Development: A Conceptual Framework for Cohesion Policy

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Contract No. 2022CE16BAT089

The Reflection Group

The European Commission, the Directorate-General Regional and Urban Policy (lead) and the Directorate-General Employment, Social Affairs and Inclusion (associated) have set up a Reflection Group on the future of Cohesion Policy. The group includes high-level members from academia and practice and in 2023 will meet nine times to reflect on current and future needs and the functioning of Cohesion Policy.

The group will offer conclusions and recommendations that will feed the reflection process on Cohesion Policy post-2027 including through the 9th Cohesion Report in 2024 and the mid-term review of Cohesion Policy programmes in 2025.

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Disclaimer

This paper is an independent input to the reflection paper. The opinions expressed in this paper are the sole responsibility of the authors and do not necessarily represent the official position of Reflection Group or the European Commission.

This draft does not contain references and other supporting materials, due to the compressed schedule for its preparation.

Key words

Cohesion, Development, Convergence, Inequalities

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Acronyms

CDP	Census Designated Place
CZ	Commuting Zone
DT	Development Trap
EG	Economic Growth
EU	European Union
GDP	Gross Domestic Product
HDI	Human Development Index
LFP	Labour Force Participation
MS	Member State
PCI	Per capita income
PSDDP	Place-specific distributed development policies
SDI	Sustainable Development Index
US	United States

Introduction

My purpose in this paper is to draw some lessons from research on regional economic development about how to advance cohesion. This is a conceptual paper/presentation. It is intended to be broad. Specifically, my analysis concentrates on the ends/goals of cohesion policy. This paper is relatively silent on means and instruments. By reconsidering the ends, it hopes to contribute to a reconsideration of the means and instruments.

1   Diagnostic: Observations on the State of Things

Our policy efforts have done a better job at preserving or increasing quality of life in certain of the policy-targeted regions than in making them durably more dynamic. The observable exceptions are mostly in the accession countries, and this comes from the favorable "initial catch up" effects of becoming part of a bigger market and of factor mobility.

Policy has had less success in reconversion of old industrial regions and in transforming many traditionally low-dynamism regions.

The innovation agenda has not been shown rigorously to either spread innovation throughout Europe, nor to raise the baseline level of innovation from what it might have been in the absence of policy, nor relative to a changing world benchmark.

As I will review in Section 5, there is widespread developmental stagnation ("development traps") in Europe.

As a result of these, and other, general trends, in Europe we face a structural problem of raising the baseline (i.e., EU economy- wide) levels of growth of per capita income (PCI), and dynamic opportunity. One of the reasons for this unsatisfactory overall growth picture is that many of our regions are not making high enough contributions to PCI and dynamic opportunity. This includes some regions that have relatively high levels of income and standard of living today, and not just those that show the usual visible signs of stagnation and distress.

2   Development: Conceptual Clarification

Development can be said to be taking place when per capita personal income (PCI) is increasing. When absolute levels of PCI are stagnant or declining, development is not occurring. This is a simple and robust operational guideline for policy. PCI, in cross-sectional and panel studies of international development, has an extremely high correlation to most of the good things that we want from economic development. There are alternative indexes, of course, that capture subtlety and detail (HDI, SDI, etc.), but inter-group rankings change very little when alternative indexes are used. What does change slightly is the intra-group rankings of quality of life or development. All in all, real PCI is a very robust and simple indicator of development.

In addition, PCI's impact on the welfare of the people of a region is conditioned by the interpersonal income distribution within that place. There is a long and thorny debate in social science about how these two relate to one another. Substantial social science research converges on the idea that the goldilocks zone for income distribution that favors political stability and problem-solving, happiness and social welfare, while maintaining high incentives

for innovation and dynamism, is a Gini coefficient on income in the neighborhood of 0.30-0.35.[1]

3   Development from an ''Inter-Regional Contributions'' perspective

There are economic geography fundamentals that generate some level of difference in PCI between regions, and this may not be compressible to zero, nor even below a certain level. Nonetheless, development can occur by increasing PCIs in as many territories as possible. Economic development, from this territorial standpoint, can be a positive sum process, where all territories contribute to a positive inter-territorial dynamic of development.[2] The overall level of PCI is the population-weighted average of the PCIs for the patchwork of territories respectively, for each member state (MS) and for the EU as a whole. Think of this as water flowing into a bathtub or reservoir, where the level of the water is determined by what flows in from different faucets or tributaries. For example, if one region A's productivity/PCI index is 150 and region B's is 80, with corresponding effects on baseline market incomes, how do we raise them? And let's call the average 115. Each territory is contributing to the integrated whole.

In a practical and philosophical sense, this means that the purpose of development in a region is NOT just to develop it for its people; it is to do that, but also to develop it for what it can do for other regions that are part of the economic common pool. Regions have economic responsibilities to other regions when they belong to the political community of their MS and the EU. The other reason that PCI must grow (and its fundamental components are productivity labor force participation) is that the development as a whole dynamic and positional (relative to other regions, countries and the world as a whole), constantly reshuffled by technological, natural, political, demographic processes.

PCI must rise over time in real terms if Europe is to finance increasing dependency ratios, longer life spans, higher quality of life, and competition with other world regions for influence and mastery of Europe's own destiny. Therefore, the over-riding priority of any territorial policy framework is to focus on how to improve the contributions of all territories to the overall pooled result. Territories start out at different levels; what counts is positive directions of change and a goal of expanding the potential of all territories, in their diversity and complexity.

Why redistribution is vital, but never sufficient to sustain the developmental dynamic. Redistribution is done in many ways, whether explicitly through regional policy, or implicitly through health, education, pensions, that attach to people, including mobile people across the life cycle. But redistribution is limited because maintaining or improving the 150 in the most dynamic regions is very costly. The highest-performing metro regions have non-linear

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[1]   Another thorny issue is about whether there is a developmentally optimal distribution of wealth, a subject too complex to introduce here.

[2]   Formally, this way of thinking is based on the premise that politically unified territories, such as MS and the EU, are deeply inter-dependent and have economic responsibilities toward the whole. Even without this philosophical flourish, this condition is de facto true in a world of low trade costs and high factor mobility. In regional economics, our workhorse model (general spatial equilibrium) is – correctly -- based on the notion that we should be able to causally understand territorial development as a set of channels between territories consisting of deep interconnections, feedbacks, and the partial non-localness of local development. In practice, it is hard to get everything that is relevant to such interconnections, interdependencies, and relations, into empirical models, but the general way of thinking is the right one.

("cost disease") dimensions, such as for increasing education levels and abating congestion. There is thus an inevitable tension between super-leading regions and the rest in the attribution of public resources for investment and redistribution.

Therefore, the most practical way forward is to consider how to raise PCI in all regions. To resume our example, if we modestly raise region B's index to 90, and region A's to 160, notice that the baseline equilibrium income potential of the national (or EU) economy increases to 125. Assume, for the purpose of the argument, that we can do so while maintaining the inter-personal income distribution of both regions in the desired range. Inter-regionally, this is the proverbial win-win situation. Notice that this situation says nothing about inter-regional convergence of PCI. Henceforth, in this paper, I will use the terms "distributed development" framework or "development contributions" framework to refer to this way of thinking. Distributed development and "place-specific distributed development policies" (PSDDP) are terms developed in previous work (Iammarino, Rodriguez-Pose, Storper, *Journal of Economic Geography*, 2018).

4 Inter-regional Inequalities from a Dynamic Developmental Perspective: Upward Convergence, Downward Convergence, Turbulence

Trends toward Convergence and divergence, and inter-regional inequalities more generally, are not irrelevant, but they are more like symptoms of development processes than ends in and of themselves. In other words, they shed light on the diversity of processes occurring in different parts of the system. There are powerful forces for both convergence (factor mobility that pushes toward mean reversion) and divergence (agglomeration, technological change, urbanization advantages, sorting of firms and people) in any inter-regional (or inter-national) system. Developmental *progress* is more important to the economic process and to cohesion than any formal state of convergence at a given time. As long as all regions are moving upward in terms of socially equitable PCI growth, the basic criterion of development is being satisfied.

Nonetheless, when we observe strong increases in divergence, we know that there may be growing *positional disadvantages* in certain regions, distancing them from the dynamic advantages that are enjoyed by those at the top or that are moving up in the hierarchy of places, as ranked by PCI. The reason for this is that a lot of the best things in life are "positional," meaning that competition for certain people, goods, services, land, services, housing, and so on render some of the best things in life more remote as average income gaps between places increase. If PCI gaps are extreme, it becomes increasingly difficult to retain people and talent in certain places. If PCI gaps are extreme, then even the most redistributive health care system will suffer from gaps between places. If PCI gaps are extreme, gaps in positional amenities will increase, reinforcing the real gaps between places.[3] These include qualities of housing stock, cultural expenses, cutting-edge educational opportunities, leisure and culture, the health environment, and social mobility – all are "cost disease" parts of economy and society that are hard to spatially equalize, even through very

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[3]   In contrast, many of the standard goods and services that are produced in perfect/classical markets are not supply inelastic and benefit from increasing economies of scale and decreasing relative prices.

strong public redistribution. When incomes of regions diverge beyond a goldilocks zone, advantages of some become cumulative, and disadvantages for others through the sorting of people, knowledge, and capital and social networks. Therefore, while the goal of development is to increase PCI, and perfect convergence of PCI is neither desirable nor feasible among regions, there is a tolerable or desirable range of divergence of PCI between regions.[4]

We can create a nuanced perspective on the convergence-divergence-turbulence-development nexus by using evidence on US regions from 1940 to the present. This is unpublished research co-authored with Tom Kemeny of the University of Toronto (unfortunately, we have not completed the European version of this research). We might think that a relatively widespread healthy convergence process was underway. The idea behind the following data: decompose the top-down (average statistical) process of spatial income divergence (at the scale of US commuting zones), into the *regional trajectories of income change*, from 1940-2019. This is done by using machine learning, coupled to Group-Based Trajectory Modeling. From this, we chose a 6-group picture of the spatial dynamics of income in the US economy. The following slides provide a snapshot of this.

Main Data

- Decennial/ACS extracts & full counts from IPUMS
  - 1940-2019
- Probabilistically match workers to 722 1990-vintage Commuting Zones
- Outcome: $w_j \Big/ \dfrac{\sum_j^{722} w_j}{722}$
  - w = average hours-adjusted annual wages for commuting zone j

Source: Elaboration by the author

Figure 4.1   Spatial dynamics of income in the US economy

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[4]   The failure to account for the positional aspect of consumption and regional quality of life and services is a key flaw in standard regional economics models' approaches to "real income convergence," which overstate real convergence when adjusting nominal to real income. Their welfare function is oversimplified, and they almost never correctly estimate real utility by taking positionality dimensions of utility into account.

The top-down view: not just the post-1980 divergence but the switch

Source: Elaboration by the author

Figure 4.2   Gini Coefficients across commuting zones 1940-2020
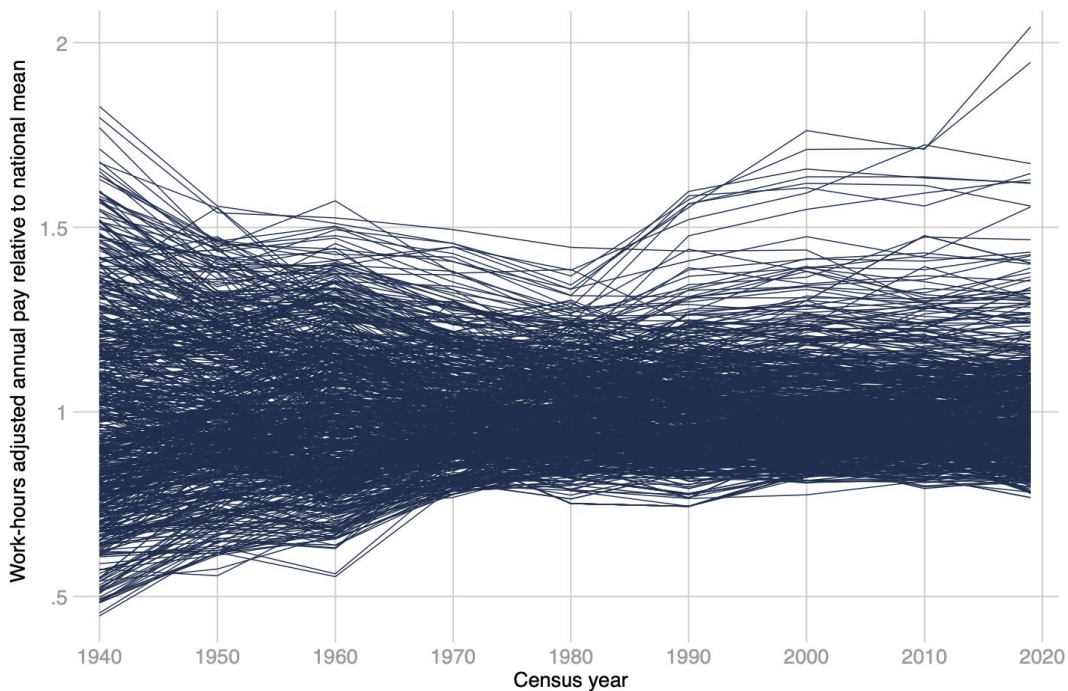
Source: Elaboration by the author

Figure 4.3   Work-hours adjusted annual pay relative to national mean 1940-2020

Source: Elaboration by the author

Figure 4.4   The percentages of commuting zones that fall into each group 1940-2019

In the above figure, the percentages are those of commuting zones that fall into each group (i.e. they are not shares of population or output); and the changes are relative to the US mean). The *degree to which Superstars diverged* from the system as a whole reached its nadir in the post-war period, declining from about 1940 to 1970-80, and then turned up again. This group is almost entirely responsible for aggregate statistical divergence. *The Superstar g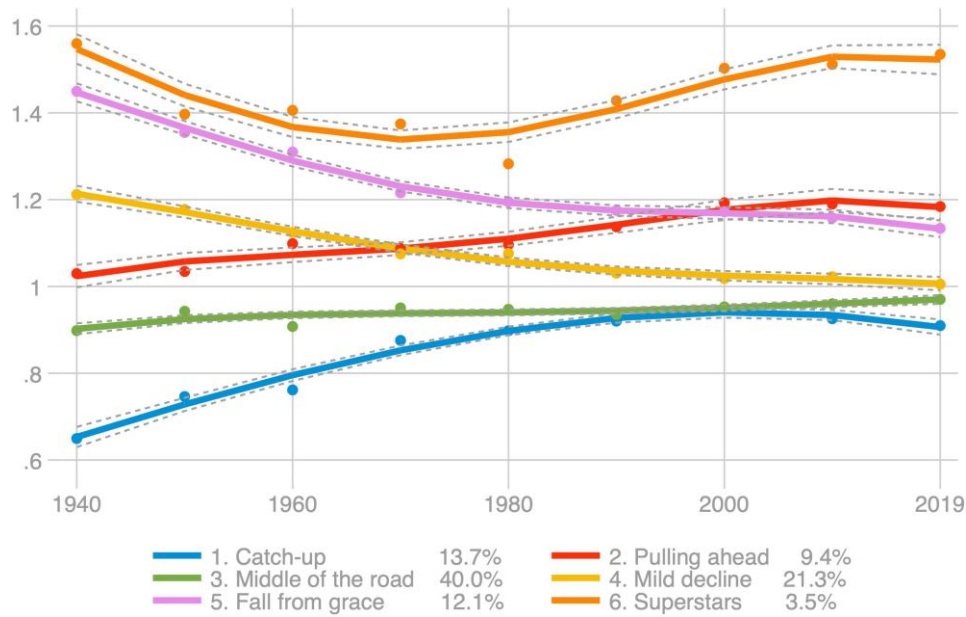roup, only 3.5% of commuting zones, has dramatically increased its share of US population and economic output over the study period.* Surprisingly the other groups tend to convergence. But there are distinctively different contributions to convergence. The upward convergers are groups 1 and 2; the downward convergers are groups 4 and 5. The perspective from the standpoint of these groups is very different, in terms of population dynamics; positionality; and a feelings on the ground. There are also different geographies of the groups, as illustrated in the figure below.
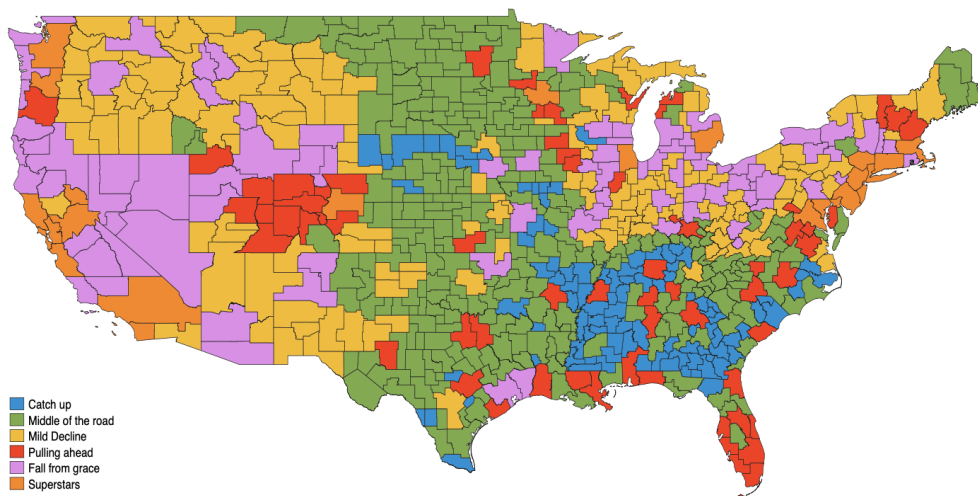
Source: Elaboration by the author

Figure 4.5   Superstar regions in the US

There is also considerable turbulence in the system, with income persistence in the large, (mostly Superstar) cities.

Figure 2: Persistence and turbulence in (standardized) income ranks, 1940 and 2019
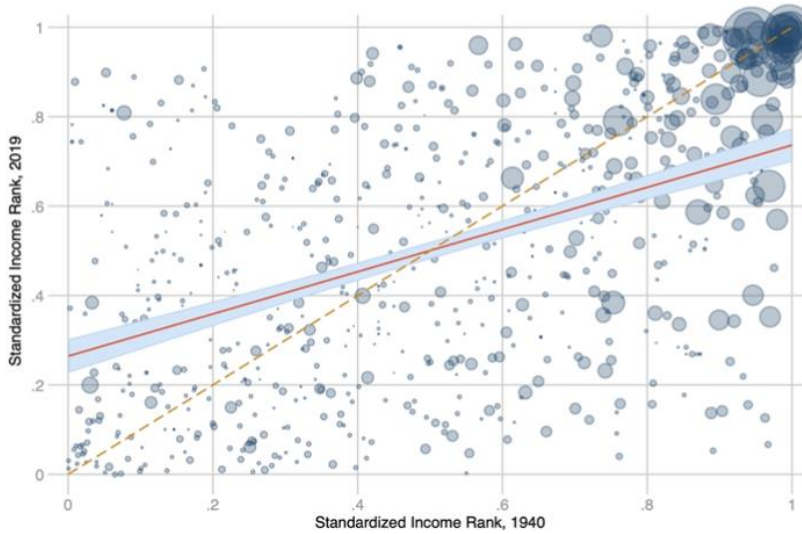Note: N=722 Commuting Zones. Markers are scaled according to 2019 population. 95 percent confidence interval shown for solid linear fit line. Spearman's $\rho = 0.48$ (p=0.000). Dashed line drawn at 45 degrees.

Source: Elaboration by the author

Figure 4.6   Persistence and turbulence in (standardized) income ranks, 1940 and 2019

As noted, almost all of the statistical divergence is from the over-performance of Superstar metro areas. The top 10 alone (and really they are just 6 since some of the list CZs are part of the same metros, eg San Francisco+San Jose=Bay Area; and NY+Tom's River+Bridgeport+Newark=New York, as the names are derived from principal commuting zone) account for important shares of population, income and employment, as seen below. If we consider the top 25 of these, the Superstars are about 40% of US population, and 60% of output.

Location	Relative Wages	% of U.S. Total		
		Population	Employment	GDP
San Jose, CA	2.10	0.8	0.9	1.9
San Francisco, CA	2.00	1.6	1.8	2.9
Washington DC	1.72	1.2	1.6	1.9
New York, NY	1.69	3.7	4.2	5.9
Boston, MA	1.68	1.7	2.0	2.3 2
Newark, NJ	1.6	1.9	2.0	2.3 2
Tom's River, NJ	1.67	0.4	0.3	0.3
Bridgeport, CT	1.60	1.1	1.1	1.3
Seattle, WA	1.60	1.5	1.6	2.2
Baltimore, MD	1.51	0.8	0.9	1.0
Total	–	14.7	16.4	22

Note: 'Relative wages' means the ratio of local average wage and salary income to the average across all commuting zones. Each commuting zone is labelled according to its largest Census Designated Place (CDP). Hence, the commuting zone labelled 'San Francisco' is named for its largest CDP, but actually includes the following counties: Alameda, Contra Costa, Marin, Napa, SF, San Mateo and Solano. Whereas 'San Jose' covers Santa Clara, San Benito, Santa Cruz, and Monterey counties. Data on population, employment, and GDP built from county-level estimates built from data from the Regional Accounts of the Bureau of Economic Analysis.

Source: Elaboration by the author

Table 4.1   Highest income regions in 2019, with various measures of national economic significance

Is this non-Superstar convergence of the rest of the system good or bad for economic development the economy as a whole (e.g. for the MS or the EU)? This is obviously the wrong question, in light of the theory points we have made thus far in this paper. The convergence looks rather favorable from the standpoint of the groups that are moving up in the system, and particularly unfavorable from the standpoint of stagnating groups, especially the large and important "falling from grace" areas. Indeed, many of the Fall from Grace areas were prosperous, technologically advanced, large industrial cities in the previous era (e.g. Detroit, Cleveland, Buffalo), when they were not fundamentally so different from the Superstars at that time. When economic structural change due to the Third Industrial Revolution occurred beginning in the 1970s, they took a different pathway from the Superstars. If we could understand causally why this is the case, we would unlock secrets of regional development that currently elude us.

The data provide some hints of good news as well: the Pulling Ahead group looks like an impressive case of favorable recent economic development (although with interpersonal income distributions that lie far outside of our desirable equitable development zone). We currently lack rigorous causal analysis of what distinguishes the Pulling Ahead group from the others. Overall, when we focus on developmental dynamics and contributions of different regions, we can see that the problem regions are those that are stagnating or moving down relative to a changing overall system; that there are promising regions that are probably capturing structural change; and that there is a durable but growing phenomenon of Superstar performance relative to the system.

So that we keep the overall argument in mind, a first summation of the argument thus far is as follows.

A developmentally oriented cohesion policy should focus on:

a) increasing PCI in all regions;
b) not attempting to attain convergence of regional PCIs;
c) but attempting to hold inter-regional divergence in PCI into a satisfactory zone and hold it there, by dynamizing the regions that are falling down the income hierarchy or are stagnating below the mean[5], and certainly not by discriminating against or ignoring the most dynamic regions; and
d) increasing PCI in all regions in a way that holds inter-personal Gini coefficients in the 0.35 zone or somewhere nearby.

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[5] Exactly what this zone is, is difficult to define, as research is weaker on this subject than on the desirable zone for inter-personal inequality. It is something we definitely should investigate with rigorous large-scale comparative and panel evidence on how inter-regional inequalities relate to economic development overall.

5 The Problem of Development Traps: Widespread Stagnation in Europe

There is a risk of possible emerging development traps for some of the regions that are on the losing side of overall inter-regional convergence. Again, using the US evidence, this would be the case for the downward converging economies; but, it might be wider than that if the divergence between Superstar economies and all other regions becomes positional and structural in the way we discussed earlier.[6]

Diemer, Iammarino, Rodriguez-Pose and Storper (2021): we measure development in Europe in the last several decades. We use the criteria of productivity; employment; and income per capita, to detect whether development is occurring or stagnating, for NUTS 2 regions. We benchmark these variables against the region's past (through rolling 5-year averages and over longer periods); against the member state; and against the EU. We develop two versions of the index (see the paper for details on strategy and data) (DT1 and DT2) (see Appendix for definition of the index).
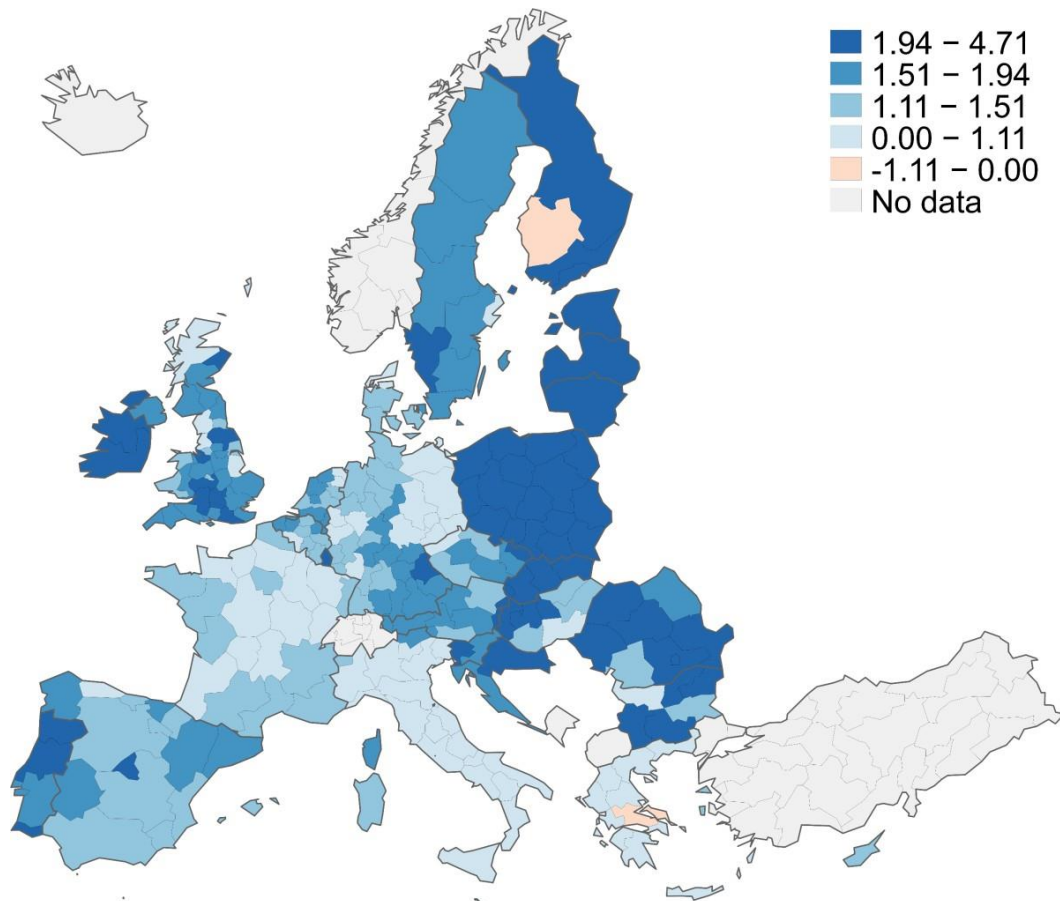
Source: Elaboration by the author

Figure 5.1   Europe's regions: growth, stagnation, decline in PIB/capita, 1980-2015

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6   I repeat that this point is an area of uncertainty in theory and evidence. The exact range at which the overall developmental disadvantages of Superstar divergence outweigh the advantages, (stimulation, spillover, inter-regional cascades of skilled value chains, residential economy) are not known to us. We urgently need rigorous modelling and research on this question.
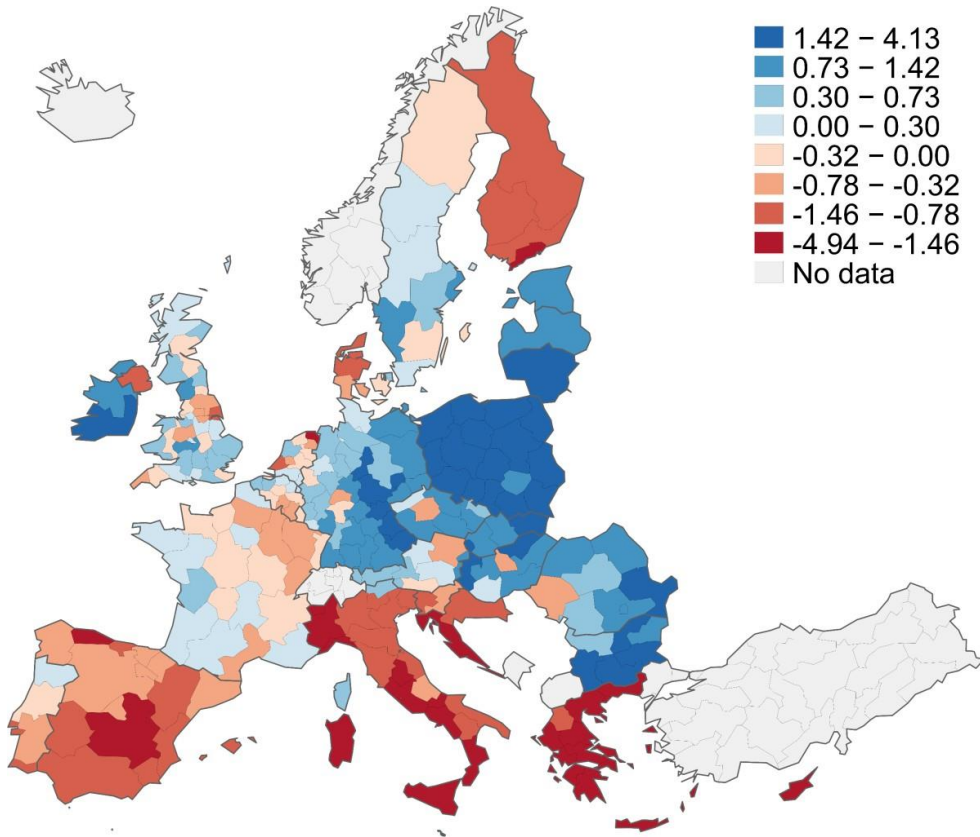
Source: Elaboration by the author

Figure 5.2   Europe's regions PIB/capita stagnation is spreading, 2008-2015
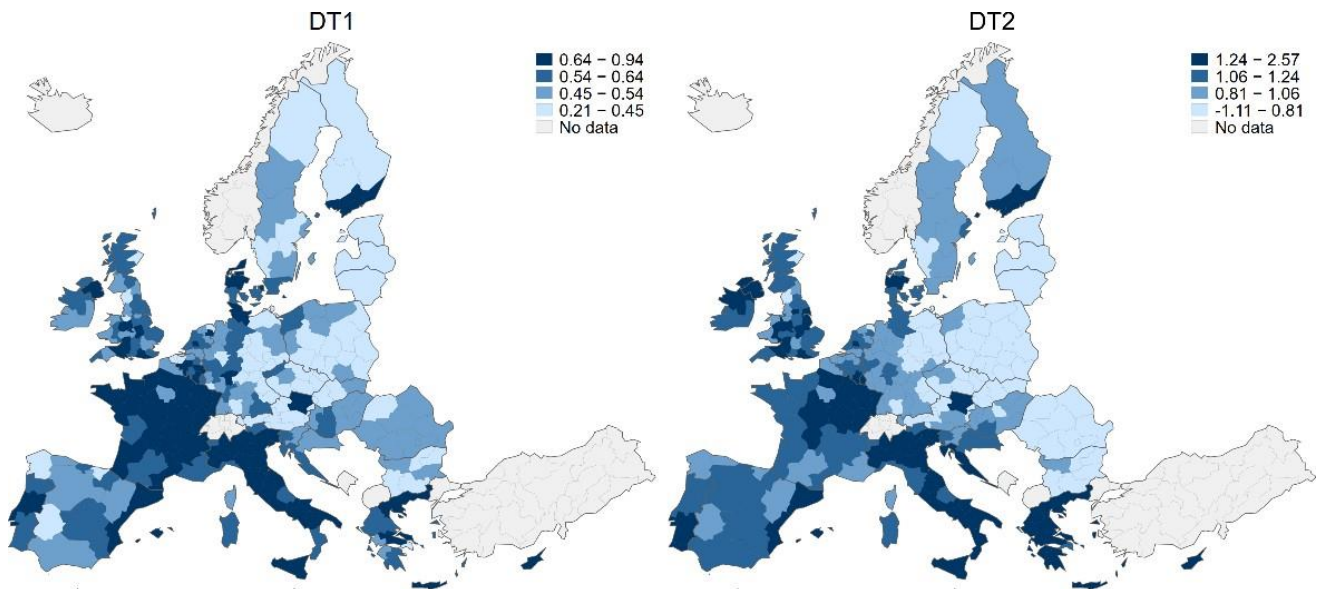
Source: Elaboration by the author

Figure 5.3   Development trap (index 1 and 2): 2001-2015 probability of being trapped

Stagnation occurs at different levels of income in European regions.

All observations are weighted by regional population in 2000. Categories expressed as a percentage of average EU GDP/capita in 2000 in PPS. Low: <75%; Middle: 75-120%; High: 120-150%; Very high: >150%.
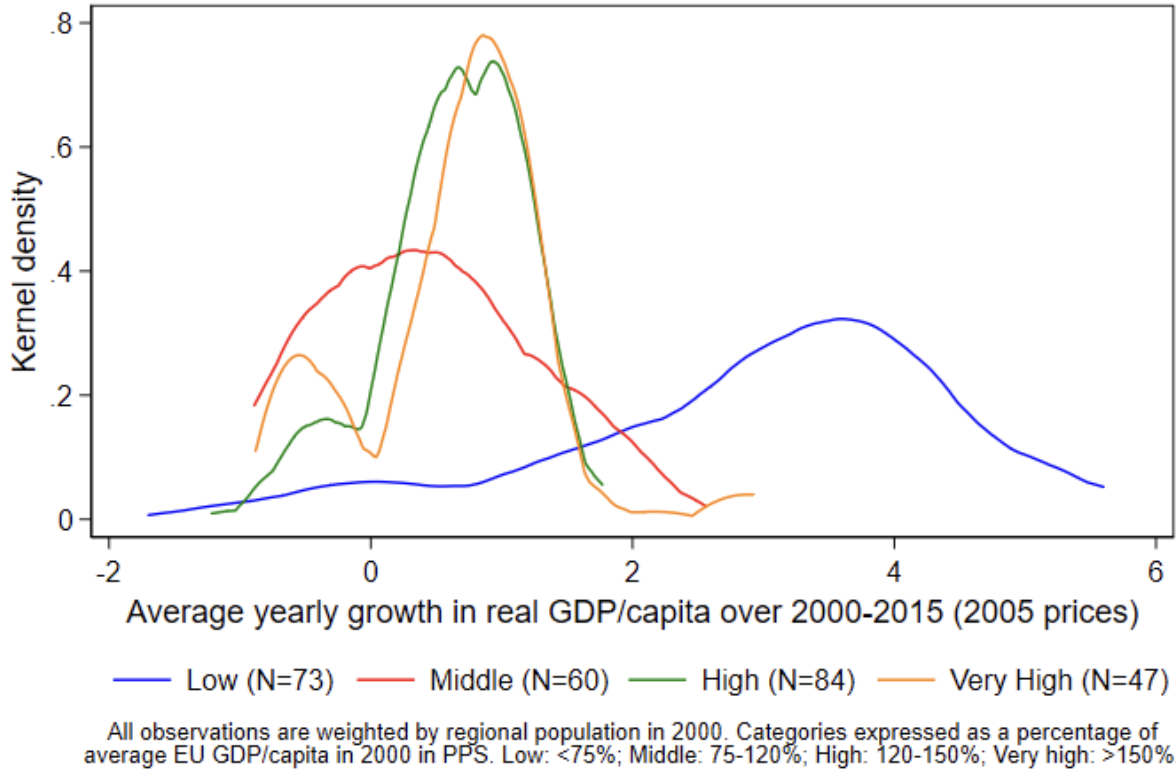
Source: Elaboration by the author

Figure 5.4   Average yearly growth in real GDP/capita over 2000-2015 (2005 prices)

Some regions have been stagnating for a long time: risk of being in a vicious circle and being trapped through negative feedbacks.

Map 2 Number of years in a development trap during 2001–2019 by level of GDP per head in 2000

GDP/head (index EU-27=100) vs. years

- < 75%, 10–14 years
- 75 – 100%, 10–14 years
- > 100%, 10–14 years
- < 75%, 15–19 years
- 75 – 100%, 15–19 years
- > 100%, 15–19 years

less than 10 years in a development trap

Six capital regions have been merged with the surrounding regions to limit distortions in the GDP/head values.
Source: DG REGIO calculations based on JRC and Eurostat data.

0   500 km

© EuroGeographics Association for the administrative boundaries

Source: European Commission, 2022, 8th Cohesion Report

Map 5.1   Number of years in a development trap during 2001-2019 by level of GDP per head in 2000

6 The "Narrow Corridor" for Raising PCI in EU regions[7]

Before continuing, it behooves us to clarify the sources of increases in PCI and place these in a contemporary EU context. PCI has two principal components: the productivity of work, and the quantity of work, both in relation to the population. The quantity of work (in the first instance, total employment, affects incomes through the rate of labor force participation (LFP) and the length of working time of those who work), in relation to the population. Increasing productivity and LFP, are therefore, the two proximate levers of increasing PCI. These are attributes of labor demand.

Labor supply (and population change more generally) are partly endogenous to this process, in that internal or foreign immigration or demographics can respond to incentives to work and to incomes. In situations of rapid development, as in developing countries, changes in labor demand (i.e. employment), have various channels, including LFP, total time worked, occupations-industries-skill allocations of work. Empirically, in many situations of rapid development, the effects of changes in work income in relation to PCI are offset substantially by endogenous population change through in-migration and population increase.[8]

For all practical purposes, however, contemporary Europe is sluggish demographically, and this means that (with a few limited notable exceptions), the response of a local or regional economy to rising labor demand should be principally through the rate of employment (rising LFP/household participation) and the type of work (occupational-industry switching), and less so (at least in the short-to-medium run) through high levels of internal or foreign immigration. Indeed, the LFP/work ratio is likely to respond more than in the case of the USA, which has higher internal labor mobility and more population growth than in Europe (PCI increase related to work income increase is in the 25-35% range in USA).[9]

However, the conditions under which productivity improvements can contribute to PCI also depends on the type of productivity gains that are achieved, and specifically whether they are employment-rich enough to sustain or raise LFP rather than lower it. The key factor here, for shorthand, is the technology and skill/task composition of new labor demand. In the past few decades, technological change has been skill biased. This can mean different things for labor demand, however:

- Overall, in developed countries, technological change has polarized labor demand between high-skill and low-skill occupations, with some hollowing out of the middle (with growing wage-income inequality a result).

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[7] "Narrow corridor" is a phrase borrowed from Acemoglu and Robinson, in their theorization of the conditions for stable democracy. More generally, it is part of an emerging theory tradition in historical and structural social science for walking a fine line between extremes, leading to favorable large-scale outcomes.

[8] I will return to this in the following section, but as an example, the standard "Bartik" estimates for the USA is that for 1 unit of employment-income change in a region, there is a 0.25-0.35 change in PCI, due to in- migration and LFP in the workforce and across the average household.

[9] This also contains a "multiplier" component. It is widely agreed that the employment and income multiplier is greater for higher-skilled employment. Initially, Moretti estimated very big multiplier gaps for low-skill versus high-skill employment change, but these have been lowered by the subsequent work of Osman and Kemeny and Bartik. They remain substantial, however, so the high-skill work generates much larger direct and indirect labor income per job created.

- Underneath this trend is a tendency for various forms of automation, for physical tasks, and now for intellectual tasks, to substitute for human labor.
- However, technological change can also create new forms of relatively labor- intensive employment. In the high-skill range, this comprises work that is in "new" occupations and industries that have not yet been routinized and offshored; "frontier" work that is itself highly tacit and involved in the work of creation and innovation itself; and older work that is "augmented" with new technology tools to become more productive. It also has generated a service-rich economy that is not offshore-able, though at lower wages (and currently subject to a massive automation wave and relative wage declines).
- If we take a given economy, if the aggregate composition of labor demand is more affected by labor substituting automation than labor augmenting technological change, then productivity can increase but, in a labor,- economizing way that does not raise benchmark LFP. The economy has high productivity but sluggish LFP and therefore struggles to translate productivity gains into increases in PCI. This, for example, characterizes the French economy, with its high hourly productivity but sluggish PCI performance in recent decades.[10]

For a high-cost, high-wage developed economy (as I am characterizing most of Europe, for present purposes), there is therefore a "narrow corridor" of the kind of productivity change that is compatible with raising LFP and hence, raising PCI. Broadly, European policy should aim to increase its share of *labor augmenting technological change* in relation to the technological change that substitute for labor (and which is also ongoing and inevitable). There are many ways this comes about on the ground, including new rare products and functions that are relatively labor and skill intensive or that have strong agglomeration geographies (i.e. benefits of proximity and resistance to offshoring). We will return later in this paper to more detail of how raising labor demand in this particular way applies in a differentiated territorial context. Just to avoid misunderstanding, I am obviously not talking about the ensemble of functions in an economy, which will include many kinds of locally oriented employment, trade-ables employment, and such: but rather on the *wedge of change in labor demand that is capable of raising PCI. Labor augmenting productivity increases – those that are rich in skill, novelty – are the narrow corridor for raising LFP and per capita wages in a way that raises PCI in a developed area of the world such as Europe.*

7   The Narrow Corridor is Achieved Principally by Raising Regional Labor Demand

Though this paper is principally devoted to defining the appropriate ends of cohesion policy, we are now at a point where we can explain what it implies about the principal means of cohesion policy.

As noted above, in a European context, the effect of changing labor demand on productivity and LFP will be only moderately affected in the short-medium run by in-migration or demographics (labor supply changes). Hence, strategies that change the quantity and quality of labor demand (employment) in a region, are the principal lever of raising PCI. It behooves

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10   The American economy is a contrast, in that it generates substantial employment growth at both the high and low skill/wages end of the spectrum. This gives it very high baseline inequality, but because there is more leading edge technological change that is labor augmenting at the upper end, its ratio of creation to destruction of high-wage employment is better than in Europe

us now to add a few more points on what research tells us about the channels by which labor demand changes raise PCI in a region. Most of this is known in the field as "Bartik" findings, after their author.

Bartik and others demonstrate that the two main channels by which changing labor demand can increase PCI are upward occupation-industry switching, and increased labor force participation. In the highly-mobile and demographically more dynamic USA as compared to the EU, somewhere between 25% and 35% of total new employment income in a region increases PCI, with the rest going to in-migrants and to members of the household who are not in the labor force (in other words, for 100 additional euros added to the income of a region, somewhere between 25 and 35, divided by the population, add to PCI). Again, this incorporates multipliers as well. Critically, as in the basic logic of the narrow corridor, the upper range of this field is achieved when the skill content of new employment is higher than the existing baseline for the region (excepting the cutting-edge superstar regions, where it is the "frontierness" of work or its economy-wide novelty that are the equivalent of increasing skill).

In the previous section, we established that this narrow corridor is defined by labor augmenting; new; or frontier work, not principally by labor substituting new work, because even though the latter raises productivity, it tends to lower LFP and increase wage polarization, thus not fitting our development criteria. There is an additional critical dimension of augmenting labor demand: its inter-territorial dimension. Employment changes in an open inter-regional economy are generated in two ways:

- Internally, through "creation;"
- Externally, through the ongoing spatial reallocation -diffusion-sorting of firms and activities of an economy, responding to push and pull factors between regions, and creating spatial divisions of labor and long-distance value chains (in other words, probably creating some inter-territorial inequality).

The challenge is to make both these mechanisms work in the service of increasing socially equitable PCI in all regions. It is a puzzle of considerable complexity. The conditions under which the favorable outcome is achieved depend both on what is happening in the less-successful regions, as well as what is happening in the top-income regions. Let us now explore these two processes, beginning with the ongoing spatial reallocation of the economy. In practical terms, this means starting with the super star regions that are the core of contemporary capitalism.

8 The Contribution of The Superstars: Favorable or Unfavorable to Overall Development?

The most fundamental EG pattern of our time is the overperforming-superstar regions. Overperforming (or very highly performing) regions are a legitimate object of cohesion policy, for many reasons. In today's world, the fundamentals of productivity and high wages are strongly driven by agglomeration economies and by big urban size premiums. We do not know when, if ever, the strong post-1980 super-star agglomeration EG will reverse or attenuate (as it did, partly, between 1940 and 1980). However, as previously noted, their overperformance is expensive.

It is, however, not proven that investment in these regions is excessive relative to their developmental contributions. Their positive agglomeration effects generate high and complex congestion costs which must be managed. In the last 40 years, the investments in these

places have been highly effective because their productivity and wages/PCI have non-linearly outstripped the shares of public investments in them and they generate fiscal surpluses for the investments in other regions. The tension comes from the fact that these fundamentals are associated with growth in inter-regional development inequalities. As we noted earlier, there is no rigorous proof that these productivity and income gains could be generated via a completely different spatial configuration of the economy with lower per capita investment expenses.

Stated differently, in this view, there may be unnecessary and unproductive urban concentration ('urban bias'). Research has never been able to prove this case decisively for the developed countries. In addition, there are no known policy frameworks that have actually reduced urban concentration over the modern period. More widely, theory and evidence is also not conclusive about alternative spatial equilibriums in general, whether "all out urban concentration," "spatial even-ness," "real income mean reversion," or any of the other figures of thought that dominate large-scale spatial modeling.[11]

In a developmental sense, the relationship of prosperous urban areas to other territories is a two-sided one.

- On one hand, they do tend to attract human resources from these places (notably through labor migration), and to some extent they favor the creation or sorting of the best firms, and this can become a problem for other regions.
- On the other hand, they also spread what they create: incomes, through the residential economy; the overspills of their innovations when they are applied; and tax surpluses that are redistributed. In most countries, the shadow effects of the residential economy are bigger than ever because of lower trade and travel costs and the incomes that have piled up in these places. But note that redistribution through the residential economy (a) has natural limits that are defined by the population/productivity/preferences of the earners in the overperforming regions; and

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[11] The term "efficiency" dominates the theory and modeling traditions that attempt to probe the spatial distributions of economic activity that supposedly maximize output, analogous to "gains to trade" models in international economics. But there are many misunderstandings about this term and in a practical sense, exercises that attempt to steer the entire economy toward some kind of first-best or optimal spatial configuration are of little use.

- They often have internal flaws of being conceptually and empirically reductionist, in that they cannot account for the multiple dimensions of development (such as income distributions within and between places; positionality and quality of life; opportunity over time).

- They have an external flaw, which is that development is too wide open and uncertain to steer the economy toward an optimal distribution.

- They have a social psychology flaw, which is that people care more about whether things are improving meaningfully and about fairness and positionality than whether spatial distributions are first-best efficient.

- Note that the computable general equilibrium models and other large-scale simulations of international trade shocks are largely a field of ruins in terms of their predictions, and worse – they have often missed the most important dimensions of trade policy shocks and technology shocks. As *caeteris paribus* simulations with highly assumption-driven and simplifying assumptions, they should be viewed with great caution, even if they are technically impressive.

- So, let's focus on development as a dynamic progressive process and -- while hardly ignoring optimal spatial equilibriums -- use that notion, just like that of convergence/divergence -- as a heuristic, but not as a serious guidepost with any authoritative guidance for detailed policy choices.

(b) it has been established that it doesn't generate dynamism, in the way we mean that term.

In any case, it is futile to imagine alternative spatial distributions that do not include Superstar regions, as a basis for cohesion policy.

9 Inter-regional Sorting: When is it a Source of Narrow Corridor Dynamism?

There is nothing new in observing that a patchwork of regions with integration and high potential levels of L and K mobility will generate a patchwork of specializations, a tapestry of comparative advantages, agglomeration economies, and possibly significant baseline geographical differences in wage and productivity levels. Modern economic integration is based on the notion of an inter-related, multi-regional economy with potentially elaborate spatial divisions of activities, and this has evolved in several stages since the mid-19th century, with with declining trade costs, better coordination/logistics, unbundling of functions, and endogenous agglomeration and proximity-interaction effects. We must therefore think of regions as participants in elaborate national, regional and global value chains and flows of resources.

In the present analysis, we are concerned with understanding when these sorting processes between regions are a force for dynamism and development of regions, and when it may hinder them. The effects can be thought of statically and dynamically.

- Statically, the story can be one of divergence and spatial-economic hierarchy. In that there is a hierarchy of functions in value chains by level of skill, routine/non-routine, content. In today's context, this means that the more routine functions that are seeking to lower land and labor costs go to the non-superstar regions. This has a well-tested aggregate positive productivity effect for an economy (getting them out of expensive, congestion-costed urban areas). But the tendency is for there to be a hierarchy of productivity levels and PCI because of this.
- In a more dynamic perspective (as in the USA and EU evidence presented) the results are more mixed. In some cases, we see durable "development traps," as such regions are locked into perpetually routine, cost- minimization roles in the overall spatial hierarchy. But in other cases, we see regions (like countries) that manage to use their experience at a given time to learn and move up (the "pulling ahead" and "catching up" areas of the USA, for example) into more complex and higher skill-innovation-income roles in the national or world economy. The equivalent of this in international economics is those countries that used their roles in global value chains to move up and break the middle-income trap.

Thus, the effects of sorting on regional development are malleable. It is the role of policy to ensure that sorting is an element of a dynamic local upward-sloping process, and not just a passive source of the kind of quantitative growth that is outside the narrow corridor.

10 Raising PCI in Non-Superstar Regions: The Narrow Corridor

A challenge to all non-superstar regions is how to become a fount of development of new products and services and processes, and not just a place to which development is passively "sorted" by the GVC or static comparative advantage process alluded to above. In other

words, we must think of the developmentalist challenge as both how to use externally generated forces for development, and how to invent, send and contribute to the wider world.

A strength of Europe is its middle-sized cities, inherited from the past, with low distances by world standards and hence, high spatial interaction with one another as well as with superstar regions. They manifest systematic urban productivity (and hence, income) surpluses, but these are weaker than their American counterparts (most likely because of smaller relative size and their innovations are less specialized).

Some research has found that spatial interaction in a European context partially overcome scale limitations; and more should be done on this topic. To use the language of our US analysis, we need to identify which of them are Fall from Grace, which are Pulling Ahead, and those that are neither. The French case is striking because there are a lot of attractive non-Parisian metropoles, but some of them may be stagnating.[12] They enjoy considerable person-based fiscal/income transfers, residential income spillovers, and direct regional place-based redistribution. In this context, their stagnation is evidence that a developmental strategy is needed. The likely reason for their stagnation is that they are not innovative enough; and that they are too much serving as backyards for superstar agglomerations; in some cases, too much residential economy. These metros have many positive qualities and are therefore an excellent target for a developmental cohesion policy. Some of them could be turned into the equivalent of Pulling Ahead regions. We need a thorough re-examination of why their dynamic performance is often sluggish, and rigorous comparative analysis of the differences between dynamic and sluggish non-superstar European metropolitan areas.

11   Is There a Narrow Corridor for Raising PCI in Left Behind Metros and Small, Remote Areas?

These areas are "jumped over" by globalization, and hence their potential for leveraging long-distance value chain investments is limited, and where it happens, the jobs generated are mostly outside the narrow corridor due to labor substituting automation and occupational-wage polarization. Two characteristics of the Fall from Grace group in the American data stand out: they are much less attractive to foreign immigrants than either Superstars or Pulling Ahead areas; and they have not increased their innovativeness as much as Pulling Ahead regions. This suggests that a combination of social structure and open-ness to change are hindering their attractiveness and ability to convert into dynamic areas.

In Europe, there seem to be two sub-groups:

- In south-east, is there is some potential for an initial catch-up dynamic like the interior American South. This is prone, however, to hitting a development trap in many places once this phase is over.
- In north-western Europe the picture is mixed. On one hand, many places are too expensive and small to be reindustrialized or turned into innovation outposts. On the other hand, some of them have the potential for a combination of shrinkage, upskilling, and residential income stimulation.
- But there is a subset that do not have the right combination of any of those.

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[12]   Our analysis at NUTS2 level leaves some ambiguity about whether the core metropolitan territories in development trapped regions might be more dynamic than the region of which they are a part. Further research should examine this.

12   Is Shrinkage a Part of the Mix?

The history of territorial development is that places are created; some expand over time; and many die out. This is true of the last few centuries in Europe, which has lost tens of thousands of formerly urban places, as revealed by recent research of historical reconstruction of maps over time. The European world is of fewer places that are bigger and that grow with an expansion of their physical footprint and their shares of population and economic activity. This is counterintuitive to some, because we still see the remnants of a lot of small towns. But behind what we see is the disappeared places that we can no longer see with the naked eye. This is a process with many costs and some benefits for people and for the economy. We do not have a comprehensive social welfare function for this.

We should endeavor to do is come up with more transparent thinking about when we want policy to maintain places that – simply put – are not going to contribute greatly to PCI growth of their MS or of the EU, but that might have other uses and values to preserve, in terms of quality of life, political cohesion, or a host of other values that are part of the collective social welfare function of MS and the EU. There are economic costs and opportunity costs involved. The problem is that we don't have rigorous estimates of these costs and benefits and transparent ways of evaluating them.

A less extreme case is managed shrinkage to a new viable size for certain places, notably those that are "oversized" from the Second Industrial Revolution and probably undersized for the Third. The US is a case of where many old industrial cities suffer unmanaged shrinkage with extremely high social and economic costs. The costs of unmanaged shrinkage may have been unnecessary and, for a long time, obviated any standard productivity benefits that came from a reduced labor force. In addition, many lives were damaged by people who – being at the wrong place at the wrong time – had their life opportunities reduced. Managed shrinkage, in other words, is very different from unmanaged shrinkage, in that the place-policy relates to people effects better under managed than un- managed shrinkage.

13   Are Europe's Superstar Regions not Dynamic Enough?

Superstar metropolitan areas make many positive developmental contributions to their economies today, in that they concentrate the most of the high-wage in- corridor development and growth of the EU, as well as the other developed countries.

As we have noted, they do so with certain collateral effects: (a) they are expensive to maintain; (b) they tend to be internally unequal; (c) they contribute to inter-regional inequalities. But – it is important to repeat – contribute massively to inter-territorial dynamism and wealth. They do so through simple spread effects (residential income; redistributive fiscal policy). They do so through sorting effects, in that some of the out-sorting is within the narrow corridor, and the rest of it is broadly stimulative, though not enough to create dynamism in these regions.

Examining Europe as a whole, its economy in the Third Industrial Revolution is dominated by second-mover innovation. The overwhelming majority of the most economically valuable and disruptive patents of the past 40 years have been developed or implemented in the USA. As a consequence, according to *The Economist*, European companies have been slipping down the league tables of world companies, by capitalization and employment generation, as they are specialized in legacy technologies. China is catching up in some first-mover areas. The

geography of the US first-mover innovations – meaning the agglomerations in which their companies operate and create the frontier or new jobs that are closely related to leading edge technologies is overwhelmingly its Superstar metro areas (Lin; Autor; Petralia, Kemeny, Storper).

According to Soskice (2022), the reason for American superiority compared with Europe in the Third Industrial Revolution is its "generative" institutions. First-mover innovation is the most powerful form of narrow corridor development, with an exceptionally good combination of high-skills, labor-intensiveness, entrepreneurial wealth generation, and dynamic inter-personal opportunity. This is the apex of Schumpeterian creative destruction, where creation dominates the effects. A possible downside of the American innovation system is that it appears to be linked to overall economic inequalities (skilled wage and entrepreneurial wealth premiums are much bigger in the USA than in Europe); and to the high level of inequalities between many Superstar regions in the USA and the rest of the American territory. Thus, when we place Europe's Superstar metros – as the principal sites of US first mover dynamism -- in an international comparative context, we find that many US metro areas have much higher PCIs than Europe's, even in real terms. This is less a problem for Europe's Superstar metros themselves, which enjoy mostly enviable (if highly unequally distributed) PCI and quality of life levels by world standards, than it is for European growth as a whole, and for narrow-corridor positive sorting dynamics to other European regions.

If the European economy had more first-mover innovation dynamism, Europe's baseline PCI growth potential would be higher than it has been; its Superstars would likely have higher PCI levels than they do; and, most importantly for the present analysis, the *other regions* of Europe would have more positive development spillovers from them than is currently the case.

On the other hand, this might raise the baseline inter-regional and inter-regional inequality for Europe, and therefore must be considered from both the favorable productivity side and the unfavorable inequality/distributions side of the ledger.

14 Appendix: Development traps index

$$DT_{1,i,t} = \begin{cases} 1 - \dfrac{\sum_y D_{i,t}^{y,R} + \sum_y D_{i,t}^{y,MS} + \sum_y D_{i,t}^{y,EU}}{9}, & if\ NUTS2\ in\ MS \geq 2 \\[3ex] 1 - \dfrac{\sum_y D_{i,t}^{y,R} + \sum_y D_{i,t}^{y,EU}}{6}, & if\ NUTS2\ in\ MS = 1 \end{cases}$$

$$DT_{2,i,t} = \begin{cases} -1 \times \dfrac{[(\sum_y a_{i,t}^{y,R} + \sum_y a_{i,t}^{y,MS} + \sum_y a_{i,t}^{y,EU}) \times 9^{-1}] - \mu_{1990}^{Raw\ DT2}}{\sigma_{1990}^{DT2}}, & if\ NUTS2\ in\ MS \geq 2 \\[3ex] -1 \times \dfrac{[(\sum_y a_{i,t}^{y,R} + \sum_y a_{i,t}^{y,EU}) \times 6^{-1}] - \mu_{1990}^{Raw\ DT2}}{\sigma_{1990}^{DT2}}, & if\ NUTS2\ in\ MS = 1 \end{cases}$$

NB: alternative specifications used and robustness tests carried out

Source: Elaboration by the author

Figure 14.1   Indexes of stagnation: DT1 et DT2