



EU's Strategic Autonomy and Regional Development Objectives: Friends or Foes?

Vassilis Monastiriotis, Tea Gamtkitsulashvili



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Abstract

This paper examines the evolving relationship between EU Cohesion and Industrial Policy, focusing on how the latter's shift towards macro-level missions—such as decarbonisation and strategic autonomy—undermines territorial cohesion and regional convergence. Reviewing the evolution and theoretical foundations of both policies, we show how Industrial Policy's departure from its foundational ideas has created a divergence of previously convergent imperatives. Empirical evidence reveals that mission-oriented initiatives disproportionately benefit advanced regions, potentially reinforcing spatial inequalities. We conclude with policy recommendations to better align strategic objectives with territorial cohesion, ensuring balanced regional development is not sacrificed for broader economic and geopolitical ambitions.

Keywords: Cohesion Policy; EU Industrial Policy; strategic autonomy; regional development

JEL Codes: R58, R11, O25, O52, F50

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1. Introduction

For decades prior to the Global Financial Crisis, the EU had a clear 'division of labour' between its regional and industrial development policies. Regional development and convergence (territorial cohesion) was pursued through its Cohesion Policy, which had a largely redistributive and developmental character, using mainly grants-based transfers to support infrastructure development in lagging-behind regions; while industrial policy was largely 'horizontal', limited to specific interventions on R&D and innovation and relying on market liberalisation and deregulation as means for strengthening economic activity, specialisations and competition.

The 'Lisbonisation' of Cohesion Policy (Mendez, 2011) saw it incorporating modern epistemic ideas (about 'entrepreneurial discovery', 'related diversification' and 'place-based policy') and new financial instruments, representing a shift of objectives from the pursuit of cross-regional convergence to that of technological upgrading and global competitiveness 'of all regions' (Charles *et al.*, 2012; Fratesi, 2025). At the same time, the EU experienced a shift in its approach to Industrial Policy, becoming increasingly more activist, deploying strategic planning (Lisbon Agenda, Europe2020) and targeting investment, reindustrialisation and innovation-driven economic restructuring aimed at 'directing' growth and addressing 'system failures' beyond the traditional attention to 'market correction'.

For a period, the two policies seemed to converge both in character and in the ideas underpinning them. Soon, however, and increasingly after the COVID pandemic, the EU's industrial policy ambitions skyrocketed. The launch in 2019 of the European Green Deal saw the introduction of mission-like ambitions for decarbonisation, energy independence and digital leadership (under the so-called twin transition). Subsequent geopolitical developments led to the re-elaboration of such ambitions, introducing

mission-like pursuits for 'economic sovereignty', 'open strategic autonomy', the 'resilience of the Single Market' and the defence of Europe's 'values and social market traditions'. This involved a series of legislative (EU Chips Act, Critical Raw Material Act, Net-Zero Industry Act, Digital Markets Act) and other initiatives (REPowerEU, IPCEIs, Temporary State aid Crisis and Transition Framework, Global Gateways), as well as new funding instruments (STEP, SAFE) which have obtained a dynamic of their own, going over and beyond the initial objectives of stimulating innovation, growth, development and convergence. This is perhaps most emphatically manifested with the more recent developments concerning the launch of the European Defence Industrial Strategy and the Defence Readiness 2030 White Paper and ReArm Europe Plan¹.

This new mission-orientation concerns big 'macro-missions' which are located neither geographically – targeting specific regions or regional development problems – nor sectorially. The new macro-missions of the EU concern quintessentially the total transformation of the economy in the pursuit of goals that go beyond the economic: focusing on building resilience towards global emergencies and facilitating the pursuit of the EU's geostrategic ambitions.

In this paper we examine how these evolutions have affected the ability of the EU, and of the Cohesion Policy in particular, to deliver on its goals of territorial cohesion and balanced growth and, within that, to address issues of regional development and inequality. Our core argument is that this new-found mission-orientation of the EU is creating a disparity between the core policy objectives at the EU-wide level and processes of regional development at the local level, threatening to amplify regional inequalities by supporting, or at least favouring, specific regions with existing advantages ultimately at the expense of other, less-developed regions in Europe. To substantiate this point, we start with an analytical discussion, reviewing the evolution of the two policy areas and identifying the main concepts and theoretical ideas that

¹ https://commission.europa.eu/topics/defence/future-european-defence_en (last accessed 05/09/2025)

underpin them. We take this further in section 3, where we discuss how, despite the 'entrepreneurial shift' of Cohesion Policy and the 'interventionist shift' of Industrial Policy, the recent orientation of the latter towards macroscopic, mission-like objectives has created a 'misalignment' between the two policy areas and their objectives (development, whether national or subnational), potentially undermining processes of regional development and convergence supported by Cohesion Policy. We then turn to a 'forensic' empirical investigation, examining the spatial footprint of a number of policy initiatives and funding schemes. We show that, by and large, the new industrial policy initiatives of the EU are at odds with the priorities and sectoralgeographical targeting of Cohesion Policy. Funding instruments and state-aid targeting appear to be inversely redistributive, potentially amplifying territorial inequalities, while mission-like initiatives (decarbonisation, resource autonomy, industrial ecosystems, defence readiness) seem to concentrate disadvantages to those regions more likely to be targeted by Cohesion Policy, and significant advantages at the top. We conclude with a number of reflections on the observed 'misalignment' and offer some policy recommendations aiming at 'bridging' the gap between the two policy areas, arguing that this will serve well both the EU's 'treaty obligation' of pursuing territorial cohesion and its wider geopolitical ambition of ensuring economic autonomy and global competitiveness.

2. Evolving concepts and ideas

2.1 Cohesion Policy: From redistribution to 'smartness'

The notion of 'cohesion' in Cohesion Policy lacks a precise definition. The TFEU (Art.174) makes a general reference to the aim of "reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions" – implying, rather tacitly, an understanding that spatial (and socioeconomic) inequalities, whether in outcomes or in opportunities, are a stumbling block to 'harmonious development' for the EU as a whole. This ultimately reflects the EU's

disposition towards balancing two imperatives of (local economic) development: on the one hand, the imperative of raising competitiveness; on the other hand, the imperative of reducing disparities.

In economic theory, these two imperatives are often seen as conflicting: raising competitiveness requires efficiency-seeking actions (whether by markets or by governments) that often favour better-off places; reducing disparities, in contrast, requires actions that favour less well-off places, seeking to raise their capacities ultimately – in a world of limited resources – at the expense of others. This is the essence of the well-known "equity-efficiency trade-off", which came forcefully into the economic geography mainstream around the turn of the century (Martin, 1999; Puga, 2002). Meanwhile older arguments in economic geography and development theory, about the inefficiencies generated by (persistent) regional disparities (due to the under-utilisation of available resources and potential in lagging regions and the emergence of congestion diseconomies in more advanced places – see, inter alia, Martin, 2008) became less influential, both academically and in EU policy.

The response of the European Commission to these developments was not to deny the existence of an equity-efficiency trade-off per se, but rather to seek policy designs that would overcome it. Thus, 'old' Cohesion Policy, framing disparities as a 'regional problem' and aiming at fixing them by directing resources to less developed regions (usually, in the form of physical infrastructure and business incentives – essentially seeking to stimulate an *expansion* of local productive capacities for extensive growth), was gradually shifted to a new thinking, where lagging regions were facing a 'development problem' of weak institutions with weak capabilities for mobilising existing resources (intensive growth), thus suffering problems of competitiveness – rather than of (systemic) inequality per se.

Two intellectual debates led to the formulation of the new Cohesion Policy in the course of the early 2000s. One concerned the spatial implications of economic (and monetary) integration, instigated by Paul Krugman's "lessons of Massachusetts" (Krugman, 2001), which argued that integration leads invariably to inter-industry

specialisation and thus spatial divergence. The other centred on the publication of the 2009 World Development Report (World Bank, 2009), which made a case for (accepting and supporting) agglomeration (and thus spatial inequality), under the motto "the world is not flat". The European Commission took a stance on both of these debates. On the integration argument, it counter-emphasised how integration is associated increasingly with intra-industry trade, which in turn stimulates convergence in economic structures and greater product differentiation, thus allowing less painful adjustments (more resilience) to external shocks. Its response to the agglomeration argument came essentially with the so-called Barca Report (Barca, 2009), which juxtaposed to the 'agglomeration for (maximum) growth' thesis of the World Bank the pursuit of balanced growth, which maximises the utilisation of available resources and untapped local advantages through context-specific 'place-based policies'. The latter married well with the concept of "smart specialisation", which was developed through the work of the so-called Knowledge for Growth expert group, established by the Commission in 2005 as part of the plans to reinvigorate the Lisbon Strategy (Foray and van Ark, 2007). Together, smart specialisation and place-based policies became a forceful argument (and, later, a comprehensive set of tools) pushing policy towards actions aiming at supporting (regional) growth via innovation, entrepreneurial discovery and sectoral targeting that would be based on "sound analysis of regional assets and technologies". The economic crisis that soon followed reinforced adherence to this pursuit, as it demonstrated both the limits of markets (i.e., the existence of systemic market failures) and the risks associated with persistent spatial imbalances. This led to the idea of a 'double dividend' in the pursuit of maximising overall growth (and efficiency) while simultaneously promoting convergence across regions (Farole et al., 2011).

Achieving such a double dividend required a number of specific alterations to policy delivery and objectives. Linked to the dual realisation that, on the one hand, public investments often fail to produce positive outcomes if local capacities and institutions are lacking (Fratesi and Wishlade, 2017) and, on the other, that national governments have incentives to maximise their absorption of funds in ways that often lead to

"Cathedrals in the desert" (Morgan, 2007), policy thinking shifted towards a 'smarter' and more 'entrepreneurial' approach. This included a shift of investments towards innovation and knowledge-based activities (and away from large infrastructural projects – Brunazzo, 2016); more *strategic* planning (focusing on improving framework conditions and supporting realist and evidence-based economic re-specialisation in the spirit of smart specialisation - Di Cataldo et al., 2020); attention to resultsorientation (more than to dispersion and absorption of funds) and to the 'logic of intervention' (whereby regions identify what inhibits development, and thus what needs to be overcome to make progress – EC, 2014); better coordination centrally (aiming to align policy interventions with the wider policy priorities of the EU); more ownership at the national level (with the introduction of Partnership Agreements and the permission of more sectoral planning at the national level); utilisation of 'new' financial instruments (that sought to leverage private investments and stimulate risksharing); and the introduction of tighter (and more pervasive) conditionalities, both at the programme level and with regard to structural reforms (to ensure good governance and administrative capacities at the national and regional levels - Begg, 2016), which in the 2021-2027 period took the form of a set of more streamlined 'enabling conditions' (GHLSCP, 2023).

Thus, starting from the years of the revision of the Lisbon Strategy, Cohesion Policy was gradually but inexorably reframed. The 'New Cohesion Policy' of the 2021-2027 period became much more 'entrepreneurial' and 'strategic' than its predecessors: it was less bureaucratic and more flexible (e.g., with regard to design, management and implementation as well as the degree of centralisation to the national level), with fewer thematic objectives linked directly to the wider policy priorities of the EU, and with a clear focus on stimulating private investment in harnessing existing and latent regional advantages. In a way, Cohesion Policy in 2021 looked very much like a spaceaware Industrial Policy, constituting a collection of place-based (and thus 'micro') industrial strategies.

2.2 Industrial Policy: From deregulation to mission orientation

As spatial/cohesion policy (and theory) was shifting towards this more 'entrepreneurial' framework, non-spatial policies for market correction also experienced significant shifts, both in their content and in their underpinning ideas. A critical juncture in this process was the launch of the Lisbon Strategy in 2000, which set out a web of policy actions aiming at making the EU "the most competitive and dynamic knowledge-based economy in the world", focusing on innovation-driven growth that would be economically, socially and environmentally sustainable. By the time the strategy was revised in 2005 and further refined in 2010 (under Europe 2020), academic thinking on the role of the state in managing and steering markets had also evolved significantly. A series of contributions across fields, from development economics (Wade, 2009; Cimoli et al., 2009; Harrison and Rodriguez-Clare, 2010) to industrial economics, international economics and management (Rodrik, 2004; Aiginger, 2007; Aghion, 2011; Mazzucato, 2014), developed a new set of ideas arguing that markets are characterised not only by small inefficiencies ('market failures') but also by systemic failures that have to do with learning, risk-taking and various coordination and information externalities. As a result, markets need to be 'induced', or 'directed' to specific economic activities (including innovation) and policy has to provide support not by 'picking winners' but by facilitating risk-taking and 'costdiscovery' and resolving coordination problems - the things that block new (and good) activities from emerging.

In this spirit, and reflecting on the huge investment gap identified in the EU in the aftermath of the Eurozone crisis, the then president of the European Commission Jean-Claude Juncker devised in 2015 an investment plan for Europe (underpinned by the European Fund for Strategic Investments – EFSI), which constituted a break with older investment policies in the EU: the plan sought to mobilise private investments in areas of strategic priority by offering EU-backed guarantees for investment loans delivered through the European Investment Bank. As such, the investment plan had a firm adherence to market principles for investment allocations, a clear understanding of the

liquidity constraints to businesses and the lack of long-term 'risk-finance' available to them, and a theoretical foundation in the ideas of financial leveraging and diverting funds from financial speculation to the real economy.

These policy developments came at the back of an increased emphasis by the European Commission on Industrial Policy, manifested in publications emphasising its role for integration (Industrial Policy in an Enlarged Europe, 2002), competitiveness (Some Key Issues in Europe's Competitiveness: Towards an Integrated Approach, 2003) and structural change (Fostering Structural Change: An Industrial Policy for an Enlarged Europe, 2004), and later in a series of more strategic documents to the same effect². In this context, President Juncker's State of the Union address in 2017 gave a first sense of a comprehensive industrial strategy, characterised not only by ambition (e.g., for competitiveness and growth) but also by a clear sense of mission-orientation and attention to complementarities in policy interventions. The State of the Union address linked the core missions (digitisation, decarbonisation) to the key ingredients for growth (innovation, investment, skills), placed within the context of the international environment (especially on issues of economic security - critical raw materials, cybersecurity and digital independence, secure finance) and the well-functioning single market (intellectual property, mobility, public procurement and state aids, trade and inward investment policies). This ambition and sense of direction within a holistic approach was taken up in 2019 by the new Commission President, Ursula von der Leven, with the launch of the European Green Deal, offering an overarching strategy and a mission to transform the EU into a modern, resource-efficient, competitive economy (including specific goals, from decarbonisation and energy decoupling to the protection of the EU's 'core values' and European democracy). Since then, the EU developed a comprehensive strategy for the so-called 'twin transition' detailed in two sets of documents: on the one hand, the 2020 New Industrial Strategy' (and its 2021

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² Industrial Policy: Reinforcing Competitiveness (2011); A Stronger European Industry for Growth and Economic Recovery: Industrial Policy Communication Update (2012); For a European Industrial Renaissance (2014); Investing in a Smart, Innovative and Sustainable Industry: A Renewed EU Industrial Policy Strategy (2017); A New Industrial Strategy for Europe (2020); Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery (2021).

post-COVID update); on the other, the 2020 Green Deal Investment Plan (which promised to pool resources from across the EU budget to leverage up to €1trillion of investments on green transition) and the 2023 Green Deal Industrial Plan.

3. From policy convergence to divergent imperatives?

By the end of the 2010s, the evolutionary journeys of the two policies presented largely a picture of policy convergence. Since the turn of the century, both policy areas moved towards a more 'entrepreneurial' path, shifting from a passive role – redistribution for Cohesion Policy and market creation/control for Industrial Policy – to a more activist approach. Cohesion Policy became more 'entrepreneurial' by focusing on stimulating private investment and 'entrepreneurial discovery' aimed at leveraging existing productive assets with local stakeholder involvement to create future capabilities in every region. This represented a clear shift away from "compensating the losers" or redistributing resources from more to less well-off regions (and states), towards supporting innovation and risk-taking to stimulate re-specialisation in new/latent comparative advantages. Industrial Policy, in turn, became more 'entrepreneurial' by opening up to similar ideas about 'cost discovery' and systemic failures (and thus also market-direction) and focusing in a more targeted fashion on supporting risk-taking, experimentation and innovation. Here, the idea of 'industrial renaissance' (COM, 2014) was a key moment, making the case for policy interventions to strengthen the EU's industrial base with the aim of bringing manufacturing to 20% of EU GDP by 2020.

Somewhat paradoxically, this moment of 'affinity' was short-lived. Processes that started with the breakout of the COVID crisis (raising questions of resource sufficiency and geostrategic independence) became increasingly pressing with the eruption of the war in Ukraine (and the energy, supply-chain and cost-of-living disturbances that followed) and more recently with the unconventional trade policy pursued by the Trump administration in the United States and the wider geopolitical instability that

ensued (Filippetti and Spallone, 2025). This has resulted in a somewhat underappreciated but undeniable shift, not only in the priorities but, arguably, in the imperative of policy: from competitiveness and resilience to *strategic autonomy.*, i.e., "the capacity of the EU to act autonomously – that is, without being dependent on other countries – in strategically important policy areas" (Damen, 2022, p.1). With this shift, the EU's Industrial Policy has become more about the union's geopolitical ambitions (Bretton, 2022) and its legislative effort to ensure a "fair but not naïve" competition policy (IPCEIs, Temporary State aid Crisis and Transition Framework, General Block Exemption Regulation); a functioning single market (Banking Union, Capital Markets Union, Digital Services Act); a protective regulatory environment (Net-Zero Industry Act, EU Chips Act, Digital Markets Act); security of supply, including in critical raw materials and rare earths (Critical Raw Materials Act, REPowerEU, Global Gateways); and, more recently, defence security (European Defence Industrial Strategy, ReArm Europe, Security Action for Europe).

Interestingly, with these developments policy seems to have lost some of its original 'adherence' to theory. For example, while the 'new EU industrial strategy' (2020) talks clearly about an "entrepreneurial" approach, which seems akin to Rodrik's (2004) 'modern industrial policy' (grounded on the involvement of stakeholders from industry, society, academia and elsewhere and focusing on innovation, the industrial base, industrial ecosystems – and new activities therein – and the EU's position in value chains), at the same time the strategy emphasises that the key objective is "Europe's sovereignty", serving the purpose of preserving and defending Europe's "values and social market traditions" and strengthening its "open strategic autonomy" and the "resilience of the Single Market". The latter may have some likeness to Mazzucato's (2018) "mission-oriented" policy, but it departs significantly from the author's focus on innovation and tangible goals (specificity of objectives). As such, important initiatives focusing on investment and innovation in the spirit of a 'modern industrial policy', such as Horizon and the European Innovation Council, have obtained a rather subsidiary role in the EU's wider strategy for strategic autonomy.

In this process, the EU's Industrial Policy has become increasingly more "macroscopic", with grandiose objectives lacking the specificity of "missions" and thus inevitably becoming rather top-down and overly regulatory - focusing on "all sectors of the economy"³ and supporting interventions at a global scale without a(ny) particular spatial focus. The relevance of Cohesion Policy in this process has also shifted, from a policy that works synergistically with Industrial Policy, as one of the two pillars of the EU's development efforts, to a policy that supports the EU's wider geostrategic objectives and "national and regional challenges"⁴, not least via direct financing. Already in the 2020-2022 period, a sizeable amount of ERDF and ESF funds (near €70bn) was shifted from Cohesion Policy expenditures to actions supporting the emergencies related to the COVID pandemic (CRII/CRII+ and REACT-EU). REPowerEU, which came out in 2022 as a response to the war in Ukraine, aiming to end the EU's energy dependence on Russia by 2027, has also been part-funded with ERDF money, with up to 7.5% of Cohesion funds being eligible for transferring to REPowerEU actions. For the whole of the programming period 2021-2027, over a quarter (€100bn+) of the Cohesion budget has been earmarked for "green" actions (over 30% of the ERDF budget) and about 15% for the "digital" transition; while the 2025 mid-term review of Cohesion Policy provided new incentives (and 'nudging') for Member States "to allocate funds within their current programmes towards emerging priorities, including strengthening defence capabilities" (COM, 2025, p.8); and the Commission proposals for the 2028-2034 period provide for "more room to adjust the policy to new priorities"5.

Arguably, such developments represent a departure from the 'old' imperative of territorial cohesion and regional (development and) convergence (Fratesi, 2025). But for the two policy areas, they also represent a divergence of imperatives, with Cohesion Policy being framed largely as an economic development and crisis-

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³ See https://ec.europa.eu/commission/presscorner/detail/en/ip_19_6691.

⁴ See https://ec.europa.eu/regional_policy/whats-new/newsroom/17-07-2025-commission-proposes-more-flexible-and-performance-based-cohesion-policy-for-2028-2034_en.

⁵ See https://ec.europa.eu/regional_policy/whats-new/newsroom/17-07-2025-commission-proposes-more-flexible-and-performance-based-cohesion-policy-for-2028-2034_en.

management policy and Industrial Policy obtaining a more geo-strategic focus, concerning economic (and political) sovereignty and strategic autonomy. While concerns about the territorial-cohesion implications of using Cohesion Policy as a short-termist emergency assistance pool of money have already been raised (Bachtler et al., 2022), a wider concern, and fundamental question, remains, around the ability of the EU – with or without its Cohesion Policy – to support regional development, territorial cohesion and convergence (EC, 2024; Madeiros et al., 2024; Filippetti and Spallone, 2025). As Cohesion Policy shifts towards delivering industrial policy objectives such as innovation and entrepreneurial discovery, becoming essentially a collection of 'place-based' industrial policies, and Industrial Policy shifts towards wider geostrategic objectives, departing from traditional functions such as supporting business, innovation and sectoral restructuring, there is a danger of a significant policy gap in the ability of the EU (and of national governments) to deploy policies and instruments that can support (and compensate) those left behind, i.e., those regions that fail to cultivate the new comparative advantages that will allow them to thrive in the new economy of 'strategic autonomy' and the 'twin transition' (decarbonisation digitisation). Not only that, but the new orientation of the two policies risks augmenting - rather than diminishing - territorial disparities across the EU and nationally. The next section tries to substantiate this claim empirically.

4. The spatial footprint of the EU's Industrial Policy: Some evidence

We examine the spatial footprint of the EU's Industrial Policy along three themes: the spatial distribution of investments in innovation and cutting-edge technologies, the implications of directing funding and policy efforts towards addressing 'emergencies', and the spatial implications of a host of other initiatives relating to the wider EU mission of strategic autonomy.

4.1 Cohesion vs. 'innovation'

A significant part of the EU's Industrial Policy financial effort, at least until the launch of the NextGenEU and the proliferation of mission-oriented funding instruments (STEP, SAFE, REPowerEU, etc.), has been in relation to innovation policy. Key in this has been the research and transformation grants awarded via the Horizon programme and, to a lesser degree, grants awarded via the European Innovation Council. We examine how each of these correlates with the financial allocations under the EU's Cohesion Policy in Figure 1.

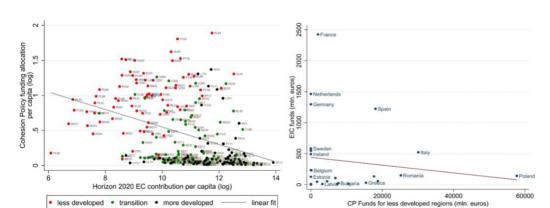


Figure 1: Research & Innovation versus Cohesion Policy funds

We first draw on data from EC Cordis to develop a regionalised measure of Horizon funding allocations – which we contrast with the regional distribution of CP funds in the 2014-2020 period. A clear misalignment emerges between the two funding sources (correlation coefficient is r=-0.31), indicating an inverse relationship between a region's capacity to attract funding for innovative research projects and its overall level of development (Figure 1(a)). This is further illustrated by the concentration of more (less) developed regions on the right (left) side of the scatterplot. Second, we do a similar analysis for funds allocated through the European Innovation Council – this time at the national level but looking specifically at CP funds directed to less developed regions (Figure 1(b)). Again, a negative correlation emerges (r=-0.14), albeit of weaker strength than in the case of Horizon.

On the basis of this, it can be concluded that research and innovation policy in the EU is regressively redistributive, offering more opportunities to better-off regions and thus creating conditions for further divergence, potentially amplifying territorial inequalities. This is consistent with findings elsewhere in the literature (see, inter alia, Molica and Santos, 2024). It should be noted that this is not a 'random' outcome. In Cohesion Policy, allocation rules are very developed, with funds allocated under 'financial envelops' and strict conditionalities (Molica and Lleal-Fontàs, 2020), and explicit targeting of the objectives of territorial cohesion and convergence, with the main beneficiaries being regions with GDP per capita below 75% of the EU average (ERDF funds). In contrast, Horizon and EIC funds are allocated to firms and public/private bodies through competitive calls (c.€95bn in 2021-2027), without any attention to territorial cohesion or regional disparities (Bachtler, Mendez, and Begg, 2020), based solely on proposal excellence and impact. This favours firms and research institutes – and, ultimately, regions – that already possess significant knowledge and technological advantages⁶.

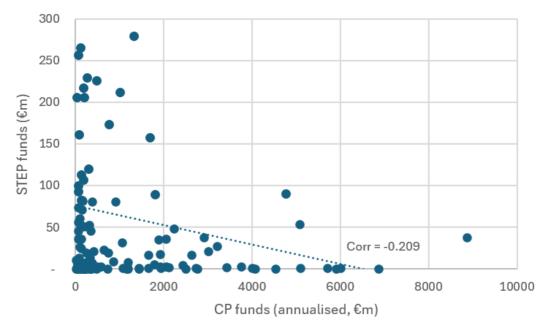


Figure 2: Funding for strategic technologies and Cohesion Policy funds

Source: Author's elaboration based on Crescenzi *et al.* (2021) and STEP Seals Dashboard data (https://strategic-technologies.europa.eu/investors en).

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⁶ Other similar funds, not examined here, such as InvestEU guarantees (c.€26bn) and the EU Innovation Fund (estimated to raise €40bn in 2020-2030), also use competitive application processes.

A similar conclusion can be drawn from the more recent case of the STEP fund allocations under the SEAL scheme aimed at supporting projects focusing on critical technologies⁷. The European Commission awarded the first 83 SEAL grants (out of 130 applications) in 2024. Figure 2 presents the correlation between the funds received per region and those regions' allocation of Cohesion Policy funds (covering only those regions that received SEAL funding). As can be seen, even in this 'elite' group, allocation of funds is regressively redistributive. Again, the conclusion that seems to emerge is that financial support for innovation and cutting-edge technology seems to favour already developed regions, thus creating conditions for an amplification of regional disparities. Insofar as these funding schemes represent the main effort of EU's Industrial Policy, it appears that their de facto targeting does not support the principles of Cohesion Policy or indeed the economic development of lagging-behind areas.

4.2 Cohesion vs. the 'emergencies'

Pandemic. The breakout of the COVID pandemic caught all countries in the EU and outside it unprepared. After some initial hick-ups of policy coordination, the EU launched a number of regulatory (Coronavirus Response Investment Initiative − CRII, Coronavirus Response Investment Initiative Plus − CRII+) and funding initiatives (REACT-EU). The objective of these initiatives was to provide greater flexibility to Member States in using Cohesion Policy funds to deal with the COVID emergency, including business and employment support measures as well as health expenditures and shortfalls in public investment. While obviously welcome and very positively received, the introduction of flexibilities in the redeployment of Cohesion Policy funds in the name of emergencies opened an avenue whereby funding allocations specifically targeting problems of regional (under-)development and territorial cohesion could be "reprogrammed" (redirected) into other, non-spatial measures (Bachtler *et al.*, 2020). By May 2021, some €23bn had been 'reprogrammed' into health,

⁷ Digital technologies and deep-tech innovation, Clean and resource-efficient technologies and Biotechnologies.

business support and income-support actions; while another €5.7bn had been transferred between operational programmes (Kolundzic and Tijanic, 2021). By the end of the programmes, a total of €35bn of Cohesion Policy funds was redirected into new investments across programmes and regions, representing a staggering 10% of total Cohesion Policy funding, with "some Member States such as Greece, Hungary and Italy, transferr[ing] substantial amounts from less developed regions to more developed or transition regions" (ECA, 2023, p.32). Quite clearly, dealing with emergencies had an inadvertent impact on the targeting of Cohesion policy funds to regional development and convergence.

Energy independence. A very different but similarly 'pressing' emergency emerged with Russia's invasion of Ukraine in 2022. In response, the EU quickly developed a new 'mission' aimed at ending Europe's energy dependency on Russia. This involved a number of actions, including various legislative (Renewable Energy Directive, Energy Efficiency Directive) and market coordination initiatives (EU Energy Platform, AggregateEU mechanism). At the core of the mission, however, sits the REPowerEU Plan, which mobilised some €300bn seeking to support investments in the three areas of energy efficiency (mainly for residential buildings and industry), renewable energy and the development of a renewable hydrogen value chain and infrastructure.

While data on actual REPowerEU allocations and investments are not available (and, at the regional level, non-existent), we can get a sense of the spatial footprint of this mission by looking at the share of RRF funds allocated to actions related to the REPowerEU objectives (actions under the two 'flagship initiatives' of Power up and Renovate, which focus on renewable energy and energy efficiency respectively and represent the bulk of the REPowerEU allocations within the RRF according to the national REPowerEU chapters – Regulation (EU) 2023/435). Figure 3 presents the results of this analysis.

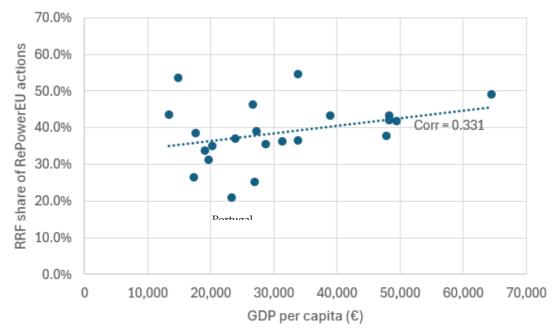


Figure 3: GDP per capita and share of REPowerEU-related allocations in RRF

Source: Authors' elaboration from Eurostat (nama_10_pc) and Darvas et al (n.d.)

Notes: The analysis excludes Luxemburg, Netherlands and Sweden, due to data limitations.

As can be seen, there is a clearly positive correlation between the level of development of each country and each country's ability to allocate proportionately more resources for actions that relate to energy sufficiency and independence. Although some heterogeneity does exist, especially on the left-hand side of the graph (with, e.g., Romania allocating much more and Portugal much less than the average given their GDP per capita levels), overall the relationship at this national level is strong. It is logical to posit that the relationship will reproduce at the regional level, with lagging-behind regions finding it more difficult to participate in such actions without compromising on their efforts towards other actions supporting their economic development (such as, in the RRF, those relating to connectivity, public administration modernisation and digital skills). Again, the mission-orientation on energy independence appears to have a spatially regressive footprint.

Decarbonisation. Perhaps the greatest emergency facing Europe and the world today is the challenge of climate change mitigation. Responding to this emergency, the EU set out its first grand 'mission' – under the 2019 European Green Deal – to become "the

first climate-neutral continent by 2050, with net-zero greenhouse gas emissions", setting specific targets for decarbonisation through its 'Fit for 55' package as part of the so-called green transition. As has already been argued in the literature (Rodríguez-Pose and Bartalucci, 2024), the goal of decarbonisation creates different vulnerabilities across regions, as different (types of) regions have different degrees of reliance on carbon-intensive technologies (and jobs) and of course different capacities for transitioning into the green economy.

Table 1: Brown jobs / green vulnerability and ERDF allocations

	Mear	ı values	Correlations with ERDF allocations		
Region	GHG emissions	Green transition	GHG emissions	Green transition	
	per worker	vulnerability	per worker	vulnerability	
Less developed	19.17*	1.11*	-0.18	-0.16	
Transition	13.09	-0.12	0.43	0.24	
More developed	14.62	-0.87	0.21	0.29	
All regions	15.59	-0.119	0.237	0.472	

Notes: asterisks (*) show a statistically significant difference from the values observed in the other regional categories.

Source: Author's elaboration based on Eurostat, Cohesion Policy data and Rodríguez-Pose & Bartalucci (2024).

Indeed, as is demonstrated in Table 1, EU regions classified as 'less developed' have higher greenhouse (GHG) emissions per worker and higher scores in the Green Transition Vulnerability index (left-hand-side panel) 8. When correlated against the ERDF allocations per region, we get an overall positive correlation (last row in the right-hand-side panel), indicating that GHG emission intensity and exposure (vulnerability) to the green transition is higher for regions that rely more heavily on EU regional development funds9. On the basis of this evidence, it can be argued that the EU's mission-orientation towards decarbonisation can work against regional

⁸ Data on GHG emissions per worker have been estimated by multiplying each region's sectoral employment shares by each NACE Rev. 2 sector's emissions drawing on Eurostat's Air emissions accounts. Data on the 'Regional green transition vulnerability index' are from Rodríguez-Pose and Bartalucci (2024).

⁹ Within the group of 'less developed' regions, the correlation appears negative. In a way, this simply shows that, within this group (and, from further exploration, in the particular case of the 'southern' countries of Italy, Greece, Portugal and Spain), exposure to 'green transition' risks are perhaps higher for the least underdeveloped regions, presumably as large amounts of 'brown industry' jobs concentrate in more advanced locations.

convergence – and thus territorial cohesion – as the costs of the transition may be higher exactly for those regions that have the lower levels of development and thus the lowest capacity to deal with the requirements of the green transition.

4.3 Cohesion vs. 'strategic autonomy'

The 'mission' of achieving strategic autonomy is multifaceted, covering a broad range of objectives and instruments. From legislative and other actions to reduce the EU's dependency on critical raw materials, batteries, active pharmaceutical ingredients, hydrogen, semiconductors and cloud and edge technologies ('sensitive products'); to intelligence and brokering services aiming at strengthening the resilience of supply-chains across clusters of sectors/activities ('industrial ecosystems') and at improving communication and learning within broadly defined sectors or sub-missions ('industrial alliances'); to direct state-aid funding on so-called Important Projects of Common European Interest (IPCEIs) in cutting-edge sectors and technologies; to licensing and part-funding large-scale facilities ('gigafactories') to support the green (EV batteries) and digital transition (AI computing); and to the mobilisation of new financing for defence and security projects as a means for strengthening the EU's Defence Technological and Industrial Base (EDTIB) and, ultimately, military capacity. While covering comprehensively all these areas is a task that would go well beyond the remit of this paper, a few pieces of evidence will nevertheless allow some conclusions to be drawn on the spatial footprint of the strategic autonomy mission.

Sensitive products. Despite the EU's ambition to reduce strategic dependencies in Critical Raw Materials (CRM) on third countries, home production of CRM in the EU is particularly low (see Figure 4, panel (a)), with only a handful of EU countries (Finland, Germany, France, Spain) contributing significantly to overall CRM supplies to the EU and only in a handful of materials (panel (b)). Concerning the potential extraction (and production) of CRMs in Europe, data from the European Geological

Data Infrastructure portal¹⁰ on the geological occurrences of various CRMs in Europe (panel (c)) show a rather uneven picture. The map shows concentrations of Bauxite in Croatia and the Balkans; Bauxite, Vanadium and Titanium in Romania; some Cobalt capacity in Greece; some varied concentrations especially of industrial rocks in central Europe (Austria, Czechia, Slovenia); some large concentrations of minerals for industrial use in central-southern France and northern Spain; a cluster of special and rare metals in north-western France; a cluster of fertiliser minerals in Belgium; and a large concentration of Tungsten and other ferroalloy minerals in western Spain and northern Portugal. As the EU develops the extraction capacity for such minerals, it is clear that increased investments for this purpose (and increased production and incomes) will flow disproportionately to areas such as the ones listed above - with other areas, especially in the east (Hungary, Slovakia, Poland, the Baltics) and in parts of the south (especially southern Italy), which are important beneficiaries of Cohesion Policy, missing out on these. While of course the rising significance of CRMs cannot be attributed to EU's Industrial Strategy (rather, quite obviously, the other way round), it is clear that the EU's attention to such resources will increasingly shift investments (both private and public) towards these areas. In this sense, the EU's attention to strategic autonomy via CRM sufficiency may well act against the objective of territorial cohesion.

A similar point can be made for other forms of 'sensitive products'. For example, in the area of EV batteries, there is already a heated competition for the establishment of so-called 'gigafactories' related to electrification and decarbonisation technologies and the production of clean electricity (Figure 5, panel (a)). As can be seen, the majority of these are – with very few exceptions – outside the areas targeted by Cohesion Policy. It is also important to note that there is significant within-country competition for the attraction of such gigafactories, with the potential that regions with lower capabilities (skills, levels of development, accessibility, etc.) may suffer twice from this

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 $https://data.geus.dk/egdi/?mapname=egdi_geoera_mintell4eu\#baslay=baseESRItopo\&extent=1091736.289419589,1013858.5635953809,5958549.909635419,3263492.463564938.$

competition. In the case of the other gigafactories initiative (AI gigafactories for high-performing computing – panel (b)), the picture shows a significant concentration in national capitals or advanced urban areas (Stuttgart, Barcelona, Bologna), with the largest part of Central and Eastern Europe and the southern and less developed parts of southern Europe not benefiting, at least directly, form the planned investments.

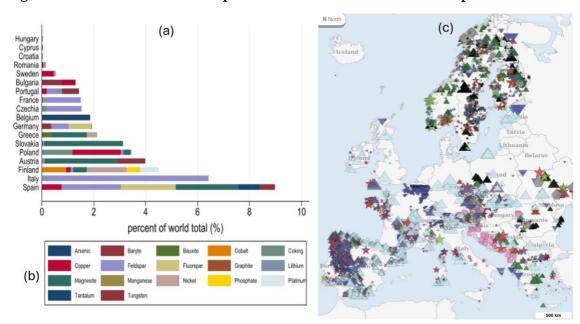


Figure 4: Critical Raw Materials production and occurrences in Europe

Source: Author's calculations based on World Mining Data (2024) (panels (a) and (b)) and EGDI portal (panel (c)).

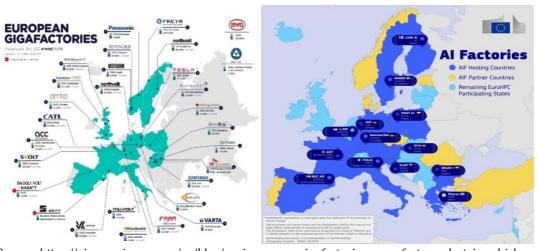


Figure 5: European gigafactories

Source: https://cicenergigune.com/en/blog/spain-europe-gigafactories-manufacture-electric-vehicle-batteries and https://digital-strategy.ec.europa.eu/en/policies/ai-factories.

Industrial ecosystems. The EU's Industrial Policy places significant emphasis on 'industrial ecosystems', which are clusters of entities forming distinctive value chains. The EU provides support and technical assistance to Member States aiming to enhance coordination among businesses and industries within each ecosystem, thereby strengthening their resilience and reducing external dependencies of the single market. To analyse how support for these ecosystems may unevenly affect different EU regions, we calculate each NUTS2 region's notional participation in each ecosystem and analyse how this varies across types of regions and how it correlates with the regions' Cohesion Policy allocations¹¹.

Across the EU, the largest employment shares are in the ecosystems of Retail, Construction and Tourism (Table 2, col.1). Specialisations across types of regions, however, are different¹². Relative to the average (LQ columns), less developed regions specialise more in ecosystems such as Agri-food, Tourism and Energy-intensive industries, while more developed regions participate disproportionately in ecosystems such as Digital, Electronics, Health, Aerospace & Defence and Cultural & Creative industries (in most cases, more developed regions also exhibit stronger specialisations / more extreme LQ values). A correlation analysis (between ecosystem participation and ERDF allocations – last column) confirms this 'division of labour'. ERDF allocations show strongly negative correlations with specialisation in ecosystems related to Textiles, Digital, Cultural & Creative industries, Health, Construction and Electronics; and positive with Tourism, Energy-intensive industries and Agri-food.

This suggests a potential disadvantage for the less developed regions in Europe. Unless all industrial ecosystems enjoy the same degree of technological sophistication and face similarly disruptive supply chain challenges, the focus on industrial

¹¹ Notional participation is calculated by multiplying each region's sectoral employment shares across NACE-2 sectors with the sector weights for each industrial ecosystem (taken from the European Cluster Collaboration Platform – https://www.clustercollaboration.eu/sites/default/files/2023-05/Methodology_Notes.pdf).

¹² Indicatively, notional participation in Electronics ranges from below 1% in Melilla, Ceuta (Spain) and Notio Aigaio (Greece) to over 4% in Freiburg, Dresden (Germany), Vest (Romania) and Észak-Magyarország (Hungary).

ecosystems in the EU's Industrial Policy could create relative disadvantages precisely for those regions (Franco and Wilson, 2022).

Table 2. Notional participation in 'sensitive ecosystems' by type of region

Ecosystem	All	Less developed		More de	More developed		ition	Correlation of regional shares with
	Share	Share	LQ	Share	LQ	Share	LQ	regional ERDF funds allocation
Aerospace and defence	2.9%	3.0%	1.02	3.1%	1.07	2.6%	0.89	-0.01
Agri-food	6.4%	8.3%	1.30	4.8%	0.76	6.5%	1.02	0.32
Construction	20.5%	18.8%	0.92	20.6%	1.00	22.3%	1.09	-0.20
Cultural and creative industries	2.9%	2.2%	0.77	3.5%	1.23	2.6%	0.92	-0.27
Digital	4.2%	3.0%	0.70	5.8%	1.37	3.4%	0.80	-0.29
Electronics	1.2%	1.0%	0.86	1.5%	1.24	1.0%	0.81	-0.11
Energy intensive industries	6.1%	6.7%	1.10	5.7%	0.94	6.0%	0.99	0.13
Energy-renewables	0.8%	0.9%	1.09	0.9%	1.01	0.7%	0.88	0.10
Health	2.2%	1.7%	0.79	2.6%	1.20	2.1%	0.94	-0.24
Mobility-Transport-Automotive	10.7%	11.2%	1.05	10.6%	0.99	10.2%	0.96	0.10
Proximity, Social Economy and Civil Security	5.9%	5.7%	0.97	5.8%	0.99	6.2%	1.05	-0.01
Retail	24.2%	24.9%	1.03	23.5%	0.97	24.5%	1.01	0.07
Textile	0.2%	0.1%	0.82	0.2%	1.17	0.2%	0.96	-0.39
Tourism	15.2%	16.0%	1.05	14.4%	0.95	15.4%	1.02	0.18

Source: Author's elaboration as described in the text.

Other initiatives. Similar conclusions can be drawn for other initiatives, such as those of Industrial Alliances, IPCEIs and the ReArm Plan. While granular data on (spatial) allocations under any of these schemes is not available, anecdotal examination shows that participation from peripheral and less developed regions is uneven. Concerning the Industrial Alliances, the general pattern as portrayed by the European Commission¹³ is that participating entities are on the main (besides national and professional organisations) large national and multinational companies and research institutes specialising in high-end technologies, typically located in national capitals or regions of high development and accessibility. Similarly, emerging evidence suggests that *IPCEIs* may have "limited or even detrimental effects on the prospects for convergence within the EU" (Lopes-Valenca, 2024). The example of the most recently approved IPCEI (Move4Cure) shows that, of the 13 beneficiary companies, nine are in regions classified as 'more developed', another two are in a 'less developed' national capital (Budapest), while a third have multinational operations. A high degree of spatial concentration is also observed in the case of the EU's Defence Technological and Industrial Base (EDTIB), which is the target of ReArm Europe (through both financial

¹³ https://single-market-economy.ec.europa.eu/industry/industrial-alliances_en.

and technical-regulatory support¹⁴). Only three countries (France, Germany, Italy) account for 40% of the sector in the EU, while the same countries account for 75% (12 out of 16) of the EU-based companies making the SIPRI list of the top-100 arms-producing and military services companies globally¹⁵. Naturally, the benefits of the ReArm effort and mission will accrue disproportionately to those countries, with less developed regions benefiting less, if at all. Again, it can be argued that the alignment of such interventions with the objective of territorial cohesion is at best extremely limited – and thus, that the objective of strategic autonomy under the EU's Industrial Policy makes little contribution to regional development and convergence.

5. Discussion and conclusions

This paper sought to make two key contributions. First, to explore and discuss the theoretical innovations that informed the evolution of the two main development policy domains in the EU, Industrial and Cohesion Policy: not so much to categorise them into policy waves or identify their critical junctures (*viz.* Filippetti and Spallone, 2025; Fratesi, 2025), but mainly to discuss the policy innovations and broader strategic shifts of the two policies in response to academic debates and evolving policy concerns. Second, to document and evaluate empirically the growing misalignment between the EU's Industrial Policy objectives and the objectives of Cohesion Policy for territorial cohesion and regional convergence.

Earlier research (Bachtler and Downes, 2023) has claimed that recent developments in EU Industrial Policy challenge the core goals of Cohesion Policy (balanced development and convergence) by favouring better-off or technologically leading areas and imposing higher transition costs to less developed and less dynamic areas. Our empirical examination showed that this does not concern only a disparity in the geographical allocation of investments (e.g., Horizon vs ERDF), as has also been

¹⁴ ReArm Europe aims to mobilise €800bn to finance "a massive ramp-up of defence spending" with funds generated both at the national level, through the relaxation of deficit rules, and ones distributed centrally, via the Security Action for Europe loan instrument and EIB loans directed to defence and security projects.

¹⁵ https://www.sipri.org/databases/armsindustry.

documented elsewhere (Molica and Santos, 2024), but more generally an underlying spatial bias characterising the 'grand ambitions' of Industrial Policy for strategic autonomy, economic sovereignty, decarbonisation, digitalisation and technological leadership. Evaluating this evidence, our main argument has been that the mission-oriented approach of EU's Industrial Policy – particularly its focus on broad, macrolevel missions related to strategic autonomy – may inadvertently undermine the goal of territorial cohesion, posing challenges for less-developed regions in their pursuit of convergence.

This issue is far from trivial. As regional development policy in the EU has been becoming more and more 'entrepreneurial' and akin to Industrial Policy, the departure of Industrial Policy in the EU from its traditional objectives (such as innovation, industrial re-specialisation and competitiveness) leaves a potential gap in the EU's policy landscape regarding who is responsible for regional development and redistribution, especially for lagging-behind and less-developed regions. Economic geography and regional studies have long emphasised that territorial imbalances are not only a matter of fairness but also a barrier to national and EU-wide economic development, as persistent spatial disparities can hinder the development of economic linkages and the exploitation of underutilised resources and untapped potential. Historically, the EU has recognised this, viewing regional imbalances as obstacles to growth and competitiveness. In that regard, recent proposals by the European Commission – advocating for a more flexible and more centralised Cohesion Policy that will allow national and industrial policy objectives to override regional targeting – risk perpetuating the problem.

We hope this paper contributes meaningfully to both academic discourse and policy thinking on the topic, and that it helps steer Cohesion Policy back towards its foundational goals: promoting territorial cohesion and supporting the economic convergence of lagging-behind regions. In our view, this would require a broad rethinking of both the policy priorities and the architecture of the two policies. Of course, turning back to the old ways is not possible – neither for Cohesion Policy nor for

Industrial Policy. The new ambitions and 'macro-missions' of the EU will continue to drive policy actions in both policy areas. Our view is that, for this to remain consistent with the objectives of territorial cohesion and the economic advancement of lagging-behind regions – and for the two policies to become more synergetic and mutually reinforcing – the policy transformation should involve two key changes: Industrial Policy will have to obtain a more 'territorial' character, and regional development (cohesion) policy should become more 'strategic'.

The first involves developing a spatial strategy alongside the thematic and geopolitical objectives of the EU's industrial strategy(ies): understanding territorial cohesion and harmonious development as key constituent parts of any strategy for growth (and economic sovereignty) and taking responsibility of the adverse spatial-distributional consequences of any such strategy (including by developing schemes and instruments for 'compensating the losers'). The second involves a more centralised coordination of local development and 'smart specialisation' strategies, with powers to allocate (or encourage) specific activities to specific regions and territories, so as to facilitate a spatially coherent prioritisation of re-specialisations for the European economic space at large and ensure that the overall re-specialisation objectives (decarbonisation, sufficiency in sensitive products and critical raw materials, defence capabilities, etc.) are met through the actions and plans developed at the local level. In a way, this is a proposal for integrating Cohesion Policy into Industrial Policy and, through this, also 'uploading' the traditional Cohesion Policy objectives into the 'hard-drive' of the EU's new Industrial Policy. As our evidence has shown, the alternative may be the continuation and perhaps amplification of regional disparities in Europe at the expense of (social and) territorial cohesion.

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