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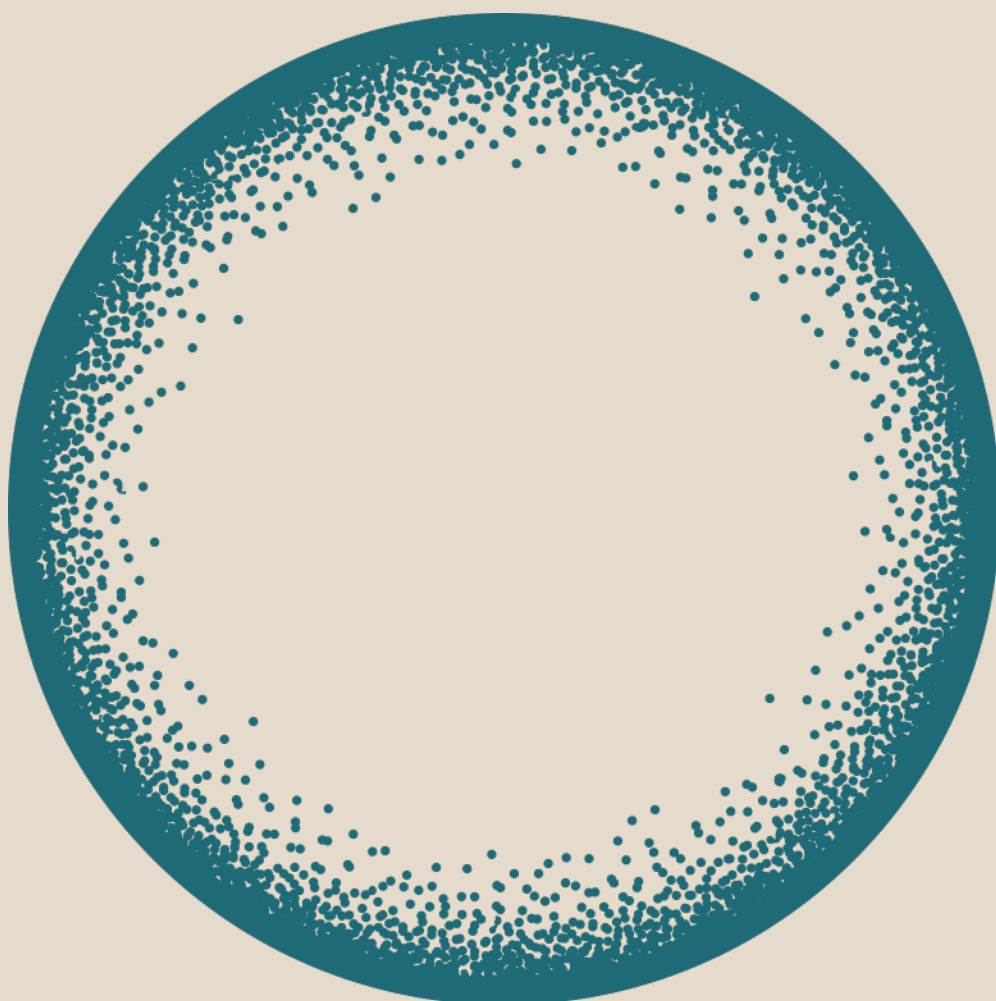
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Proactive regional policy:  
What a new policy to avoid socio-economic disruptions could look like

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**PROACTIVE REGIONAL POLICY:  
WHAT A NEW POLICY TO AVOID SOCIO-ECONOMIC DISRUPTIONS COULD LOOK  
LIKE**

Jens Südekum\*, Düsseldorf Institute for Competition Economics (DICE)

**Abstract**

Proactive regional policies to aide local transformation processes are in the limelight these days. This paper firstly discusses the big paradigm shift in mainstream economics towards this newly gained prominence of place-based policies. Afterwards, the paper introduces the most voluminous case in Germany, the coal exit. My analysis suggests that the three involved lignite mining areas, which have received unusual amounts for structural support, must realize that they are role models. But a preliminary assessment suggests that the resources will mostly flow into rather conventional spending categories. There is little evidence for moonshot projects or innovative novel paths that only those regions could try out – given the unique circumstances they are in. This misses the chance to experiment how proactive regional policies could exploit their full potential.

**JEL codes:** L5, L52, L62, L71

**Keywords:** proactive regional policy, automobile industry, coal- /lignite-exit, innovative policies

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## 1. INTRODUCTION

Regional policies had a bad reputation for decades, if they received any attention at all. This has recently changed, for at least two reasons. First, recent theoretical and empirical research has challenged the leading paradigm of spatial equilibrium analysis, according to which place-based policies are just an inefficient interference into the market-based resource allocation. This paradigm shift has made place-based policies more presentable among mainstream economists. Second, and possibly more important, many countries have experienced political backlashes from rising spatial economic disparities. Populist movements received the highest support in economically backward regions, which had been hit by severe local shocks. By trying to foster spatial economic cohesion, regional policies have become an attempt to insure against those political trends and to save liberal democracies altogether.

Looking ahead, the importance of regional policies is likely to increase even further. All industrialized countries, Germany in particular, are facing acute and inevitable challenges of economic transformation. The list is long: production must become more climate-friendly, more digitized, less reliant on inputs from autocratic regimes; and all of that needs to happen in an environment with rapidly ageing workforces, shortages of skilled labor, stressed global value chain, and rising social inequalities. The resulting problems will be felt, in particular, on a local level. Thriving metropolitan areas might benefit from those changes (Dauth et al. 2022; Firgo et al. 2019), as cutting-edge technologies and business models tend to be overrepresented there. But less urbanized regions, which currently still host highly successful industrial clusters with excellent performance on global markets, might encounter considerable turnover and rather stressful transformation episodes in the upcoming years.

This, in turn, raises the question what role regional policies can play within that context. Traditionally, they have been purely reactive. It was directed at areas which were already lagging behind economically. To become a designated recipient area, key economic statistics (such as per-capita income or the unemployment rate) had to fall short of certain thresholds or country-wide averages. Many recipients had been hit by huge-scale shocks in the past, like the Ruhr area since the 1970s, and regional policy now attempted to repair local structures in order to avoid further social erosions.

A different, more timely approach could take a proactive stance. Public policy should not wait until local labor markets get hammered before starting to act. Rather, they could try to anticipate which regions are likely to face acute problems in their upcoming and ongoing transformation processes, which are too severe to be solved on their own. Those proactive policies would then offer support to those regions, with the ultimate goal of preventing any downward spiral in the first place.

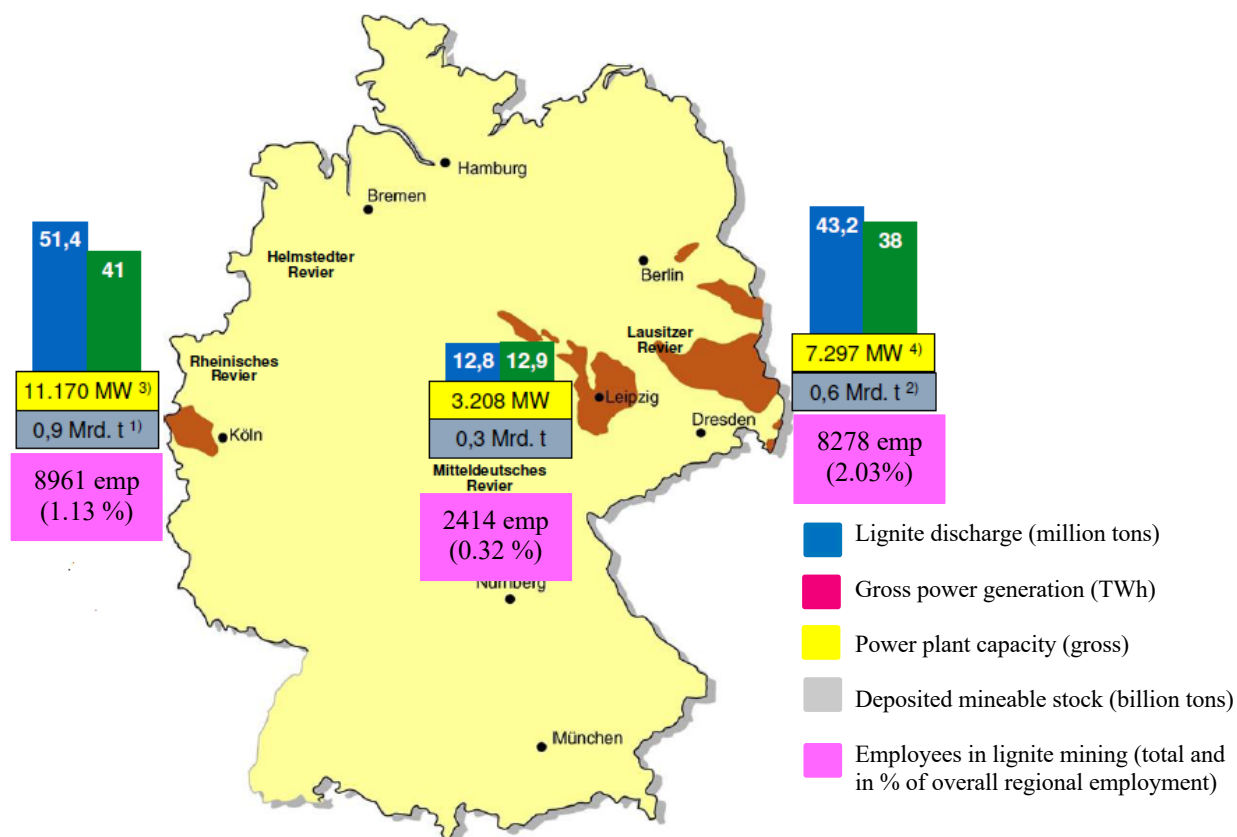
This paper aims to contribute to this (quite novel) discussion how such “proactive” regional policies could be designed. To do so, I make two contributions. First, in Section 2, I review the literature about place-based policies, and describe how the leading paradigm within that debate has changed over time. Then, from Section 3 onwards, I provide an in-depth analysis of one particular instance for a proactive regional policy package – namely, the phasing-out of lignite-mining in Germany, and the massive support that the affected coalmining areas will receive, long before lignite mining has actually disappeared from their local economies. I also shed light on another recent example, more specifically the policy package to aid the transformation of the German automotive industry.

To first provide some background on the case of coal exit, in June 2018, the German federal government set up a one-off advisory body (the “coal commission”) to devise plans for phasing out lignite production in Germany while alleviating the burden of adjustment. The commission’s recommendations were submitted in January 2019, and ultimately led to the ratification of two laws in July 2020. The first (“Kohleausstiegsgesetz”) laid out a detailed schedule for the phasing-out of coal power plants until 2038, together with compensation payments for the operating firms. The second law (“Strukturstärkungsgesetz”) provides the basis for extensive structural aid for those regions in Germany where lignite mining is spatially concentrated<sup>1</sup>.

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<sup>1</sup> See [https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger\\_BGBI&start=//\[\\*\]\(@attr\\_id=%27bgbl120s1795.pdf%27\)#\\_bgbl\\_%2F%2F\\*%5B%40attr\\_id%3D%27bgbl120s1795.pdf%27%5D\\_1632466221847](https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBI&start=//[*](@attr_id=%27bgbl120s1795.pdf%27)#_bgbl_%2F%2F*%5B%40attr_id%3D%27bgbl120s1795.pdf%27%5D_1632466221847)

**Figure 1: Lignite-mining areas in Germany**



Sources: Debriv 2021 – Bundesverband Braunkohle; RWI (2018) -- [https://braunkohle.de/wp-content/uploads/2019/01/debriv\\_izb\\_20171005\\_web.pdf](https://braunkohle.de/wp-content/uploads/2019/01/debriv_izb_20171005_web.pdf)

Specifically, those are the three lignite mining territories depicted in map 1: Rheinisches Revier located close to Cologne at the western border to Belgium, Mitteldeutsches Revier located close to Leipzig, and Lausitz at the eastern border to Poland and Czech Republic.

The municipalities in those regions will receive up to €40 billion in financial aid until 2038 for investments facilitating their structural change<sup>2</sup>. Bearing in mind that the German lignite industry currently employs only around 20,000 workers directly, this mathematically implies a subsidy of 2 million Euro per job, or 100,000 Euro per job and year over the time horizon of the programme<sup>3</sup>. This is considerably more than the workers' average annual earnings, which are below 40,000 Euro. It is also substantially more than what the government typically spends on structural adjustment programs or on other regional policy schemes. After all, not only the lignite industry is currently undergoing a deep structural transformation, and is bound to shrink in employment over the next years. The same is true for many other manufacturing branches, including the flagship automobile industry, which I also briefly discuss below. Hence, many regions and local clusters will face considerable

<sup>2</sup> Some additional minor sums were released for the former lignite area around Helmstedt, and for the Ruhr area formerly specialized in hard coal mining.

<sup>3</sup> Including indirectly induced jobs in related industries, RWI Essen (2018) estimates that the number of affected jobs increases to around 32,000. See here: [https://www.rwi-essen.de/media/content/pages/publikationen/rwi-projektberichte/rwi-pb\\_strukturdaten\\_braunkohleregionen\\_endbericht.pdf](https://www.rwi-essen.de/media/content/pages/publikationen/rwi-projektberichte/rwi-pb_strukturdaten_braunkohleregionen_endbericht.pdf)

changes in the upcoming years. But, judged by the magnitude of available funds, the three lignite-mining areas will receive a special treatment to master their transitions.

There are two possible explanations why the federal government has provided such ample support for the coalmining regions: political economy and industrial policy. The first theory posits that overcompensation of potential losers is needed to buy political support for unilateral climate policies. As a matter of fact, some lignite areas have been strongholds of right-wing populism in previous elections, with AfD vote shares exceeding 40% in some areas. Obviously, the concern is that further job losses from the demise of the lignite industry might add to this discontent, and the regional subsidies could be an attempt to prevent a (political and economic) downward spiral for the entire region.

But I will argue that this story, although relevant, alone is insufficient to rationalize the ample support. The other justification is that the specific circumstances of the coal exit allow to build a test laboratory for industrial transformation policies. Normally, the conduct of such policies is limited, because all regions within a country constantly face some type of economic transformation. Governments cannot easily and deliberately pick regions that receive special support. Yet, in the unique situation of the lignite exit, there is no such selection problem. There is a very small number of regions that clearly deserve help, since the government (via climate policy) rather than the market has decided to quickly fade out a leading industry. Hence, those coal areas can be turned into laboratories where recipes for industrial transformation can be tried out, which – in case of success – could be applied also elsewhere.

For this interpretation to make sense, the regional subsidies to the coal areas must not be seen as literal compensations for the phasing-out of an important industry. Instead, the funds should be seen as the nucleus for a well-defined research and development strategy, for complementary infrastructure and the scaling of innovative production activity. The specific funds could then trigger the development of new, green technologies which henceforth not only forms the local economic (and export) basis, but which generate growth elsewhere in Germany and Europe. Put differently, the funds ought to have an economic impact that spans well beyond the subsidized regions, and I will provide a preliminary assessment whether the actual policies that have been conducted in one of the lignite areas (the Rheinische Revier) actually live up to that standard. Finally, I shall conclude with some general lessons about the design of proactive regional policies, and what we can(not) learn from the particular case of the German coal exit.

## 2. PREFACE – PARADIGM SHIFT ON THE CONDUCT OF REGIONAL POLICIES

### 2.1. The “old” paradigm of spatial economics

The traditional paradigm in spatial economics is concisely summarized in the famous quote by Edward Glaeser and Joshua Gottlieb (2008), who ostentatiously demand: “*Subsidize people, not places!*”. Their assertion is based on the canonical Rosen-Roback model, the spatial version of the neoclassical equilibrium framework, and basically stipulates that – at a grand scale – regional policies are inefficient and cannot be justified in strict economic terms.

The underlying reasoning goes as follows: all workers and firms are, by law, fully mobile within a country, and free to locate wherever they please. As economic agents optimally choose their location within a country, all policies which distort those choices typically imply a deadweight loss (Kline and Moretti, 2014). In particular, if regional policies divert economic activity away from productive core cities and towards unproductive remote areas, this causes a productivity and output loss at the national level (Hsieh and Moretti, 2019) and shrink the pie that is available for the society at large.

Any re-distributive policy in the name of equality should therefore be spatially neutral. It should not try to tilt the spatial resource allocation, or induce workers or firms to locate in places that they otherwise would not have chosen. Instead, those policies should generally follow a *laissez faire* principle when it comes to the economic geography of production, and then focus on re-distribution of income after the production stage solely across *individuals* rather than across *locations*.<sup>4</sup>

If anything, according to that paradigm, regional policies should focus on removing zoning and housing supply restrictions, which effectively prevent large cities from becoming even larger (Hsieh and Moretti, 2019). Some authors go even further and advocate schemes which focus deliberately on relocations towards big cities, in order to fully exploit their unused agglomeration advantages. For example, research by Chetty et al. (2016) suggests that households (especially children) who moved to thriving cities (“moving to opportunity”) benefited enormously in their later careers. Hence, the primary concern should be to reduce any barrier to individual mobility, in order to speed up the flow of people to the best available job and life perspectives, but certainly no policies that hold back people in deprived areas.

It is fair to say that this paradigm, at least in its pure form, has never fully dominated actual policymaking, neither in Europe nor in the United States. Regional policies aiming at spatial economic cohesion do exist.<sup>5</sup> All rich countries conduct them, as exemplified by EU structural funds,

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<sup>4</sup> In this spirit, Albouy (2009) argues that the ordinary system of income taxation, which appears to be spatially neutral at first sight, may actually bias locational choices against cities because nominal income is taxed, not adjusted for higher costs of living in denser metropolitan areas.

<sup>5</sup> See Newmark and Simpson (2015) or Barba Navaretti and Markovic (2021) for an overview.



US enterprise zones, or the plethora of programs in Germany that come under the heading of “place-based policies”.<sup>6</sup> However, it is equally fair to say that, until fairly recently, those policies received a rather mixed, if not outright negative, reputation among mainstream economists. Lacking a proper allocative foundation in spatial equilibrium theory, they were mostly perceived as a suboptimal variety of income distribution with many inefficient side-effects, or as the mere outcome of a political economy game where poor regions have successfully lobbied for transfers. Empirically, there has been a voluminous evaluation literature, and many specific policies were found to deliver rather poorly on their self-defined goals (e.g. Becker et al, 2010).

## 2.2. Paradigm change after Brexit and Trump

Ten years after his famous quote, the same Edward Glaeser published another paper (see Austin et al. 2018) with the instructive title “*Jobs for the heartland: place-based policies in 21st-century America*”, where he establishes a much more benign view on the subject. What has happened in the meantime?

Actually, two things. This first shift was grounded in new theoretical research that gradually departed from the underlying Rosen-Roback framework. In more recent models, such as Fajgelbaum and Gaubert 2020, Fajgelbaum et al. 2019 or Henkel et al. (2022), any spatial equilibrium is replete with various externalities that individuals ignore in their location decisions. The first welfare theorem no longer applies, and by extension, spatial equilibrium does not automatically coincide with social optimal as in the standard model. In particular, those papers argue that a laissez-faire approach can lead to an inefficient spatial structure, where big cities are “too large” from a social point of view.<sup>7</sup> The reason is that, at the margin, congestion effects outweigh agglomeration forces. Hence, there can be an *allocative* economic case for the conduct of dispersive regional policies, not just a *political* justification based on re-distribution or political economy. According to this literature, the society as a whole would benefit in terms of welfare if economic activity was distributed more equally across space.

The second reason for the improved reception of place-based policies is much more practical. Political developments like the 2016 Brexit vote, the election of Donald Trump as President of the United States, and voting results in many other countries have illustrated the political backlashes of widening regional inequalities (Iammarino et al. 2019, Rodriguez-Posé, 2019; Goldt 2021): Populist

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<sup>6</sup> In a recent paper (see Henkel et al. 2022), I calculate that roughly 10 percent of aggregate tax revenue (currently almost €100 billion) are shifted across jurisdictions every year. This includes various schemes of horizontal fiscal equalization (such as *Länderfinanzausgleich*) that redistributes tax revenue from areas with high financial capacity to poorer jurisdictions, as well as a multitude of vertical grant programs where higher-order government layers co-finance certain types of public expenditure at the local level.

<sup>7</sup> Another string in the theoretical literature integrates explicit mobility costs into dynamic spatial equilibrium models, see Ahlfeldt et al. (2020). This gives rise to heterogeneous welfare effects of local shocks across individuals, since utility equalization (potentially augmented with idiosyncratic locational tastes) does not hold at any given point in time as in standard Rosen-Roback-type frameworks.

movements received the highest support in economically backward regions, which had been hit by severe local shocks. Thus, by trying to foster spatial economic cohesion, regional policies have become somewhat of an attempt to insure against those political trends and to save liberal democracies altogether.

To put those political developments into perspective to the economic literature, the first thing to notice is that perfect individual mobility, one cornerstone of the Rosen-Roback-model, was always a highly unrealistic assumption. Regional migration is a selective process and typically favors younger, and more educated workers. By contrast, research by Bosquet and Overman (2019) shows that around 40 per cent of the UK population essentially never moves, but remains at their birthplace location (which is often also their parents' birthplace) during their entire careers.

Unfortunately, those immobile workers also tend to be those who are most vulnerable to local labor demand shocks – be it from globalization, automation, digitalization, or any other driver of industrial change. When faced with adverse shocks, or with negative externalities arising from the brain drain of young and skilled workers, this immobile population typically would not respond with “exit”, i.e., own migration towards thriving cities. They may, however, react with “voice” at the ballot box.

Interpreted in this way, place-based policies are an example for the well-known principle of Acemoglu and Robinson (2014) that, sometimes, “good economics” can lead to disastrous policies. Sticking for the moment to the old Rosen-Roback-paradigm, where place-based policies are just inefficient “bad economics”, recent events suggest that they are still needed. Because their absence would be even worse politically, as it might undermine the societal foundations of the market economy.

Moving ahead, under the new theoretical paradigm, place-based policies are possibly even a welfare-enhancing element of “good economics”. Economic theory and political reality, thus, appear to be better aligned for the moment. But on a subtle level, some discrepancies remain. Namely, it often remains unclear what exactly is subsumed under the umbrella term “place-based policies”.

The theoretical debate was typically only concerned with pure income transfers. While no transfers are optimal in the Rosen-Roback model, Fajgelbaum and Gaubert (2020) establish the allocative case for transfers paid directly by urban residents to inhabitants of lagging regions. The rationale is that lump-sum transfers are supposed to come with no distortions – in contrast to other tools, which may create additional inefficiencies in implementation. In the real world, however, place-based policies typically do *not* take the form of direct monetary transfers.<sup>8</sup> Instead, they use

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<sup>8</sup> There are a few exceptions, such as the industrial areas in Northern England, which remained support in the Thatcher era mostly via direct income transfers.

different approaches to shift resources across space, such as subsidies to firms or targeted infrastructure investments. The reason is that pure transfer payments are considered passive in nature and may carry a stigma for the recipients. Put bluntly, many potential transfer recipients in deprived regions do not want government money, but new perspectives – or in the words of leading economist Daron Acemoglu “it is good jobs, not redistribution, that provide people with purpose and meaning in life”.<sup>9</sup> This is why the actually implemented instruments of regional policy typically seek for “activation” of economic activity in recipient areas rather than passive income support.

The term *place-based policies* is an umbrella for a plethora of programs, all of which try to support particular recipient regions in various ways. To give an example, German municipalities have access to a total of up to 943 different programs, which provide funding opportunities financed either by the European Union, the Federal and/or the State level.<sup>10</sup> Not all of those interventions explicitly pursue goals of spatial economic cohesion, but they cover a diverse range of priorities including social structure, infrastructure, R&D, education, housing, urban planning, arts, environment, agriculture, and so on. Still, the vast majority of them have implications for the spatial distribution of economic geography, for example when some regions host disproportionately more subsidy recipients than others. The regional scope differs across programs as well. Some are accessible only to lagging regions, others are explicitly designed for rural areas, for cities, and yet others are principally open to all local governments.

This complex reality is, of course, not reflected in the theoretical models. But the multitude of available approaches raises an obvious question: which specific place-based policies are most appropriate to deliver the desired goals of spatial economic cohesion, while at the same time trying to minimize resource waste and secondary distortions. This practical discussion is particularly relevant for the type of cases in the center of attention in this paper: how to design “proactive” policies for regions that are currently still doing well economically, but which might soon face considerable industrial turnover and acute transformation stress in their local markets. Below I will return to this question, but before I will introduce the two specific cases of the German coal exit and the transformation of the automotive industry from a regional perspective.

### 3. THE GERMAN COAL EXIT

In June 2018, the federal government set up the *Commission on Growth, Structural Change and Employment*, for short the “coal commission”. It consisted of 31 members, including representatives

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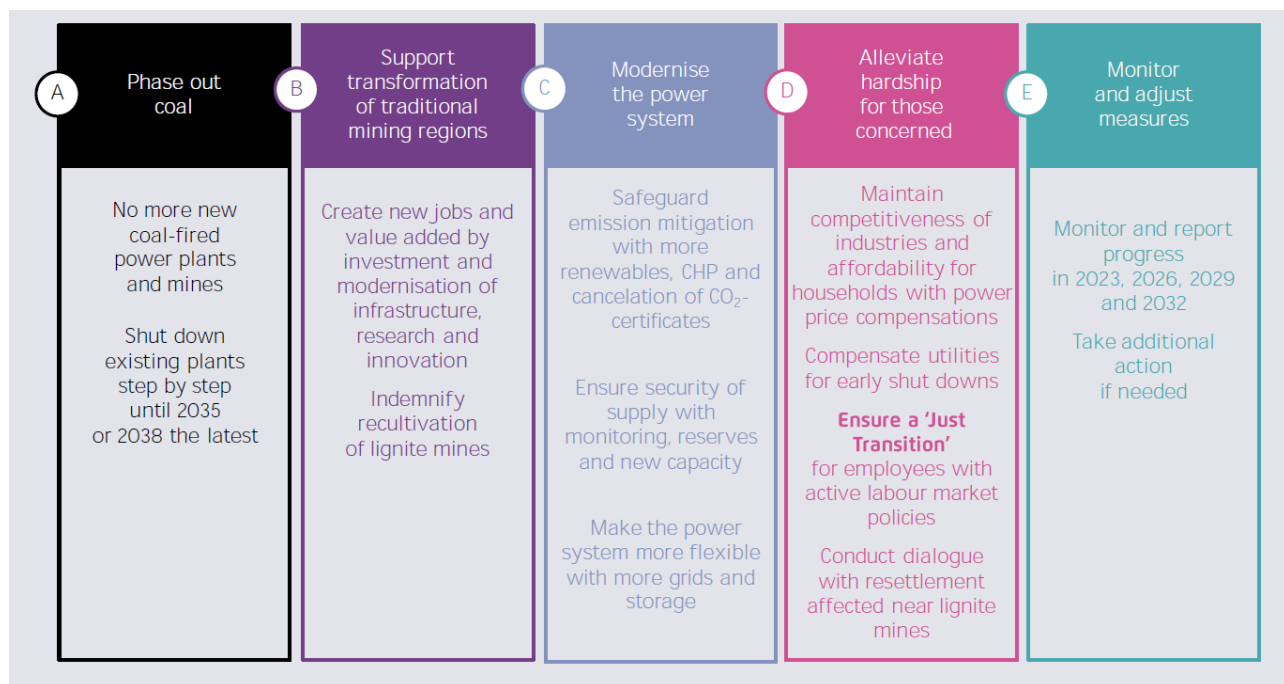
<sup>9</sup> This assumption is hard to square with the simplest form of neoclassical microeconomic theory, because the standard “homo oeconomicus” is not reluctant to accept pure income transfers. However, new theoretical approaches conceptualize the behavioral foundations of this reluctance related to the concept of “human dignity”.

<sup>10</sup> See <https://dip21.bundestag.de/dip21/btd/19/235/1923514.pdf> (page 27). If funding programs for firms and other agencies are included, the number increases from 943 to more than 2,600.

from the energy sector, lignite mining regions, industry, environmental associations, trade unions, the scientific community, and the coalition parties.

The commission was tasked with laying out a strategy for phasing out coal-fired power generation, so that Germany has a realistic chance to meet its climate mitigation targets from the Paris agreement. Furthermore, the commission was mandated to define appropriate policy measures that would create economic opportunities for the affected coalmining regions shown in map 1 above. The commission's final report was adopted almost unanimously in January 2019 (voting ratio: 27:1) and submitted to the federal government in February 2019. Its five key building blocks are summarized in figure 2. They combine recommendations about the timeline of the coal exit (blocks A and E) while ensuring the stability of the energy supply (block C), as well as economic support measures for lignite regions (block B) and for workers and firms directly affected by the transition.

**Figure 2: Recommendations of the German coal commission**



Source: Agora Energiewende, The German Coal Commission A Roadmap for a Just Transition from Coal to Renewables.

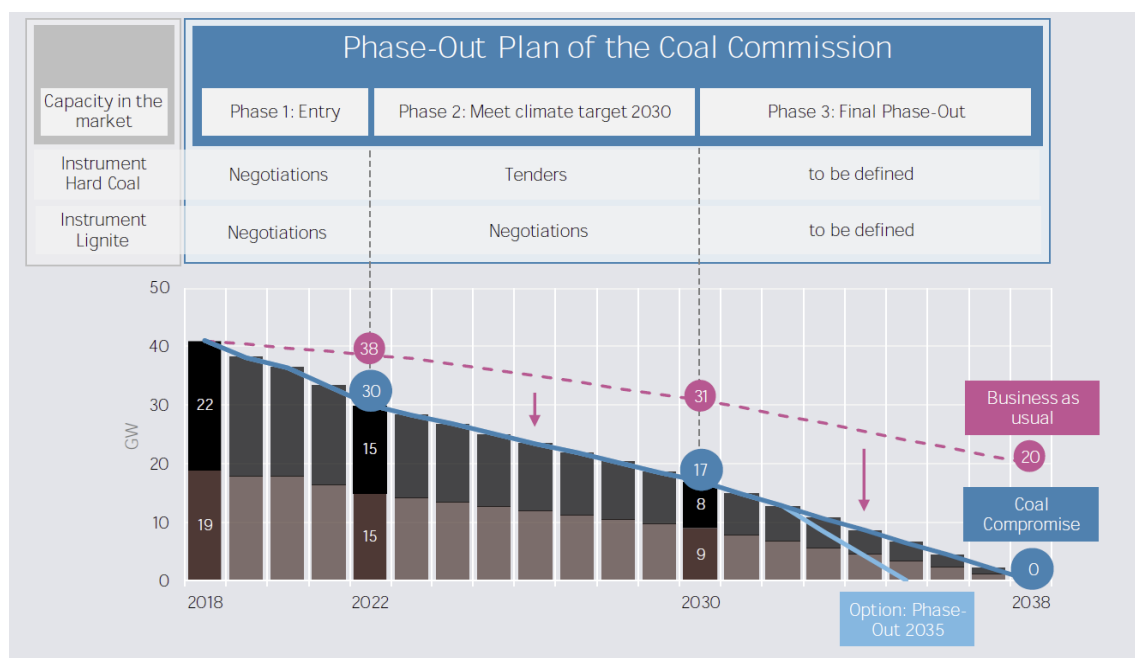
The government was determined to act quickly to put them into legislative action, and intense political discussions followed in the course of the year. But then, the Corona crisis unfolded and completely whirled around political priorities. The issue of the coal exit was put on hold for a while, as policy makers and administrations were busy handling the pandemic. Still, with some delays, both chambers of parliament ratified two laws in July 2020. The first ("Kohleausstiegsgesetz") laid out a detailed schedule for the phasing-out of coal power plants until 2038, together with compensation payments

for the operating firms.<sup>11</sup> The second law (“*Strukturstärkungsgesetz*”) provides the basis for extensive structural aid for those regions in Germany where lignite mining is spatially concentrated.<sup>12</sup>

### 3.1. Energy transition

The most controversial part concerned block A, which specified an exact exit date for each coal-fired power plant, together with compensation payments for the respective operator.<sup>13</sup> The consequences of this implementation for power generation are illustrated in Figure 3 and feature some important milestones. After an initiation phase, the intermediate goal is to phase out lignite at a speed which contributes sufficiently to reaching the overall 2030 climate targets for the German economy. Afterwards, the full phase-out is to be reached by 2038 at latest. Power generation by hard coal, which is almost entirely imported, is faded out in parallel.

**Figure 3: Detailed schedule for the coal phase out**



This plan has been criticized in the public debate. For some observers the key complaint was the slow speed, which they deemed too unambitious. It led to an acceleration of the schedule according to the coalition treaty of the new German Federal Government, which took office in December 2021 and decided to complete the lignite exit – if possible – already by 2030. Yet, this decision was taken before the Russian war in Ukraine and the subsequent decision to stop Russian energy imports, which in turn could lead to delays (or possibly a return to the original schedule) of the coal exit.

<sup>11</sup> See [http://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger\\_BGBI&jumpTo=bgbl120s1818.pdf](http://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBI&jumpTo=bgbl120s1818.pdf)

<sup>12</sup> See [https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger\\_BGBI&start=/\\*\[@attr\\_id=%27bgbl120s1795.pdf%27\]#\\_bgbl\\_%2F%2F%5B%40attr\\_id%3D%27bgbl120s1795.pdf%27%5D\\_1632466221847](https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBI&start=/*[@attr_id=%27bgbl120s1795.pdf%27]#_bgbl_%2F%2F%5B%40attr_id%3D%27bgbl120s1795.pdf%27%5D_1632466221847)

<sup>13</sup> The detailed schedule is explained here: <https://www.bmu.de/faqs/fragen-und-antworten-zum-kohleausstiegsgesetz/>

Other complaints rather focused on the exit procedure itself, which is politically orchestrated and does not mainly rely on market signals. Had the focus instead been on rising CO<sup>2</sup>-prices, some argued, the coal exit may have effectively happened earlier, though possibly in a different order of plants exiting than in the agreed schedule. Moreover, the (politically sensitive) compensation payments to the plant operators may not have been a feature of the market-based approach.

### 3.2. Regional transformation

Our focus in this paper is not on those energy-related aspects, however, but on the structural policy measures to support the transformation of the mining areas (block B). Much of the commission's final report is devoted to this issue, and analyzes in detail the economic situation in the three lignite areas.<sup>14</sup> It then develops policy guidelines for regional transformations, and identifies six areas on which the support should be focused (see p. 104):

- i) Development, updating and implementation of a goal-oriented strategy for growth and employment in line with the strengths of each mining area,
- ii) Strengthening the innovation potential of the mining areas, advancement of research, development and vocational qualifications,
- iii) Investments in industry and small and medium-sized enterprises in the mining areas,
- iv) Extension of the infrastructure
- v) Regional development and quality of life in the mining areas, and
- vi) Civil society dialogue and participation in shaping the future in the mining areas.

To foster these goals, the commission proposes to set up sponsoring institutions in each coalmining area which represent the involved stakeholders and which take a lead in organizing the local transformation process. The Future Agency of the Rhineland mining area (*Zukunftsagentur Rheinisches Revier*), is explicitly mentioned as a role model which the other lignite areas are advised to follow, on the basis that its foundation preceded the coal commission and was therefore regarded as an example of a forward-looking regional transformation strategy.

Turning to the financing, the commission advises the German federal government to earmark a volume of €2 billion per year over the period 2019-2038 to support the transformation in the coalmining areas, thus €40 billion in total. The larger part, €26 billion, should come directly from the federal government in the form of top-ups for research and promotional programs, research infrastructure projects, and new federal institutions opening in the areas. The remaining €14 billion shall

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<sup>14</sup> The final report can be found here: [https://www.bmwi.de/Redaktion/EN/Publikationen/commission-on-growth-structural-change-and-employment.pdf?\\_\\_blob=publicationFile&v=3](https://www.bmwi.de/Redaktion/EN/Publikationen/commission-on-growth-structural-change-and-employment.pdf?__blob=publicationFile&v=3)

be paid as targeted funds to the involved Länder (Nordrhein-Westfalen, Brandenburg, Sachsen and Sachsen-Anhalt) to facilitate further investments according to their priorities, which should be in accordance with the six key areas of action outlined above. All funds should come in addition to existing regional transfer schemes, and not be subject to any co-financing requirements of the involved communities.

In addition to the €40 billion for regional transformation, further support was requested under block D of the final recommendations. This refers firstly to compensation payments to firms and households for higher electricity prices that could result from the coal exit. Secondly, the commission suggested direct compensations to adversely affected workers through the German federal employment agency. This includes funds for vocational training to facilitate job switches, as well as early retirement schemes for workers older than 58 years, who face a job loss as a result of the coal exit over the time horizon of the programme.

The overall financial volume for block D is hard to gauge and remains unspecified in the report. It is likely to be of moderate size, however, at least when it comes to the direct transfers to workers. The extended time horizon of the coal exit allows most incumbents to end their careers on their current jobs. Moreover, the lignite industry only accounts for small shares (at most 3%) of overall employment in the three coal areas (see Figure 1). Worker transitions into different industries therefore seem quite realistic, especially for relatively young incumbents with only short previous attachment to lignite mining.

Summing up, block B on structural transformation is financially by far the largest block, but received relatively little attention in the public debate about the coal compromise. It is not directed towards the lignite industry and its stakeholders, but aims to set up *new* industries, businesses, and future-proof jobs in the coalmining areas. Overall, this policy approach reached a broad consensus across the political spectrum, with the exception only a handful of commentators who questioned the necessity of any unilateral climate policy.

### **3.3. Implementation of the coal compromise**

After the submission of the final report in January 2019, the federal government moved quickly to signal it would implement the commission's recommendations in an unchanged manner. The fact that the report was agreed upon almost unanimously was considered to be a big political success, given how heated the controversies about climate change typically are, and this broad consensus would considerably ease the implementation.

An immediate crash program started already in April 2019 and provided financing for a first tranche of projects. The draft of the federal law ("*Strukturstärkungsgesetz*") was debated in parliament by September 2019, and the involved states prepared their individual transformation strategies.

The final passing of the bill was scheduled for early 2020, but due to the COVID delays, it was later postponed to July 2020 with the law taking effect in August.<sup>15</sup>

At the state and local level, the three coalmining areas developed their initial transformation strategies. For instance, the *Zukunftsagentur Rheinisches Revier* engaged in discussions with stakeholders in the course of 2019, finalized the first version of its “Wirtschafts- und Strukturprogramm 1.0” (WSP), and submitted it to the state government of Northrhine-Westphalia by December 2019.<sup>16</sup> Similar documents were drafted in the other two lignite mining areas.

On substance, the passed law did actually follow the recommendations of the coal commission quite closely, including the overall fiscal volume for regional subsidies. One important caveat applies with respect to the overall financial volume, however. The passed law states that *up to* €40 billion will be spent on investment and structural transformation support in the three coalmining areas until 2038. Given the legal structure, this commitment can be considered quite strong but certainly not irrevocable. Future governments could, in principle, pass a new law to reduce the amount or even abolish the funds altogether. Some observers have therefore suggested to set up a formal treaty between the different involved layers of government, which would create a higher formal hurdle for future governments. But that path was not taken. Hence, the coal compromise and in particular the “up to”-clause in the enacted law still leaves some room for future changes.

In particular, throughout 2020, the acute COVID crisis led to considerable economic turmoil and uncertainty. Governments responded with fiscal stimulus programs of unmatched sizes. Public debt levels have increased significantly as a result. In Germany, the consolidated government budget deficit in 2020 was around €650 billion, and the debt-to-GDP ratio increased from slightly below 60% to around 75%. This raises the question when and how to consolidate public finances, and what this will imply for various expenditures in the future, including the financing of the coal transition via the *Strukturstärkungsgesetz*.

As of today, there are no clear markers for cut-backs in the intended volume as a result of the reduced fiscal capacities. For instance, the above-mentioned budget plan by the state government of Northrhine-Westphalia (with a commitment to spend €15 billion for the Rheinische Revier) dates from April 2021. Thereby it could have already taken possible fiscal realignments into account, but factually did not include any major changes compared to the initial plans from 2019. At the federal level there are also no notable signs (or even statements from the new federal government) about possible alternative budget plans yet, despite all turbulences and new spending priorities (such as a massive increase in defense spending) that have occurred in the meantime.

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<sup>15</sup> See here for the final legal notification: <https://dip.bundestag.de/vorgang/strukturst%C3%A4rkungsgesetz-kohleregionen/252514>

<sup>16</sup> See here: [https://www.rheinisches-revier.de/media/wsp\\_1.0\\_-\\_zentraldokument\\_final\\_mit\\_titel\\_1.pdf](https://www.rheinisches-revier.de/media/wsp_1.0_-_zentraldokument_final_mit_titel_1.pdf)



In the medium- to longer-term, two possible scenarios are conceivable. In the first scenario, Germany moves towards fiscal retrenchment once fiscal rules have returned into their normal mode. This is likely going to happen in 2026, after which the repayment scheme (demanded by the constitution) for the Corona debts and possible further debt schemes in reaction to the Russian war in Ukraine are put in place. This tends to reduce the fiscal space in the future. That mechanism will especially bite at the state level, since they are obliged to run structurally balanced budget and, thus, have to cover the repayments via expenditure cuts elsewhere. Once public budgets are subjected to spending cuts, this may also affect the (weak) commitment to subsidize the structural transformation of the coalmining areas. This could be especially relevant when the initial plans are perceived as oversized to begin with.

In the second scenario, the phasing-out plans and structural investment efforts are even reinforced after the Corona crisis and the energy crisis following the Russian war. Many observers have argued that those crises have raised public awareness for the green energy transition. With the EU recovery fund, the European Union has launched a large-scale stimulus package, financed via common debt, that puts green investments at the core. Also the German stimulus package enacted in June 2020 subscribes to the principle of “building back better” and includes various investment packages to boost climate-friendly technologies (from hydrogen to electric vehicles). Compromising on the coal-exit, as one particular instance of climate policies, would seem contradictory and politically hard to sell within such a setting, although possible delays in the exit schedule are conceivable as coal might replace gas in electric power generation.

Which scenario will come true, and if there will be changes in the original budget plans for the *Strukturverstärkungsgesetz*, is purely speculative at this point and simply remains to be seen. Much of it may depend on the intermediate successes of the implementation of the transformation strategies. For the remainder of this paper, I simply take the agreed volumes at face value and assume no changes to occur later on.

#### **4. WHY SUCH GENEROUS SUPPORT? POLITICAL ECONOMY VERSUS INDUSTRIAL POLICY**

By all accounts, the “just transition” of the German coalmining areas is accompanied by ample support packages: €2 billion per year for structural policy measures directed at the three regions, plus additional funds for worker compensations. This is substantially larger than the overall labour costs in the industry, which currently account for roughly €800 million per annum and would decrease over time with the phase-out.<sup>17</sup> It is also larger than the government’s overall funding for regional policy.

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<sup>17</sup> Average annual gross earnings in the lignite industry are roughly 40,000 Euro, and total industry employment is around 20,000 workers.

Roughly €3.3 billion Euro is spent each year by the federal and the state governments on the so-called *Gemeinschaftsaufgabe regionale Wirtschaftsstruktur* (GRW).<sup>18</sup> Put differently, the three lignite mining areas receive far more direct support via the *Strukturstärkungsgesetz* than all other German regions combined through the standard instrument of regional policy.

After the submission of the coal commission's final recommendations, there were no attempts by the federal government to cut back on the requested funds, but the overall fiscal volume was fully enacted. Certainly, political tactics were involved in that decision: the government did not want to challenge the precious coal compromise on public record. But if it had planned with tighter funding constraints, it would have found ways to signal that to the commission behind the scenes prior to the completion of the final report. Yet, no such incidences were reported during the process, despite high degrees of public scrutiny of the coal commission's work. Hence, it is safe to conclude that the federal government agreed that abundant support for the coalmining areas was needed as an integral part of the phase-out strategy.

#### **4.1. Political economy**

A first possible explanation comes from the political economy of climate policies. Many commentators have argued that a solitary German coal exit has negligible effects on global carbon emissions, because it would only imply leakage of coal-fired power generation to other countries. The only lasting effect would be spatially concentrated job losses from the demise of the domestic lignite industry. That reasoning might be short-sighted, because it leaves the growth impacts of the newly emerging green technologies out of the picture. But to obtain political support for transformative policies, whose payoff only materializes over a longer time horizon, may require instantaneous fiscal accommodation.

The economic geography of lignite mining further exacerbates the issue. Prior to the coal exit, there has been an intense discussion in many countries about growing spatial disparities and their political ramifications. The typical pattern seems to be that thriving metropolitan areas forge ahead in their economic performance, while backward regions fall further behind – the “places that don't matter”, as economist Andres Rodriguez-Pose has labelled them.<sup>19</sup> This is especially true when those regions were once successful in the past, and then faced painful losses and shakeups of their local industry structures, kindling resentment among the population.

Germany is not different in that respect. One of the three coalmining areas – the Lausitz – is actually the pinnacle for such a place. During the time of the German separation, Lausitz was an old

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<sup>18</sup> See <https://www.bmwi.de/Redaktion/DE/Dossier/regionalpolitik.html>

<sup>19</sup> See here: [https://eprints.lse.ac.uk/85888/1/Rodriguez-Pose\\_Revenge%20of%20Places.pdf](https://eprints.lse.ac.uk/85888/1/Rodriguez-Pose_Revenge%20of%20Places.pdf)

industrial and coalmining hub and performed relatively well compared to the rest of the GDR economy. Then, soon after the re-unification in 1990, it went into rapid economic decline relative to other eastern regions. The transformation of the formerly socialist economy came with massive de-industrialization and rising unemployment everywhere in the former GDR, but particularly so in the Lausitz. The region was further hit by globalization and the emergence of new competitors from Eastern Europe and Asia. When tracing regional employment growth during the period from 1991 until 2019, the Lausitz actually ranks last among all 411 German districts.

When the coal compromise was decided in 2019, coalmining jobs accounted for less than 3% of all jobs (see map 1) in the Lausitz. The long-run decline in lignite mining thus started long before, and most jobs already disappeared from the area during the 1990s. Yet, given the importance of lignite mining for local culture and self-perception, there was a strong concern that further uncovered job losses would have devastating effects on the social and political climate and could trigger a further downward spiral for the entire region, where the AfD vote share already exceeded 40% in some parts.

Summing up, one possible interpretation for the generous funding of the coal compromise is that regional subsidies were simply an attempt to alter those dynamics, i.e., to prevent the Lausitz from falling further behind, and by extension, the other two coal areas (Mitteldeutsches Revier and Rheinisches Revier) from experiencing a similar fate. More generally, this would send out the message that policymakers are aware of the severe local impacts of industrial change, as caused by climate policies, and are prepared to cushion them. Yet, such political considerations alone – as important as they might be – are insufficient to explain the special treatment that coalmining areas received via the *Strukturstärkungsgesetz*. After all, painful experiences from past episodes of industrial transformation are not limited to Lausitz. Further considerations must have played a key role, as we argue next.

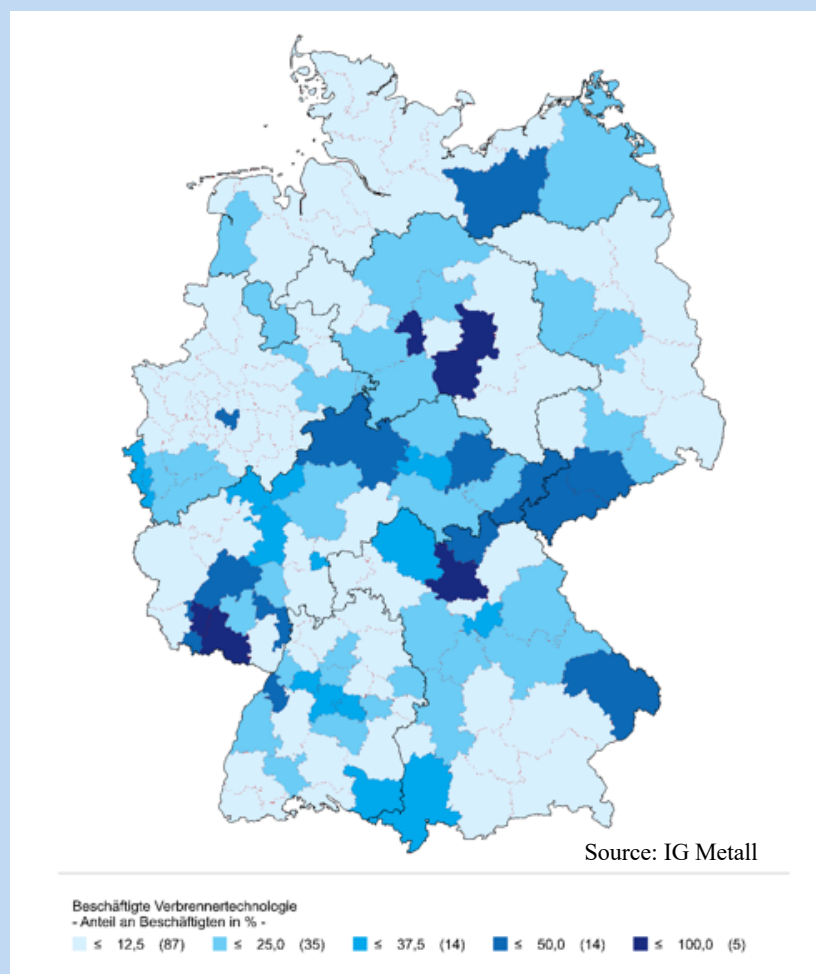
## **4.2. Industrial policy**

The other justification starts from the observation that the specific circumstances of the coal exit allow to build test laboratories for industrial transformation policies that will be urgently needed also in different contexts. After all, not only the lignite industry is currently undergoing a deep structural transformation as a result of climate policies. The same is true for many other sectors, including the automotive industry – the flagship of the German industry, which currently employs more than 1.6 million workers. This subsection first introduces the current situation in that industry, compares it to lignite mining, and then argues that the coal phase-out could provide a valuable template for the transformation strategies of regional automotive clusters in Germany.

### *BOX 1 – Transformation of the automotive industry*

Obviously, the automotive industry is not about to phase-out like lignite mining. But the transport sector must contribute significantly to emission reductions. This requires a rapid transformation away from combustion engines and towards more climate-friendly alternatives, most notably, electric vehicles. The federal government estimates that the share of battery-charged new vehicles must increase from the current 10-15 per cent to at least 70 per cent by 2030, if the Paris climate goals are to be met. The EU Commission has recently reinforced its plans to abandon the combustion engine entirely by 2035. In other words, this technology and the attached jobs are likely to be phased out roughly over the same time horizon as coal-fired power generation.

**Figure 4: Automobile regions in Germany**



Batteries are less complex products than combustion engines, and require a lower labour input per unit in production. Some first impact analyses have, therefore, estimated that the transformation will imply considerable job losses in the automotive industry, somewhere in the range between 400,000

and 500,000 jobs.<sup>20</sup> Those pessimistic projections have later been revised, and current estimates even imply that the overall number of jobs within the German automotive sector (broadly defined) could remain roughly unchanged.<sup>21</sup> But there is likely going to be substantial turnover, with massive job losses in some occupations (like manual production jobs) and equally large gains in jobs with entirely different task profiles (such as IT, customer services, etc.).

This transformation implies massive changes in the structure of the industry, as well as for workers, firms, and regions. The map in Figure 4 illustrates the current spatial structure of the German automotive industry, including suppliers and related services. Of the 411 local districts, 150 have an employment share above 12.5% in jobs that are directly or indirectly linked to the combustion engine. As some of those administrative districts are adjacent, it is more meaningful to merge them into single economic units. This way the IG Metall, the trade union covering the industry, concludes that Germany currently has **70 regional automotive clusters** which are unevenly scattered across the country.

How will the transformation affect those clusters? The common expectation is that the three major German automakers and their headquarter locations (VW in Wolfsburg, Daimler in Stuttgart and BMW in Munich) are not going to suffer much. The same is true for tier-1 suppliers like Bosch (Stuttgart) or ZF (Friedrichshafen) who have already built up many future-proof jobs for the green and digital mobility era. More severe problems are to be expected in such automotive clusters which mainly host small and highly specialized suppliers, such as Saarland or Pfalz in the upper south-west close to the French border, or the area around Eisenach in Thuringia. Many of the suppliers located there have grooved their business models through gradual process innovations over years, if not decades, and provide specific car parts within highly specialized value chains. When the use of combustion engines is phased out, many of those value chains come under strain and the firms under enormous pressure to adjust their business models. Failure to adjust could result in spatially concentrated job losses in the respective clusters. In the extreme, this could even trigger a self-reinforcing downward spiral for an entire region, along the lines of what has happened in response to globalization in the Ruhr area or the textile clusters around Pirmasens in the 1990s and early 2000s.

IG Metall estimates that around 20 of the 70 local automotive clusters fall into that category, where the transition could cause adverse and disruptive labour market adjustments. Recognizing this possibility, federal and state governments have recently launched various political initiatives to support the automotive transition. The specific approaches cover various research and development grants,

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<sup>20</sup> See here: <https://www.plattform-zukunft-mobilitaet.de/2download/1-zwischenbericht-zur-strategischen-personalplanung-und-entwicklung-im-mobilitaetssektor/>

<sup>21</sup> See here: <https://www.iao.fraunhofer.de/de/presse-und-medien/aktuelles/automobiler-wandel-perspektiven-fuer-die-beschaeftigung-2030.html>

buyers' premia for electric vehicles, designated infrastructure investments for battery charging stations, and so forth, with an overall subsidy volume somewhere in the ballpark of €8 billion.

The most recent addition is the one-off “*Zukunftsfonds Automobilindustrie*”, worth €1 billion until 2025, where roughly one third of the funds is reserved to set up agencies for regional transformation in those particularly endangered clusters. As of September 2022, around 30 local clusters have applied for this support scheme, and the Federal government expects around 20 positive evaluations. Several Länder might add similar initiatives on top. Taken together, this support for automotive regions can be considered another example for proactive regional policy, because the key criterion for the receipt of subsidies are not current local problems but the outlook into future problems. Interestingly, support might thereby go also to regions in Bavaria or Baden-Württemberg, which are currently not eligible for funding under any of the standard tools of cohesion policy, neither at the national nor at the European level. Still, the overall volume of this special support package for regions strongly specialized in the automotive industry is nowhere near the level that was decided for the three lignite mining areas.

To some extent, the automotive clusters at risk face similar problems as the lignite mining areas: a key leading industry is about to shrink, or even to disappear, partly as a result of (inevitable) climate policies. Hence, they are seeking to develop new business areas to provide high paying and future-proof jobs.

Yet, this competition does not seem to take place on a level-playing field. The lignite mining areas have access to substantially higher funds to manage this transition – even though they represent only a tiny fraction of the jobs potentially at stake in the automotive industry. What may seem paradoxical at first sight, might actually make sense if one thinks about the capabilities of government to actively influence and guide local processes of structural change.

All regions within a country constantly face some type of economic transformation. Apart from lignite mining and automobiles, there are many other industries (from chemicals to banking) that currently undergo deep changes in becoming climate-neutral and more digitized, hence many more regions that could face disruptive labour market shocks. Within such an environment of rapid change, governments cannot design comprehensive packages for each and every industry and region. This overburdens the organizational and financial capacities of the public sector in a market economy. Moreover, governments usually cannot deliberately pick some regions to receive special support while leaving other regions aside. This goes against political realities and the mandate of equal and fair treatment.

Yet, in the unique situation of the coal exit, there was effectively no such selection problem. There is a limited number of just three regions that saliently deserved support, since the government rather than the market has decided to quickly and fully fade out a leading local industry. Hence, a policy approach becomes feasible for the coal areas that is effectively not applicable for 20-70 automotive clusters: those three coal areas can be turned into laboratories where recipes for industrial transformation can be tried out, which – in case of success – could serve as templates in other contexts.

For this interpretation to make sense, the regional subsidies to the coalmining areas should not be seen as literal compensation payments for regional job losses. They should rather be interpreted as seed funding to create local environments where new green technologies are developed. Those technologies should henceforth not only form the local economic (and export) basis, but spur growth well beyond the regions. Put differently, although the money is initially spent in the three coalmining areas, the ultimate goal is that the money creates templates and real impacts outside those areas. It follows that the overall assessment of the adopted strategy cannot be measured solely according to the economic performance of the three coalmining areas in the year 2038. Rather, the key question must be whether they have indeed served as a nucleus for new developments that are then applied elsewhere in Germany, Europe and the world, contributing to the achievement of global climate goals. The immense structural support from the *Strukturstärkungsgesetz* can lay a decisive foundation. But for it to achieve the desired goals, this money must be used effectively. Only then can the massive financial support be justified to taxpayers, only then can *Rheinisches Revier*, *Mitteldeutsches Revier* and/or *Lausitz* become role models for other coalmining areas or other regions experiencing massive industrial change.

## **5. PROACTIVE REGIONAL POLICY – A PRELIMINARY ASSESSMENT**

In this section, I will briefly review the design of the regional transformation strategy for the Rheinische Revier, and reflect on whether it follows the industrial policy interpretation – coalmining areas as real-world laboratories for transformative policies – outlined before.

### **5.1. Theoretical basis for industrial policies**

Any successful strategy consists of two key elements: i) a clearly defined goal, and ii) a precise description which instruments will be used to achieve that goal.

When it comes to defining the goals of the transformation strategies for the coalmining areas, there are two basic routes the government could take. First, it can adopt vertical (or “big push”) industrial policies. In that case, it precisely defines one or a few industries which are in the focus, and then targets most (or all) funds towards this particular sector. On an instrumental basis, this can happen either with direct subsidies to affiliated firms, subject to European state aid rules, or with specific infrastructure investments tailored to the needs of the target industry. Second, the government might

opt for a horizontal approach. Here, funds are used for general infrastructure investments, or for other general improvements of local amenities or business climate, without focusing it to particular industries.

Both approaches have pros and cons as widely discussed in the literature. For short, vertical policies run the danger of targeting the “wrong” industries, thus leading to misallocations and bad investment choices. Moreover, by picking winners it leaves aside many firms and workers from non-targeted industries, who might henceforth disengage from the regional transformation process. Those problems are smaller for purely horizontal policies with a higher degree of “technology openness”. But that approach, by contrast, is often criticized for being too unspecific and following a scattergun principle in the use of funds. This may prove insufficient to elevate certain industries beyond critical mass points, which might have been reached if vertical funds were specifically targeted at those bottlenecks.

## **5.2. The transformation strategy for the Rheinische Revier**

The transformation strategy for the Rheinische Revier ranges somewhere in between those two approaches. It is divided into four individual chapters, each of which defines a key area of action: 1) "energy and industry", 2) "resources and agrobusiness", 3) "education and innovation“, 4) "mobility and infrastructure". There is no hierarchical structure among those four development goals, but they are seen as equivalent and equally important for the overall strategy. In terms of the taxonomy, the former two bullet points refer to specific industries and are, thus, vertical in nature, while the latter two tend to have a more horizontal character as they are upgrading the local transport infrastructure and basic research institutions.

Quantitatively, the horizontal policies are likely to receive a substantially larger budget share of the available funds. The state government has recently (June 2021) decided on a preliminary budget allocation across the four fields of action. This overall budget (€14.8 billion) is composed of funds from the second part of the *Strukturstärkungsgesetz* and added own funds by the state.

According to that projection, 23 % of it will go to "energy and industry", 8% to "resources and agrobusiness" and the remaining 69 % to education and transport infrastructure investments. Whether this allocation is optimal remains to be seen. There is no way how to evaluate that ex ante. The large budget share for horizontal policies perhaps reflects the inclusive notion of the transformation, which always insisted to take all relevant stakeholders on board during the process. This naturally implies that a strong targeting of funds to narrowly defined areas is politically hardly feasible.

One critical remark that was voiced in the discussion and in the formal reviews of the WSP 1.0 emphasized, that it does not reflect the highly privileged funding position that the Rheinische Revier is in. The design of the strategy, the mix of horizontal and vertical elements, the use of specific



bullet points below the four main areas of action – all of it follows rather well-trodden paths. The substance and the wording resemble strategic development plans known from many other regions, which do not have an abundance of funds at their disposal to finance their own transformation. Many of those regions would typically choose a focus on infrastructure and education. Many would emphasize climate-neutral industry, e.g., through hydrogen, and the availability of green energy. In that respect, the WSP 1.0 for the Rheinische Revier seems to essentially repeat the well-known bullet points.

The unique lighthouse character of the coalmining regions is not visibly reflected in out-of-the-box thinking. What does the Rheinische Revier do differently from other regions? How does it use its special financial capabilities to actually make a difference? For example, it could deliberately try to attract some landmark investments (“million dollar plants”) with global reach and charisma, such as the Tesla Gigafactory that recently opened up close to Berlin, or run similar somewhat adventurous policy experiments that other regions with lesser funds could never even think of pursuing.

In response to those comments, the state government and the *Zukunftsagentur* slightly revised the transformation strategy in an updated version. But judging on the basis of the current draft, which is not yet finally enacted, those changes tend to be relatively minor. A stronger vertical focus was denied for the reasons outlined above (inclusiveness), and the planning of landmark investments was deemed too uncertain to move it to the core of the strategy.

### **5.3. The German coal exit – a role model for proactive regional policies?**

Can the specific design of the German coal phase-out strategy be considered a role model for other countries in Europe or even around the world, in how to deal with regions under acute transformation stress?

#### *The pros*

On the plus side, it clearly stands out that the German coal exit was decided upon in a rather consensual manner. To be sure, the work of the coal commission was put under much scrutiny and was closely followed by the media. It induced some heated debates about climate change, and the sense of unilateral climate policies in public discourse. In the end, however, the commission’s final report was almost decided by unanimity – despite the fact that very heterogeneous interests and points of view (from industry representatives to climate activists) were represented. This broad consensus significantly eased the implementation of concrete political steps afterwards.

Second, the mandate of the commission has been to develop an encompassing strategy for the coal exit that includes a variety of aspects, from electricity prices to regional structural transformations and compensations for directly affected workers. This has surely made the task for the commission more difficult and demanding, but raised the value of the compromise that was eventually

found. Clearly distinguishing the key areas of action in their final recommendations, as described above in Figure 2, is certainly another noteworthy aspect of their work.

Turning to the narrower aspect of transformation of the three lignite areas, the coal compromise managed to develop a transparent and workable structure how to orchestrate such a process. One key advantage was the appropriate combination of top-down and bottom-up elements. The federal government provides most of the funding and is responsible for some of the specific projects through federal investments. But the stakeholders on the ground, the involved municipalities and representatives of civil society within the coalmining areas, were always deeply involved in the process, and in the position to decide on a significant portion of the overall funds according to their priorities. This involvement of different layers, and the combination of top-down with bottom-up certainly reflects the federalist structure of Germany.

### *The cons*

On the negative side, the German approach may be considered as vastly off-putting for other countries, because they might not be willing or able to spend the equivalent of 2 million Euro per job for structural transformation subsidies, plus additional money for direct compensations. Cynically, one might say that the broad consensus within the coal commission was only possible because of the vast amounts of money put on the table, which made sure that no hard choices or trade-offs had to be made.

Other countries will be hesitant to force the transition of local economic structures, away from coal and towards other activities, if they do not observe workable and realistic plans for doing so. Should the abundantly funded German strategy fail to deliver quick and visible results, this can create negative spillovers elsewhere.

The abundance of funding creates another problem: the local stakeholders were overwhelmed to quickly name enough worthy projects to eventually use up the funds. In fact, the final report by the coal commission included a lengthy appendix (see pp. 123-274 in the German version) with a list of several hundreds of specific projects compiled by the involved states. The federal government immediately clarified that it did not consider this list as compulsory, and that it would not be part of the subsequent legislative process. But the existence of the appendix still raised concerns about the quality of public spending that would come with the subsidies. Many items on the list were very small in scale and had no obvious connection to the general transformation guidelines, nor the lignite industry. Several of them were even found to be from a backlog of projects and were previously denied funding from other sources, hence they appeared to be of secondary importance and quality. This anecdote exemplifies that a successful transformation is a long-term endeavor which requires strategic plan-

ning, and should not be filled up with off-the-shelf projects that failed in other circumstances. Entirely ruling out such rent-seeking is probably unrealistic, but an optimal process would try to avoid it as far as possible. The German approach can certainly be improved upon in this respect.

Generous support for regional transformation is only realistic under very special circumstances. As described above, the German coal phase-out is such a case: only three regions that saliently can request help from the federal government, since their key industry was phased-out by law. But those regions then also have a responsibility. They need to recognize their own role as real-world laboratories, and try to spend the money as effectively as possible, so that other regions have the opportunity to later copy the successful elements. As argued above, the implementation of this principle has not fully worked out in practice. The eventual strategies were not very innovative. Vertical or moonshot elements were underrepresented. The approaches mostly followed well-trodden paths, just with more money put behind it. To some degree this was inevitable. The process strongly emphasized equal and fair participation of all involved shareholders, hence all sorts of ideas had to be considered. A stronger targeting of funds would have been realistic only if, from the very beginning, parts of the funds were set aside for such riskier, more adventurous purposes. This, however, did not happen in the German approach.

## **6. CONCLUSION**

Regional policies, especially of the proactive kind, are in the limelight these days. This paper has firstly discussed the big paradigm shift in mainstream economics that is behind this newly gained prominence. Afterwards, the paper has introduced the most prominent and voluminous case of proactive regional policy in Germany, the lignite exit, as well as the local transformation networks for the automotive industry as another example. My analysis suggests that the involved regions must realize that they are role models. They receive unusual amounts of support not available to other regions, which also have to master pressing local transformation processes. That implies that the recipients are sort of obliged to make the most out of this money – in particular by experimenting with innovative and new approaches, thereby establishing pathways for other regions.

However, a preliminary assessment suggests that the coalmining areas have not fully lived up to this ideal so far. The German way to organizing the coal exit has many desirable features, especially the consensual nature of the process. But the vast amount of regional structural support for the three lignite mining areas will apparently mostly flow into rather conventional spending categories. There is little evidence for moonshot projects or innovative novel paths that only those regions could try out – given the unique circumstances they are in. This misses the chance to experiment how powerful proactive regional policies could be, and how to exploit its full potential.

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