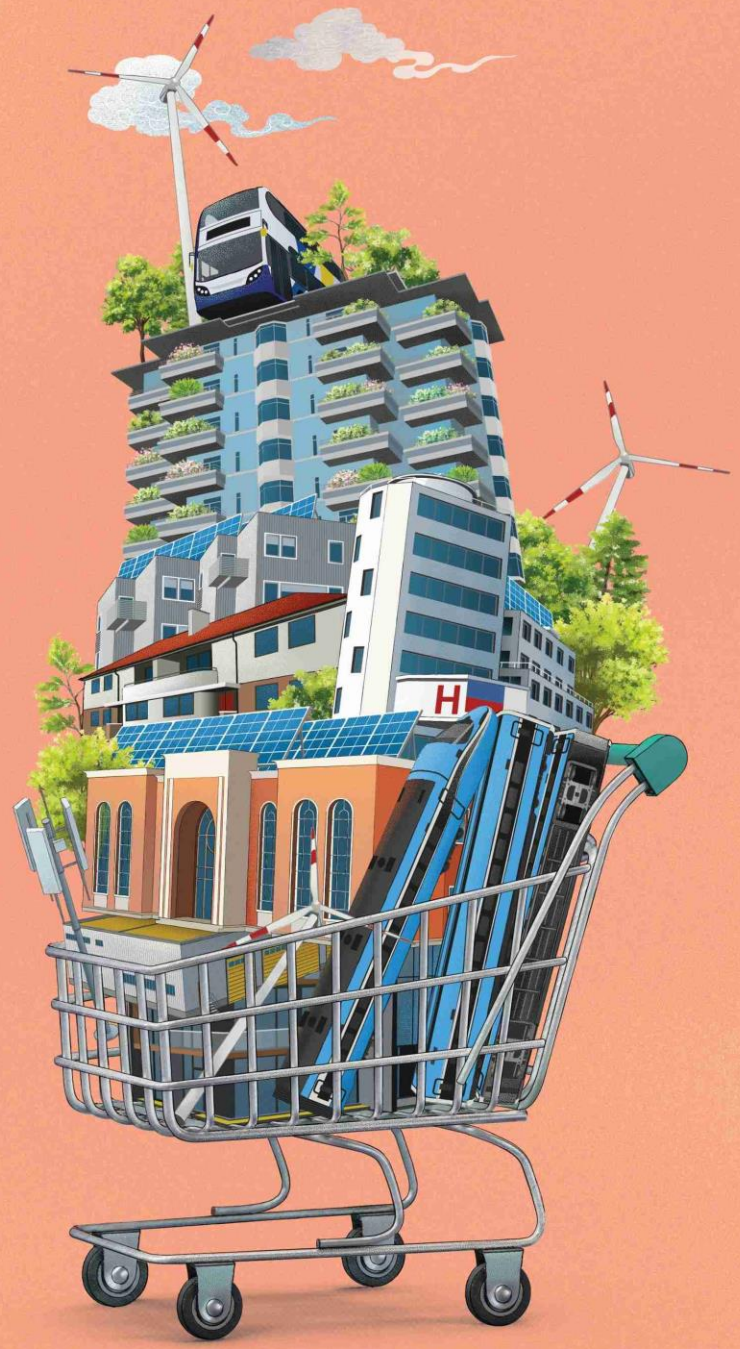
Targeted industrial policies can support shift towards high-value-added services
provided the fundamentals are in place

Number of services FDI projects increases after under sector targeting policies – only where state capacity is sufficiently high

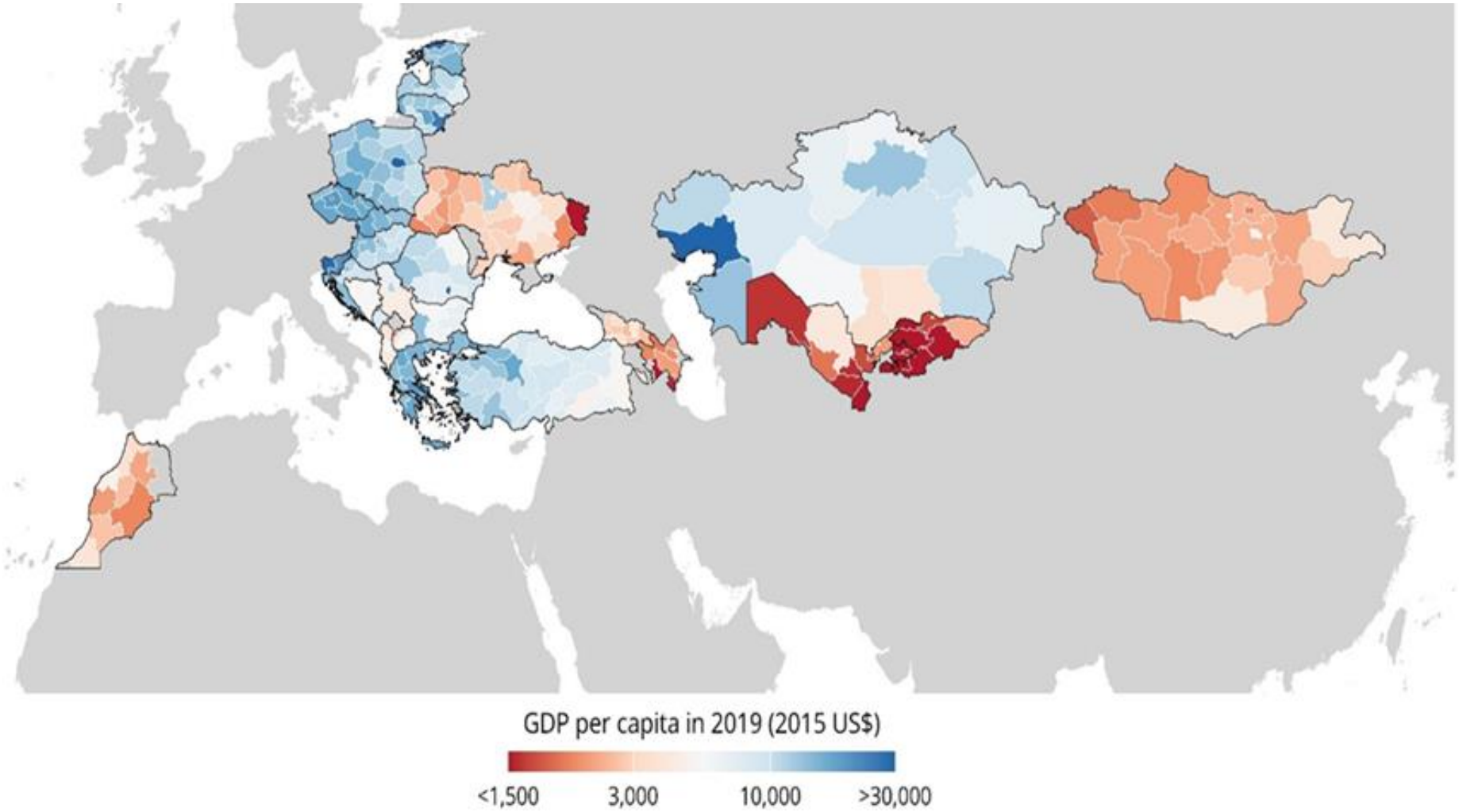


Source: fDi Markets database, authors' calculation. Estimated coefficients from a difference-in-differences regression comparing N FDI projects per country-sector-year in targeted vs. not-yet-targeted / never-targeted sectors, separately for services-oriented and manufacturing-oriented projects. Below-median vs above-median state capacity.

Regional inequality and special economic zones

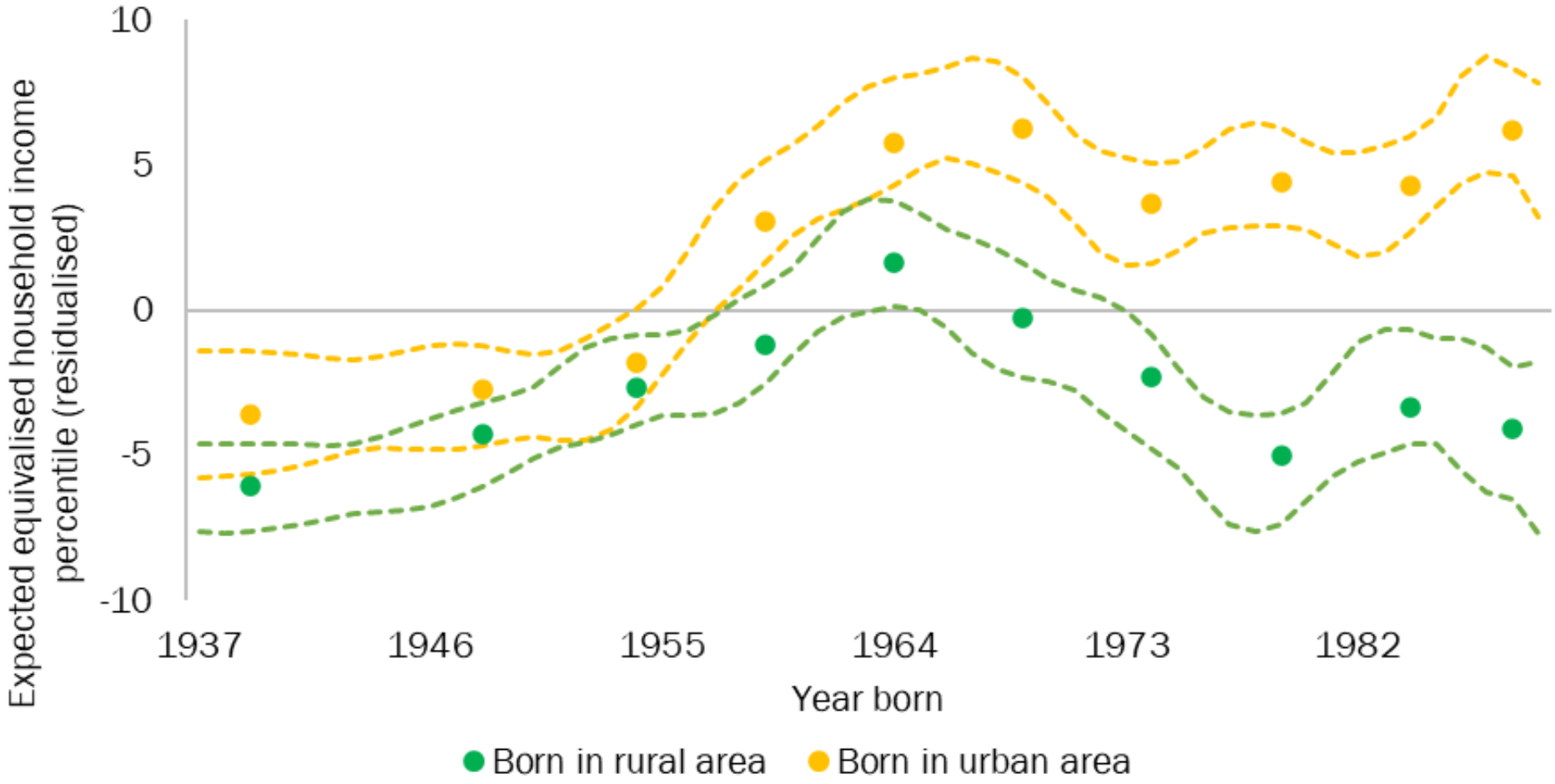


Special economic zones and other **place-based policies often seek to address** persistent **regional inequality**



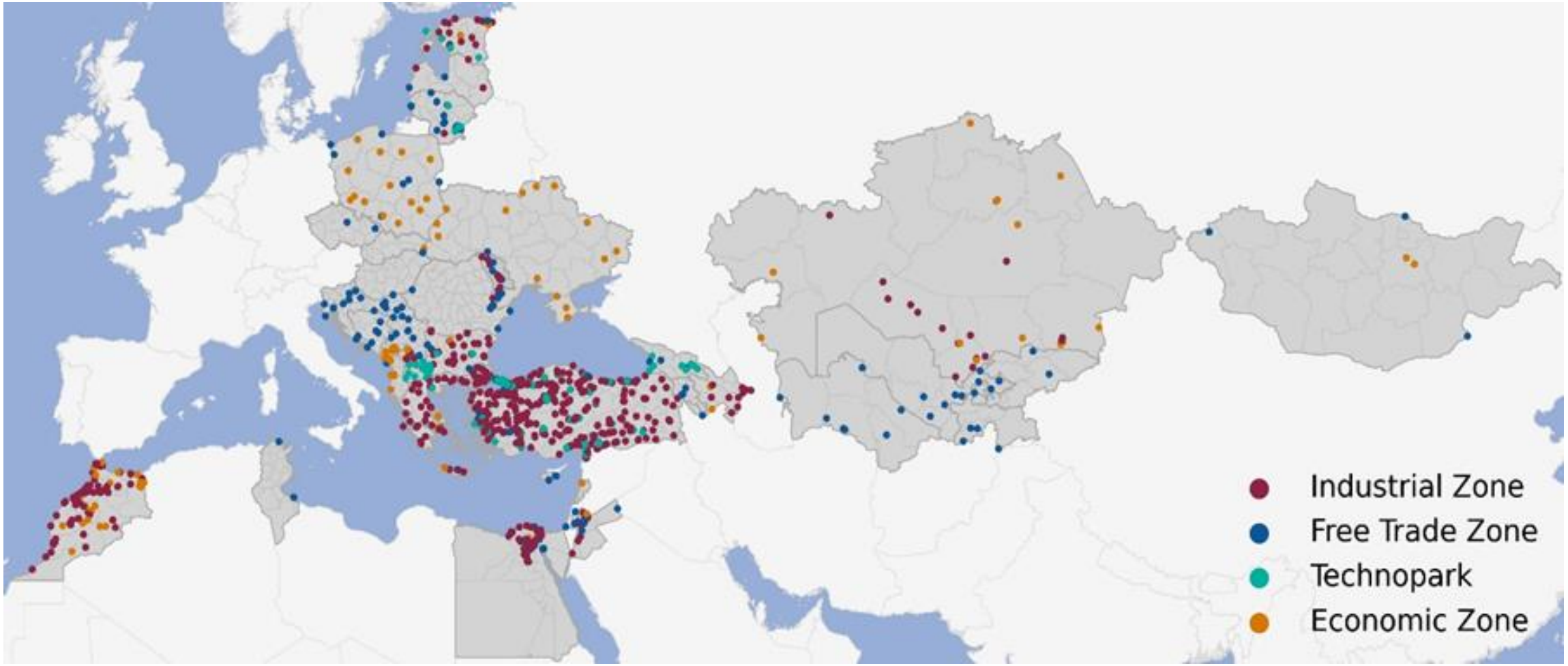
Source: ARDECO database, DOSE dataset, GISCO, GADM and authors' calculation. NUTS3 regions for Baltics, N. Mac, NUTS 2 elsewhere.

Including persistent, and growing, **rural-urban divides**



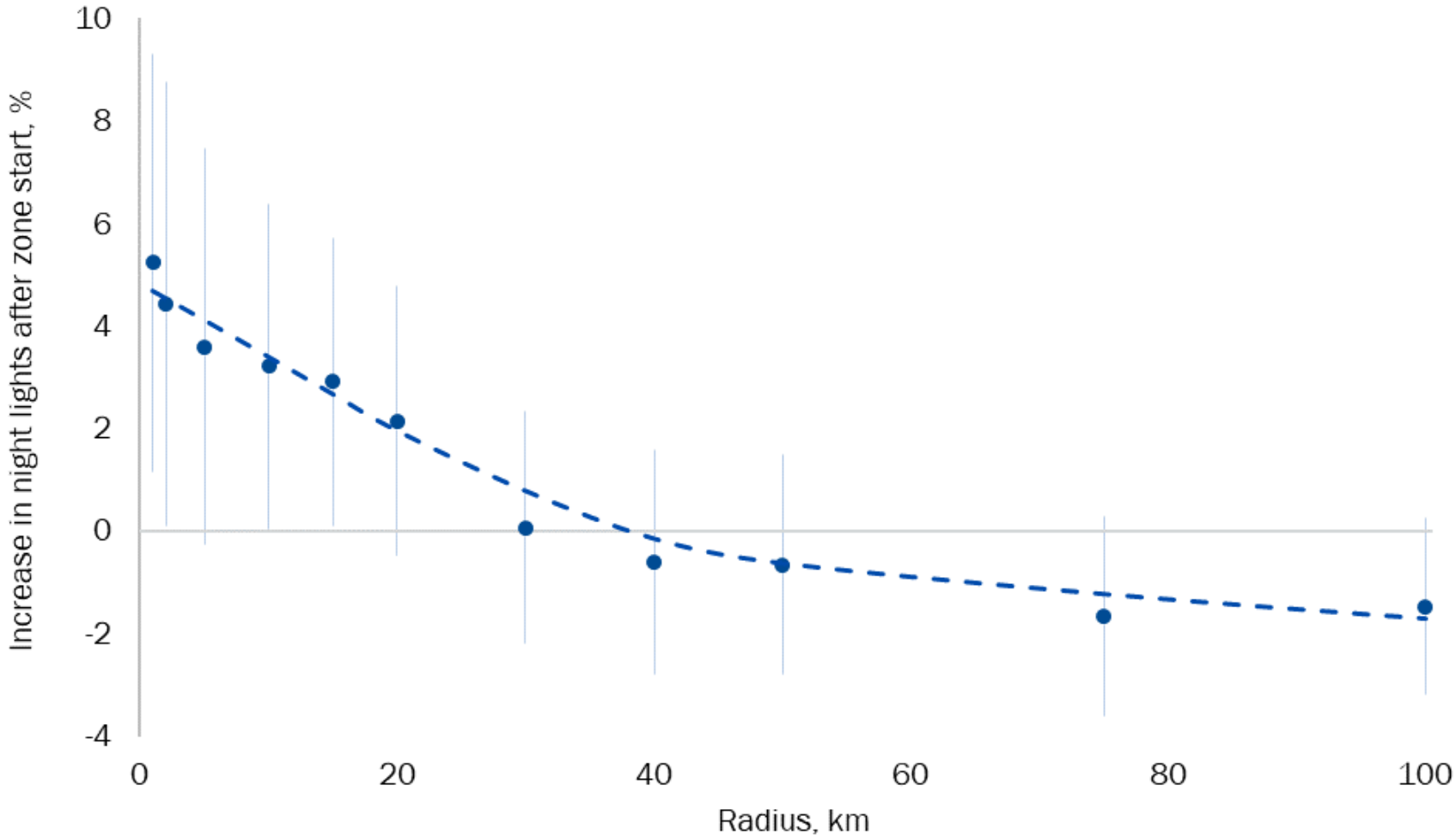
Source: LiTS 2016, 2022, authors' calculations. Bin scatter of expected residualised household income percentile. Residuals derived from regressing equivalised household income percentile on country-year FE, parental education, gender. Non-parametric function vs birth cohort for urban- and rural-born individuals. Age 25+ only. 95% conf int.

The number of **special economic zones in the EBRD regions increased** from < 100 in 1990 to 1,150+ in 2020, mirroring global trends



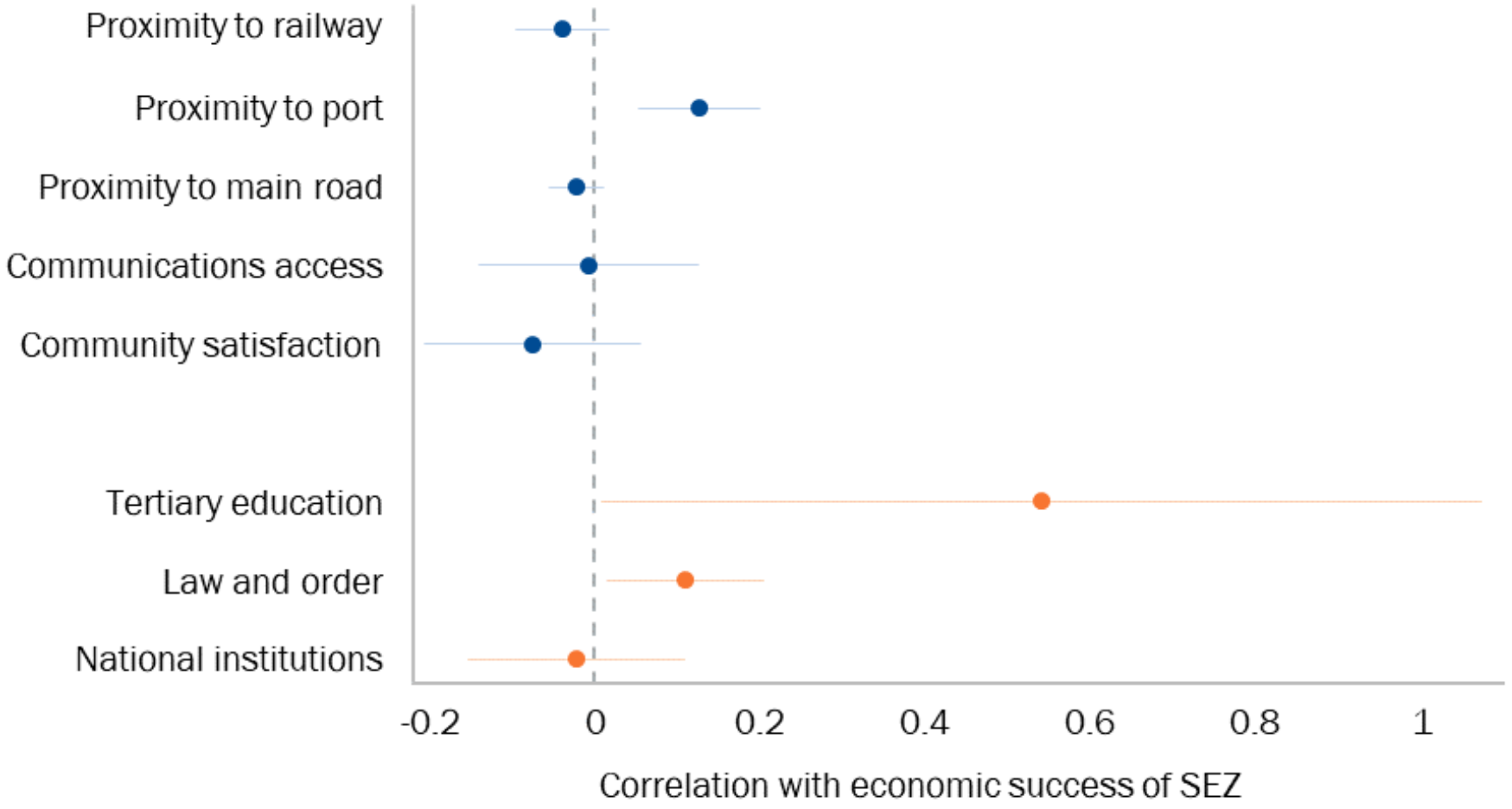
Source: EBRD Survey of SEZ, authors' calculation. Free Zones = regulatory or duty exemptions to encourage trade and investment; Industrial Zones = incentives for manufacturing; Economic Zones = various incentives and infrastructure support; Technoparks = technology, innovation, research and development.

Establishment of SEZ associated with **increased economic activity over time**, within radius < 20 km

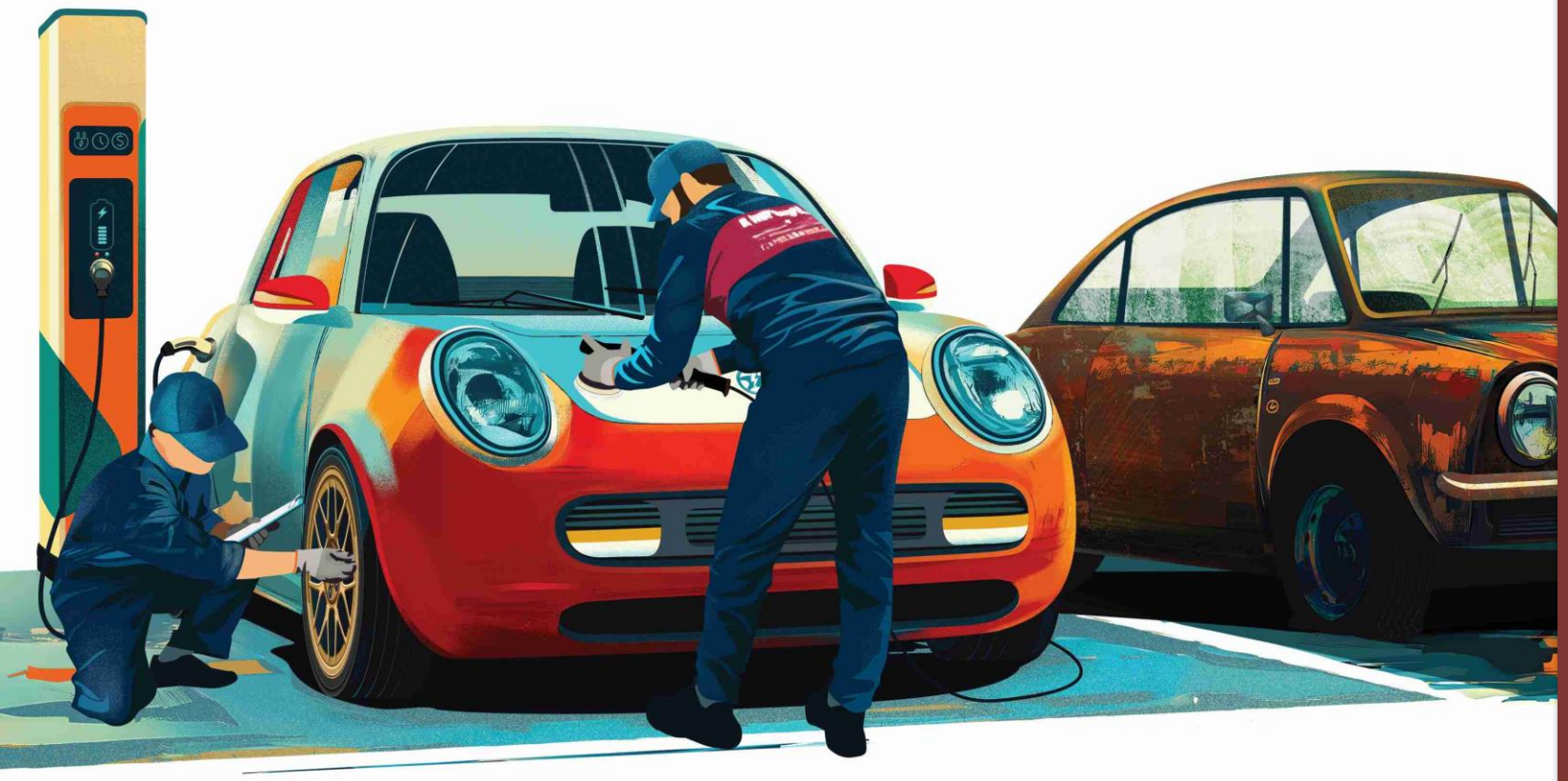


Source: EBRD SEZ survey, Li et al. (2020), authors' calculation. This chart illustrates the spatial decay of the increase in nighttime light intensity (NTL) following the establishment of SEZs. 95% confidence intervals.

Proximity to a **port**, more workers with **tertiary education**, better **law and order** are associated with **stronger economic performance of** areas surrounding **SEZs**

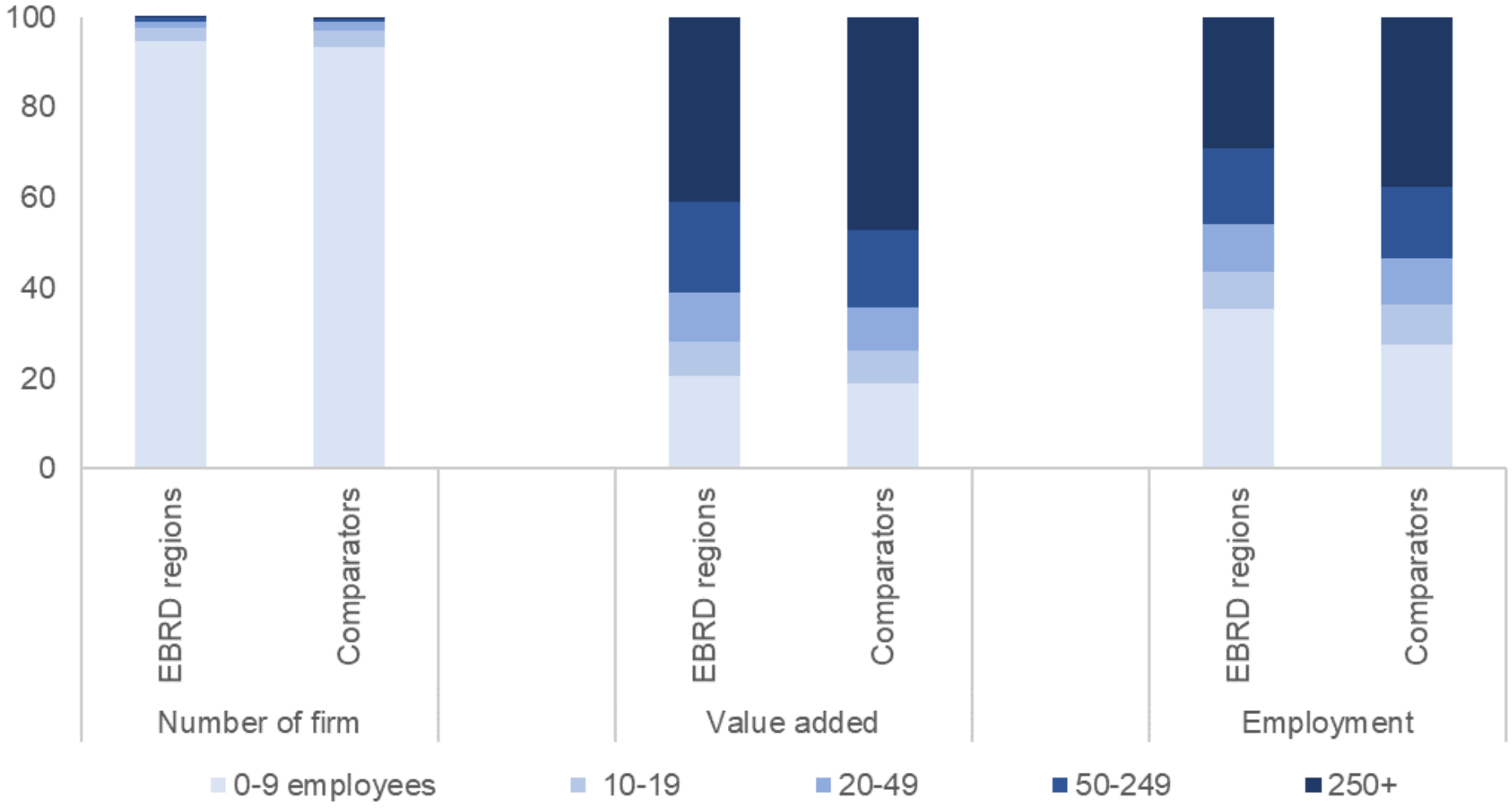


Source: EBRD SEZ survey, Li et al. (2020), VMAP0 National Geospatial-Intelligence Agency, US, gROADS v1 (Global Roads Open Access Data Set) by Information Technology Outreach Services (ITOS) at the University of Georgia, Gallup World Polls, and authors' calculation. Whiskers = 95% confidence intervals. Proximity = the opposite of log dist.



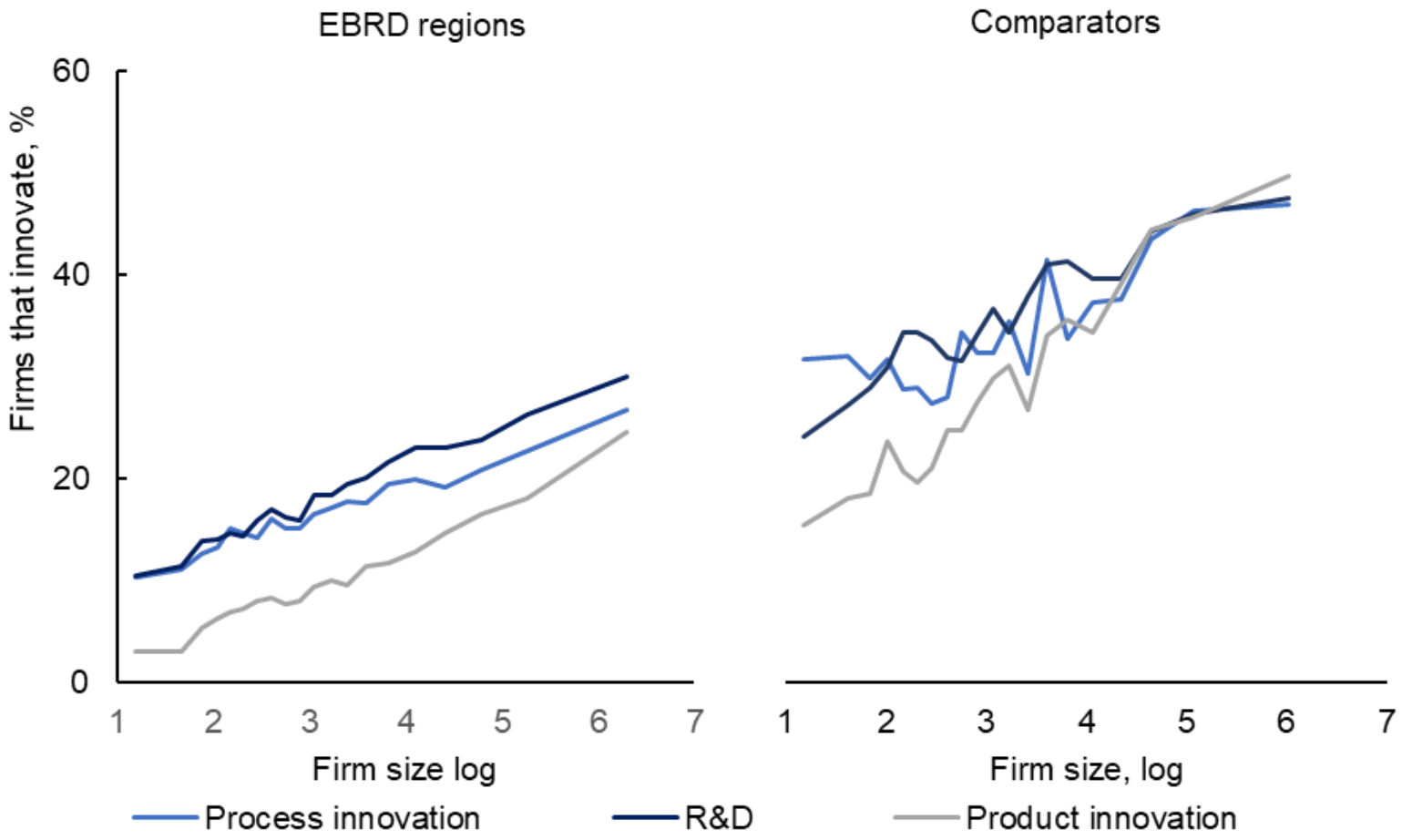
Industrial policies supporting firms

A relatively small number of **large firms account for a large share of jobs in the EBRD regions**, owing to economies of scale, higher levels of productivity



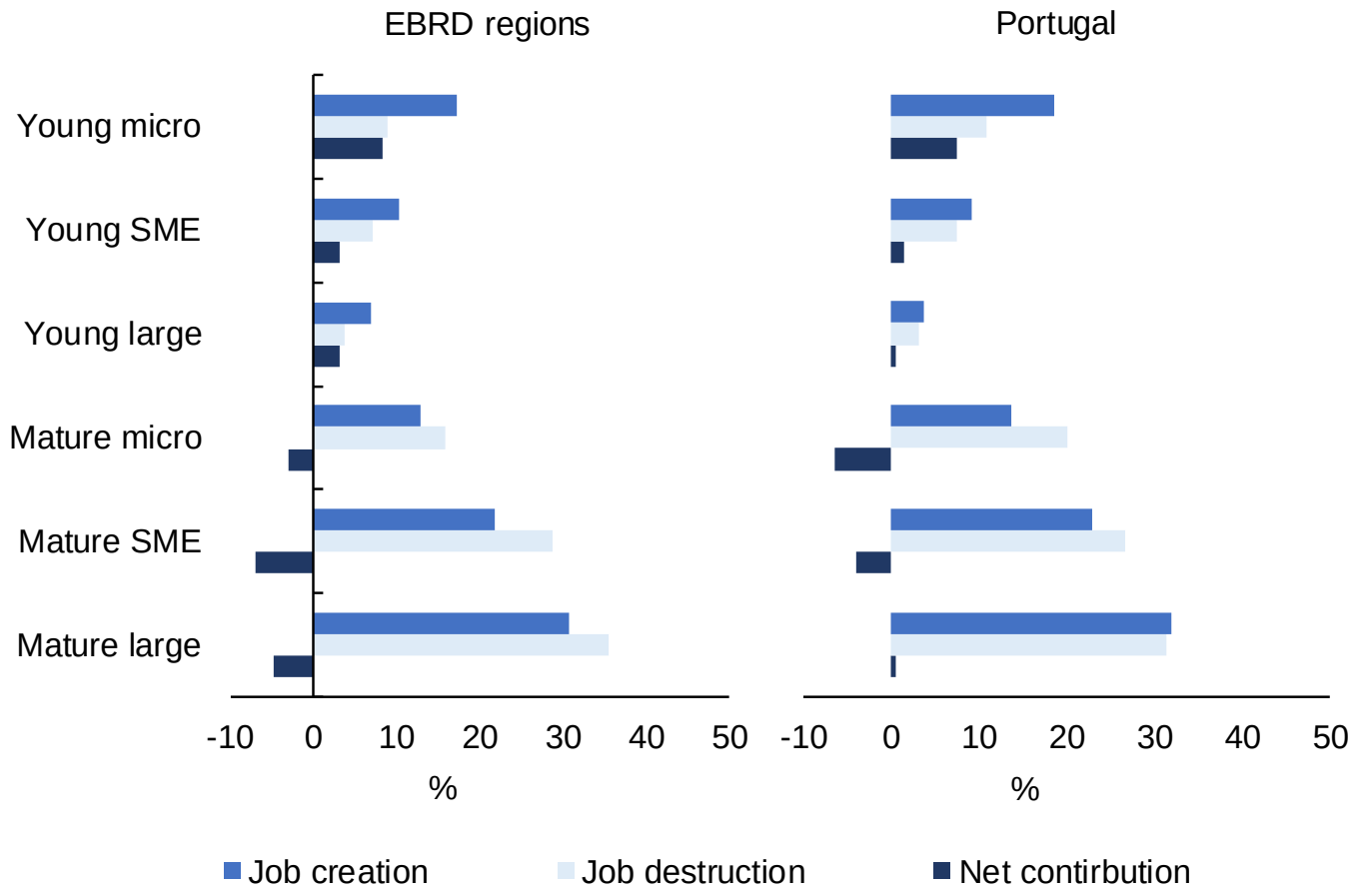
Source: Eurostat, authors calculations. Data for manufacturing sector in 2021. EBRD economies = Albania, Croatia, Czechia, Hungary, Lithuania, Romania; Bosnia H., Serbia, Slovak R., Slovenia, Poland, Moldova, Latvia, Lithuania, Greece, Cyprus, Bulgaria. Advanced Europe: Aut, Bel, Den, Fin, Fra, Ger, Ice, Ire, Ita, Mal, Neth, Nor, Spain, Sweden.

And reflecting **greater propensity of large firms to innovate**



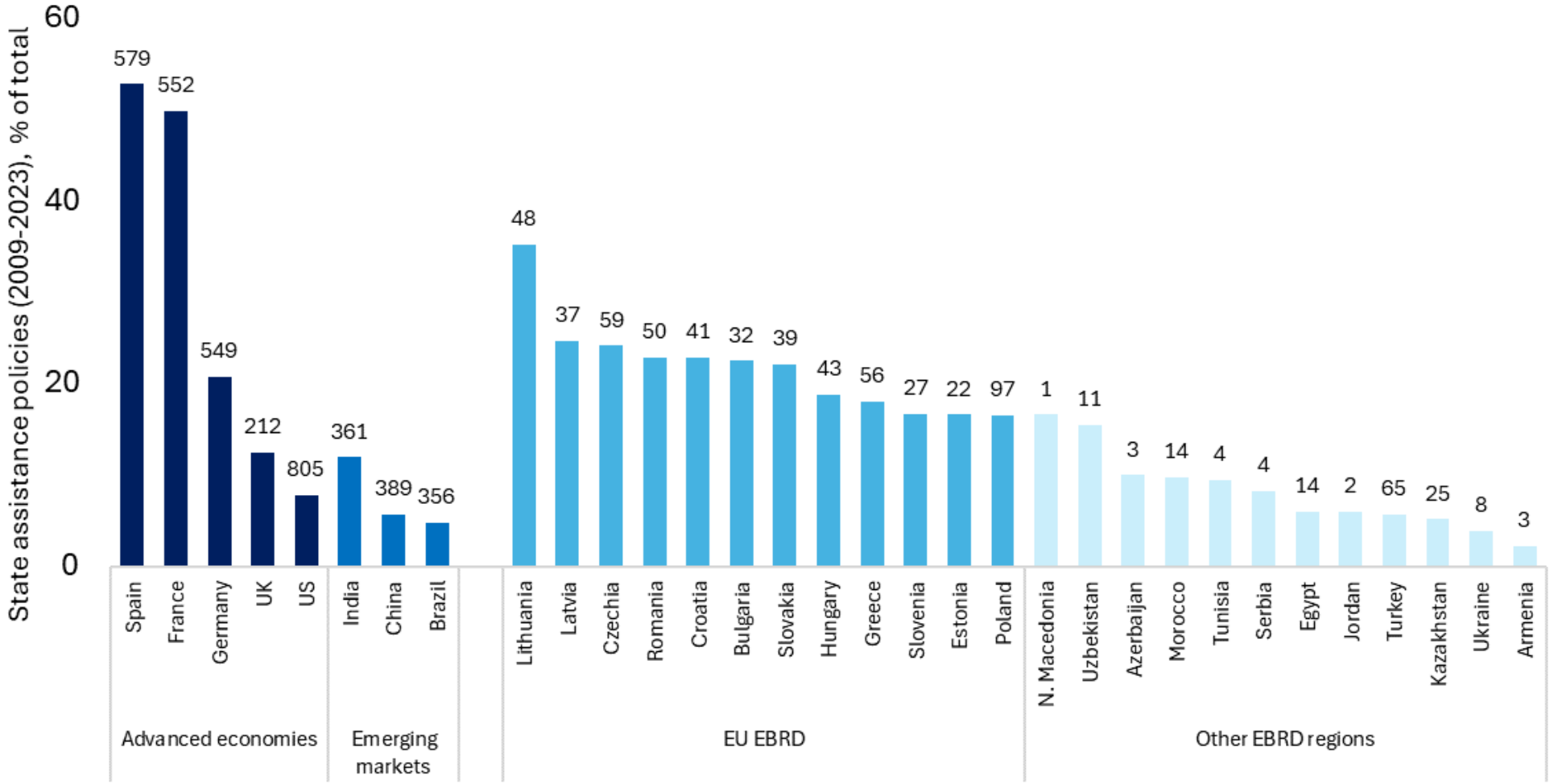
Source: BEEPS III-VI, authors calculations. Bin scatter of log-employment and innovation types reported by a firm in the past 3 years or R&D expenses during the past fiscal year. Regressions include country, year and sector FE, exporter dummy, state ownership >50%.

Among SMEs, **young firms tend to be characterized by higher rates of employment growth** and higher return on capital



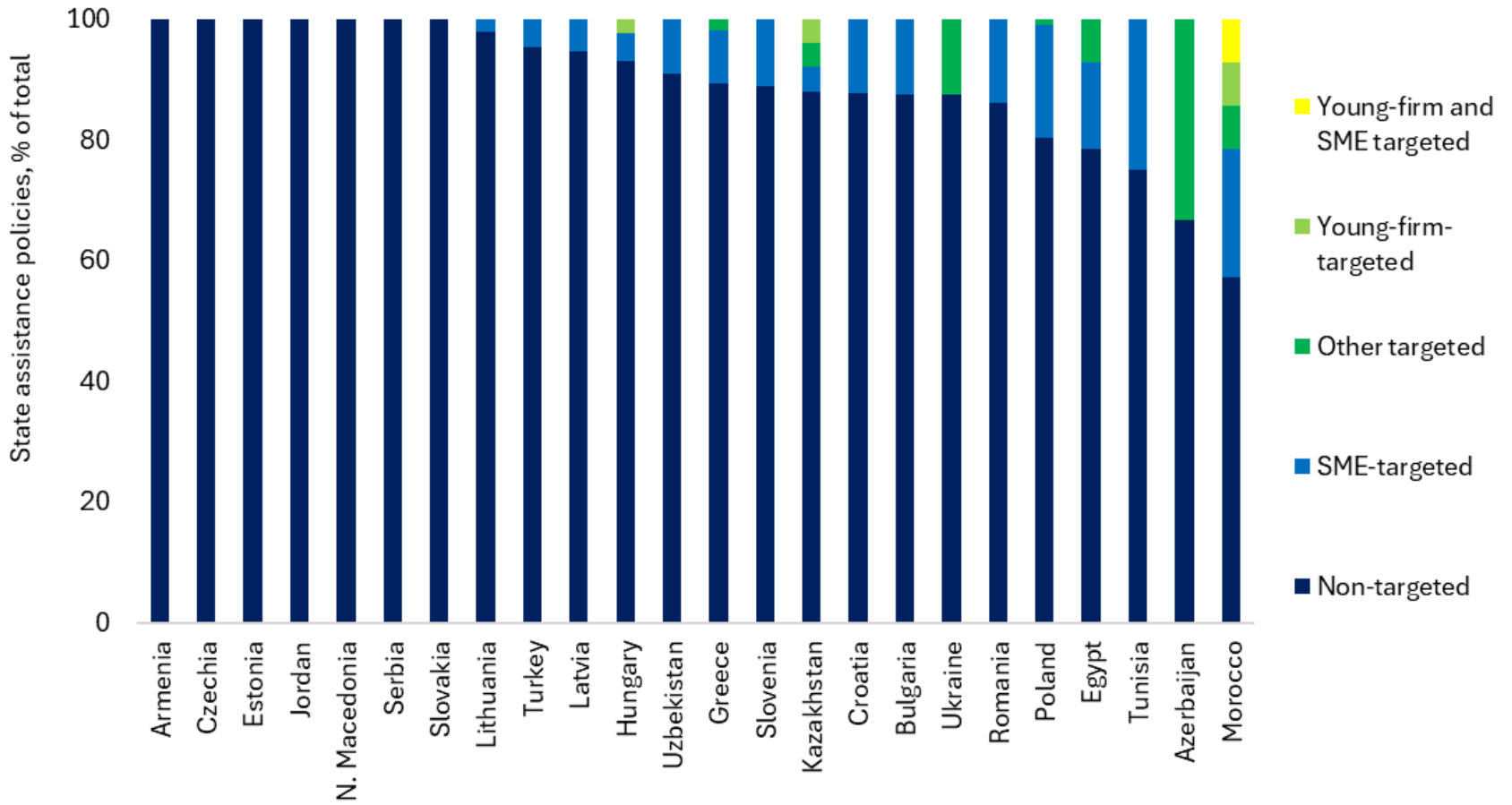
Source: Orbis 2016-2021, authors calculations. Balanced panel excluding financial, education sectors, public administration, health and social sectors, production of goods for own use. EBRD regions = Bosnia and H, Croatia, Czechia, Hungary, Lithuania, Romania, Serbia.

Although **direct state assistance to firms in the EBRD regions has been on the rise**, it remains **less prevalent than in** parts of **advanced Europe**



Source: GTA, author's calculations.

Most direct state **assistance policies do not target a particular type of firms** (such as young or innovative firms, for instance)



Tailoring such policies

to targeted firms' age, growth potential and innovation potential

is crucial for maximising their benefits relative to their cost

Source: GTA, authors calculations. Policies targeting 'young' firms include keyword "entrepreneur", "entrepreneurship", "entrepreneurial", "incubator", "young firms", "accelerator", "startup", "start-up", "start up", etc. SME targeting based on GTAA classification. Other = sector, location, SOE.

Conclusions: some **general principles to help maximise social returns**

Across the board:

Articulate objectives, prioritize multiple ones

- At least in private; preferably publicly
- Once objectives are clear, build in **evaluations**, let "losers" go

Central **coordination** to prevent policies from counteracting each other

Build in **competitive pressures** and market tests

- Through outward orientation and incentives for knowledge transfer

Choose instruments based on objectives, fiscal space and the **administrative capacity** to design and implement

- Continuous investment in admin capacity and bureaucratic quality

Foresee **phasing out**

- Avoid addition through explicit mechanisms for ending support

Where the administrative capacity is limited:

Target **narrow sectors**, depending on fiscal constraints

Start with "**quick wins**" to increase trust in policies and create momentum

Focus on projects **within a single ministry** and / or set up specialist units with superior skills and pay outside civil service structures

Supplement traditional instruments with "soft" industrial policies institutionalising information sharing and collaboration between the public and private sectors

Promoting the **diffusion of technologies** developed elsewhere, **leveraging foreign investment**

- Continuing to invest in human capital, infrastructure and institutions

Prioritise **competitive selection** elements, particularly if they are targeting large individual firms

- Delegate selection to expert bodies with a well-established reputation and capacity to undertake technical evaluations