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# Power relations and local agency: a comparative study of European mining towns

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## ABSTRACT

Local agency is marked by its structural boundedness including nation state strategies. We investigate the dynamic and mutually constitutive interrelationship between agency and state strategies to better understand and explain change in local development with the examples of four mining towns: Kiruna (Sweden), Zeitz (Germany), Most (Czechia) and Tatabánya (Hungary). They embody processes of industrial transition and mining activities that are heavily regulated by (supra-) national authorities and marked by constantly changing multiscale power relations. We find local agency is constrained by rather specific relations and can be facilitated by more complementary ones, both on local level and between different scales.

## KEYWORDS

Mining regions; local agency; state strategies; power relations; regional development

## Introduction

Mining regions are subject to multiple processes of industrial transformation as, depending on resource availability, commodity prices or political resource strategies, mines are being closed for diverse reasons (Laurence 2006), expanded or even newly opened up (Bjørge and Røiseland 2018). Regions need to adapt to the respective changes both in terms of their economic development and with regard to multiscale governance arrangements (Baeten, Swyngedouw, and Albrechts 1999; MacKinnon et al. 2009). Such processes of local and regional adaptation should not only be analyzed in their regional context, as suggested by literature on ‘new regionalism’ (Harfst 2021), but in the context of national political economies and strategies of the state towards mining activities and regional policies (Birch, MacKinnon, and Cumbers 2010).

Mining activities generate important gains in terms of local employment, household incomes and tax revenues, particularly in regions with few other economic opportunities. Yet, dependency on natural resources also brings a risk of crowding out other tradable industries (Venables 2016). On regional and local levels, mining’s long-lasting effects shape economic and industrial structures, including skills and competences, the

local culture and identity, as well as the physical land and townscapes of the regions both during and after extraction (Harfst 2021). The continuity or closure of mines are hence of particular public interest, affecting issues of uneven development in a national or even supranational context (Baeten, Swyngedouw, and Albrechts 1999). This, and the profound economic, social, and environmental impacts (Dale 2002), result in strong regulatory frameworks where national and supranational authorities aim to secure the resource base for further economic activities as well as to minimise environmental damages and reconcile mining activities with local development visions.

Local agency in current and former mining regions (hereafter only mining regions) is hence characterized by specific conditions including its boundedness by multiscalar state institutions assuming various, at times conflicting roles in shaping regional development paths (Birch, MacKinnon, and Cumbers 2010). Yet, local actors may aim at exercising agency within and beyond local boundaries by mobilizing regional- and extra-regional capabilities, networks, and resources to engage with and change constraining factors for the sake of the future development of their localities. The literature suggests that agency is distributed among a diverse set of local and extra-local actors and that in most cases, different kinds of agency go hand in hand in local development processes (Bækkelund 2021; Grillitsch and Sotarauta 2020). Local governments, hence the local state, often play a decisive role in this regard in exercising institutional agency or place leadership (Sotarauta and Suvinen 2018), in some cases even innovative entrepreneurship. However, the double role of the state that both acts to develop the region or place (most often as local actor) as well as to define boundaries of local agency (most often as actor on national levels) (MacKinnon et al. 2009; Birch, MacKinnon, and Cumbers 2010), may result in tensions stemming from the scalar organisation of power but also from conflicting sectoral interests related to mining and regional development. Hence, questions of regulation, state power and strategies and their situatedness in specific spatio-temporal contexts are particularly important factors in mining regions (Dale 2002) and call for an embedding of local agency in broader political economic contexts.

Still, little research has been done on how nation state strategies and institutions in mining regions enable or constrain local actors' agency. Studies on old-industrial regions, and mining regions in particular, have mostly targeted a limited number of case studies within similar contexts (e.g. Baeten, Swyngedouw, and Albrechts 1999; Dale 2002; Pavlínek 2005; Gwosdz, Domański, and Bilska-Wodecka 2020). Only little comparative work on regional restructuring has been done in differing national contexts (for exceptions see Birch, MacKinnon, and Cumbers 2010 or Grillitsch, Rekers and Sotarauta 2021) and even less studies include regions from the so-called post-socialist countries (for exceptions here see Wirth, Cernic-Mali, and Fischer 2012; Harfst 2021). Additionally, different phases of the mining lifecycle and their consequences for local agency have rarely been compared. Nevertheless, such comparative studies could be sources of understanding which help to interpret diverse trajectories in a similar sectoral and global context. This is even more important as institutional architectures are considered by us to be changing and dynamically leading to constant changes in power relations.

Hence, this paper focusses on how power relations are constructed in mining regions and, intertwined with these, how local agency changes over time and under which

circumstances. We adopt a multiscalar perspective on local development and pose the following research questions: first, how do nation state strategies constrain or enable local development processes and how do power relations in mining regions develop? And second, which strategies do local agents pursue to deal with the changes of the regulatory context set by nation states' strategies and which form(s) of agency do they exercise?

We combine the strategic-relational approach with recent literature on agency in economic geography. We understand nation state strategies and local agency as dialectically related in the sense that certain strategies privilege certain actions in specific spatiotemporal horizons whereas local actors are strategically reflexive about these structural conditions (Jessop 2005; Lagendijk 2007). Empirically, the paper assesses local agency in four mining towns, Kiruna (Sweden), Zeitz (Germany), Most (Czechia) and Tatabánya (Hungary) against the backdrop of their broader political-economic contexts. We draw here on 92 interviews that were carried out between 2019 and 2021. Despite obvious differences concerning the concrete resources extracted (iron ore and lignite), phases of the mining lifecycle (from active to already closed) and national policy contexts, our cases show similarities that allow us to assess how different national structural conditions as well as changing mining activities shape patterns of local agency. All four cases are small and medium-sized towns situated outside of large agglomerations. The mining roots go back a long time, resulting in considerable industrial legacies concerning economic path trajectories, environmental degradation and restoration, and places' collective identities. All cases rely on point resources, which run a risk of depletion, yet which are considered easy to control, trade and appropriate (Lashitew, Ross, and Werker 2020). Further on, in all cases the state is highly involved in (post-) mining activities either in form of business ownership or as regulatory power. And most importantly, all four cases have been subjected to a considerable pressure for transformation either due to continued, but changing mining activities or to the planned, respectively, already realised end of mining.

### **Local agency in mining regions**

The restructuring of mining regions, like old-industrial regions in general, has long been studied from institutionalist perspectives focussing on path dependence and path renewal (see e.g. Birch, MacKinnon, and Cumbers 2010; Hudson 2005; Dale 2002; Baeten, Swyngedouw, and Albrechts 1999; Grabher 1993; Hudson 1992). However, recent studies on regional change and adaptation highlight the importance of local agency (Uyarra et al. 2017; Grillitsch and Sotarauta 2020), even in hierarchical and authoritarian settings like Russian *monogorods* (Gunko et al. 2021), placing the different roles of human actors and their strategic actions in the centre. Actors are no longer understood as stable elements with determined positions in time and space (Yeung 2005). Instead, they may mindfully deviate from existing patterns of behaviour, and act consciously and reflexively as they are knowledgeable (through experiences and tacit knowledge) and capable to act (Garud and Karnøe 2001). In this sense, agency captures actions or interventions by individuals or a set of actors to produce a particular effect (Isaksen et al. 2019; see also Emirbayer and Mische 1998; Sotarauta and Suvinen 2018).

Intentionality, purpose and meaning are motivating such actions but may result in both intended and unintended consequences (Grillitsch and Sotarauta 2020) and the capability to act (Gunko et al. 2021) evolves over time.

Regions as spaces can be defined as constituted through interactions, a sphere of coexisting heterogeneity and always under construction (Garud and Karnøe 2001; Paasi 2002; Massey 2005). In mining regions, it becomes particularly visible that human agency is constantly creating new spatialities, thus being a driving force for regional transformation. However, agency is unevenly distributed in space (Jessop 2001) and not all human agency leads to changes in development paths. More frequently it contributes to the preservation of the original structures (Coe and Jordhus-Lier 2011; Jolly, Grillitsch, and Hansen 2020; Bækkelund 2021) and vice versa. The potential for change of individual regions differs depending on heterogeneous transformative capabilities of agents, a (non-)stimulating institutional environment (e.g. Morgan 2016; Grillitsch 2019; Sotarauta, Kurikka, and Kolehmainen 2021) and economic structures (Boschma et al. 2017).

In mining regions much depends on how agents might make use of the natural, economic and cultural potentials left by mining activities (Wirth, Cernic-Mali, and Fischer 2012) and agents' capacities to create new development paths. Particular agents of change (Grillitsch and Sotarauta 2020) whose activity 'aims or results in breaking with existing regional development paths' (Grillitsch, Rekers, and Sotarauta 2019, 6) might play a decisive role in overcoming the material and economic consequences of mining activities, path-dependencies, obsolete institutions, and cognitive lock-ins. Yet, mining regions show specific patterns of the structural embeddedness of local agency, as many factors such as the global demand and prices for resources, large companies with headquarters outside the region, or a heavy specialisation in a resource-based industry create strong path-dependencies. Indeed, dominant actors may consciously work against change with the aim to protect vested interests (Grabher 1993; Hassink 2010).

Additionally, mining regions display a strong regional identity which may serve as cultural development potential but may also lead to cognitive lock-ins among local actors (Dale 2002; Marot and Harfst 2018; Görmar and Harfst 2019). Over long periods of time, the hard work in the mines shaped a distinctive cultural and social tissue (Wirth, Cernic-Mali, and Fischer 2012) leading to a common world-view of local actors and potentially limiting their possibilities to gain new insights from outside the region (Fitjar and Rodríguez-Pose 2011). Yet, in the context of economically less diverse and more peripheral regions, locally or regionally embedded actors need to maintain extra-local links as a resource to prevent cognitive lock-ins (Crevoisier 2001). A certain diversity and complementarity of agents might lead to new combinations of actor-specific capabilities and the creation of a new development path limiting the dependence on the dominant, here extractive, industries.

Based on these observations, local agency can be understood as comprising different dimensions as it has been captured, for instance, by the notions of reproductive or maintenance agency and change agency (Bækkelund 2021; Jolly, Grillitsch, and Hansen 2020). The latter could be differentiated more concretely by a *trinity of change agency* (Grillitsch and Sotarauta 2020, Grillitsch, Rekers, Sotarauta 2021). The three theoretically distinct types of change agency, which play an important role in the transformation of regional economies have been defined as: *innovative entrepreneurship* capturing the introduction of new products

or services, processes, and organisational forms, *institutional entrepreneurship* referring to actions aimed at changing existing or introducing new formal and informal institutions, and *place-based leadership* seeking to mobilize and coordinate a wide range of interests and actors, directing them towards some shared objective (Grillitsch and Sotarauta 2020). The idea of the trinity of change agency is that regional transformations often call for and require the interaction of different types of change agency. Yet, this does not imply that all types are needed at all times. If specific actors operate at multiple positions (Suvinen 2014) in different social structures (e.g. in different organizations, spheres, places) or with different intentions, they can be representatives of all three types of agency at the same time or shift between them (Gunko et al. 2021). Agency can also be exercised by different types of actors. Jolly, Grillitsch, and Hansen (2020, 179), for instance, identified firms, facilitating organisations for innovation and entrepreneurship, public policy actors and so-called fringe actors, i.e. civil society organisations or user associations as potential actors of change or maintenance. Networking within several structures increases the power of these actors in terms of their ability to mobilise resources and shape institutions, influence the flow of information and understand problems in different contexts (Sotarauta and Mustikkamäki 2014).

To summarize, local development is put forward by different forms of agency, existing interrelations among actors and channels of bargaining. Local agents draw on different resources such as networks and extra-local linkages. Yet, particularly in the case of mining regions agency does not unfold in a spatial vacuum but is embedded in specific institutional environments and regional cultures. As the nation state has particular economic and political interests in mining regions its strategies form an important part of these institutional environments. Thus, its constraining or enabling power in relation to local agency should be more carefully considered. A relational perspective on local agency with a specific focus on selectivities of nation state strategies and power relations as it is proposed by the strategic-relational approach seems here useful to understand the mechanisms in which agency unfolds.

## **A relational approach towards local agency**

Within the last years economic geography has seen a proliferation of studies engaging with agency going beyond the previously dominating structural perspective of evolutionary economic geography (Grillitsch and Sotarauta 2021). However, recently more emphasis has been put also on its interrelationship with regions' structural preconditions enabling or constraining actors' abilities to realise change including questions of power (see e.g. Miörner 2020; Grillitsch and Sotarauta 2020). One particular aspect of these preconditions concerns the role that the nation state's strategies (hereafter referred to as state strategies) may assume and the extent to which state authorities might be able to 'reach into the politics of local areas' (Griffin 2012, 217) resulting in specific power geometries (Massey 1993).

Power, and thus local actors' capacities to act (Yeung 2005), unfolds in the interrelations between actors, institutions and material circumstances on different scales (Griffin 2012, 209) which is particularly manifested in mining regions. As our cases show, mining activities as well as mines' closures profoundly change regions' materiality and social fabric, while at the same time being of specific strategic importance for national and globalised economies. Mining towns are hence suitable examples to study

interrelations between structure and agency and the question how power manifests in spatial practices reproducing, maintaining, or challenging unequal power relations. More particularly, their example allows to capture the interrelations between local agency and multiscalar state formations – the latter being themselves shaped by selective political and economic strategies while simultaneously constituting the arena within which agency may unfold (Brenner 2004; Pemberton and Goodwin 2010).

Following this strategic-relational approach the nation state can be understood twofold: first, as key agent regarding the allocation of material resources and the (co-)production of powerful economic and political imaginaries and related development strategies (Lagendijk 2007); and second, as a relational construct itself shaped by competing internal and external strategies and political struggles. *State strategies* refer to ‘initiatives that mobilise state institutions towards specific forms of socio-economic intervention’ (van Heur 2010, 428). They include the reconfiguration of spatial structures (institutional settings and practices) (Brenner 2004), setting the frame within which material and discursive resources are selectively (re-)distributed and whereby favouring access of specific sectors and social agents to sites of political and economic power (MacLeod and Goodwin, 1999). Accordingly, state power can be understood as the institutionalised temporary outcome of balancing and mediating between differing political, economic and social forces (Pemberton and Goodwin 2010; Lagendijk 2007). State institutions are thus time and place-specific social constructs capturing values, norms, and rules and encompassing social actors’ perceptions and reflections on their own status, strategies, and actions. By (co-)producing certain ideas about the local economy, state institutions, at least partially, delineate relevant economic and associated societal ‘problems’ and suggest appropriate policy solutions (Pemberton and Goodwin 2010, 278).

In case of old industrial and mining regions, these ‘problems’ are rather complex and concern economic, social, cultural and environmental issues alike (Wirth, Cernic-Mali, and Fischer 2012). First, given the continuous pressure on regions to remain or become globally competitive technological change, innovation and economic diversification become central notions in state’s strategies towards regional restructuring (Hodson 2008). Second, global ecological concerns such as climate change or water pollution increase the need to reduce mineral-based energy production and address the environmentally devastating effects of mining activities (Kronenberg 2013) with local effects on (post-) mining activities. And third, restructuring a regional economy also affects a region’s identity and culture (Görmär and Harfst 2019) which may lead to a discursive ‘crisis of definition’ (Cruickshank, Ellingsen, and Hidle 2016) and uneven material outcomes with potential consequences on social coherence and electoral results (Rodríguez-Pose 2018; Schmalz, Singe, and Hasenohr 2021).

Within this complexity, institutions and specifically state institutions orient local actors’ strategies selectively. These ‘structurally-inscribed strategic selectivities’ (Jessop 2005, 48) result in temporary, yet unstable hegemonies meaning that there are some actors and identities whose discourses, strategies and actions are privileged over others at a specific point in time. State strategies may foreground, for instance, either the economic interests of mining companies (i.e. profit) and mining regions (i.e. tax revenues) or environmental aspects and the need to counteract climate change processes. Nevertheless, processes of discursive and strategic variation also allow for

contestations of hegemonic strategies and the emergence of new development visions. The course of actions is not necessarily determined but local agents act within a specific structural framework about which they are reflective. Yet, their actual capacity to act depends on the nature of power relations that are emerging through interaction.

Yeung (2005) distinguishes here between two specific forms of power relations, relational specificity and relational complementarity. As relational specificity he defines a pattern of power relations where a certain hegemonic goal is enforced or, in other words, is strategically selected and pursued. The specificity is determined by unequal access of agents to resources and information in relational geometries caused by the persistence of dependency and lock-in within existing power relations (Yeung 2005, 48). In contrast, relational complementarity is a context where particular activities and the coexistence of agents (e.g. mobilization of collective power) and structures in relational geometries are beneficial for everyone opening up windows of opportunity (Boschma 2004; Boschma et al. 2017) and potentially leading to advantageous spatial changes and intended consequences for all. Hence, local agency has itself a structuring potential that may either reproduce or transform the social structures (incl. state formations) as well as their emergent properties, eventually inducing change (Jessop 2005).

Based on these theoretical discussions we assume that in case of specificity in the relations between the nation state and local state institutions, the opportunities to exercise local agency in its various forms are rather restricted (albeit not impossible). Particularly in mining regions, non-state actors are heavily influenced by state regulations and strategies on different levels. The scope for agency increases if national, regional and local state strategies complement each other and place-based development strategies are embedded in multiscale long-term strategies (e.g. Harfst 2021; Keller and Virág 2021). The scope for local agency presumably increases with complementarity in multiscale state relations and a decisive commitment of the nation state ‘to provide an institutional environment that provides local agents with capacities to build vertical and horizontal alliances and to have a say in the definition of developmental goals’ (Keller and Virág 2021, 15). Thus, the focus of this paper is how specificity and complementarity in power relations relate to the ability of local actors to influence local development.

## Research design and methodology

Following the above outlined relational take on local agency and state strategies, the remainder of this paper is dedicated to show how state strategies and the interactively mediated power relations affect local agents’ scope for action and how local agents strategically reflect upon that and mobilise different resources to exercise agency and either reproduce or challenge hegemonic structures.

We draw on empirical material of four in-depth case studies of municipalities in Czechia, Germany, Hungary and Sweden, carried out within the research project ‘*Agents of change in old-industrial regions in Europe*’. Cases were selected to show a variety of development in old industrial regions outside large agglomerations, to highlight how agency works in highly locked-in regions where extra-regional influences are particularly important. They differ in their national political and legislative contexts

as well as the stage of mining activities. Yet, all places have faced different stages of a mine's lifetime, including downscaling and the potential threat of mine closure. Hence, all cases help us to shed light on the scope for local agency and ultimately different consequences for local and regional development.

Between June 2019 and May 2021, we conducted in total 92 qualitative semi-structured interviews in the municipalities (see [Table 1](#)). Our primary targets have been local actors that we selected according to the categories identified by Jolly, Grillitsch, and Hansen (2020). Hence, interviews have been conducted with public policy actors such as central administrative actors and local politicians from the municipalities (mayors, administrative staff, city councillors), with firm representatives (managers, owners), facilitating organisations such as higher education institutions (HEI) and support organisations, as well as civil society organisations (clubs, associations and initiatives). Additionally, we aimed at grasping regional institutions and overarching strategies and conducted interviews with relevant regional actors. Due to the size of the towns, several of our informants have held multiple key positions in the region. To grasp nation states' strategies regarding mining activities and regional policy as well as local responses in a comprehensive way our interviews have been complemented by an extensive desktop research on secondary sources, such as national and regional legislative acts and strategy documents, strategic documents of municipalities and firms, newspaper articles as well as websites. The desktop research was used as a basis for interview sampling, together with snowballing, as well as for triangulating and verifying material from interviews. Interview topics included the identification of development processes where local agency is visible, the embeddedness of such processes in overarching strategies, networking activities of local actors, interrelations between actors on different scales, as well as planned projects and visions for future development.

The material has been coded to highlight where agency becomes visible in regional development and how the economic and political institutional framework including funding schemes, local initiatives, regulations, and multi-scalar power relations looks like. Using a comparative approach, case studies have been analysed to sketch out the different interrelationships between local agency, nation states' strategies and the specific locally effective power relations. As a result, our analysis identifies the forms of agency and power relations prevailing in different structural contexts.

**Table 1.** Interviews in the case study towns.

Case	Time of interviews	Firm	Local/regional government/administration	HEIs	Support organisations	Civil society organisations	Other	Total
Kiruna	Dec 2019- April 2020	8	7	1	4	-	1	21
Zeitz	July 2020- May 2021	4	12	-	-	5	2	23
Most	Sep 2020 – May 2021	7	4	2	3	3	-	19
Tatabánya	June 2019- May 2021	10	9	3	6	5	-	33

## Case studies

To ensure an adequate comparison, the analysis of the four case studies is organised along the following framework. First, we set up the context of each case study – geographical location, local social, economic or physical structural setting within which a given mining activity is embedded. Further, relevant state strategies (both formal and informal) are introduced forming the general institutional setting in which mining activities are embedded. Strategies of local actors, again formal and informal, comprise attitudes, negotiating strategies of local authorities and diverse interest groups. Local agency is then an output of, and is driven by strategies of local actors and is influenced or de-formed by a given institutional and regulatory context. Such settings might constrain or enable local agency to develop and strengthen actors' capability to act with a particular impact on the creation of new spatialities.

### *Reduced local agency as result of growing national interest in Kiruna, Sweden*

Kiruna is located in the Swedish peripheral north. Area wise, the municipality is comparable to Slovenia, yet with only 23,000 inhabitants, it is very sparsely populated. Most inhabitants reside in Kiruna town, where the physical landscape is dominated by the adjacent, large iron ore mine. The mine from 1899 is the reason for establishing the town, and the two have grown in tandem and formed a mutual dependency. Today, only LKAB, a state-owned enterprise (SOE), mines in the municipality. LKAB employs 2,200 people locally, but the overall extraction and manufacturing industry employs a fourth of the local labour market (national average: 15%). LKAB is one of the Swedish state's most profitable firms through share dividend and tax payments, and profits have been used in Sweden's overall national development.

During the interviews, it was expressed that state authorities and national politicians show little involvement in LKAB's actions in Kiruna since they do not want to get involved in a commercial company's activities. Yet, the state still has a large influence over local agency. Legislation related to mining (such as national interests, mineral legislation, environmental legislation) and taxes are regulated on the nation-state level. Examples with implications for Kiruna are the removal of local corporate tax in 1985 which reduced local government's financial muscles (even though mining continues) and changes in the mineral law during the early 1990s which opened up for international firms to mine minerals in Sweden. The latter has meant that an Australian firm have initiated exploration in Kiruna. With the EU Raw material initiative (Commission of the European Communities 2008) that aims to reduce EU's external dependency on essential materials, the mine has become more important in a European context. With this initiative in mind, the Swedish state have formulated a new national mineral strategy in 2013 (Regeringskansliet 2013), where a continued extraction of raw materials is emphasised for Sweden's future economic growth.

After the severe steel crisis in the 1970s it became apparent to local actors that the local economy had to diversify to decrease the dependency on the mine, and municipal initiatives to support tourism and space industry have followed. Local actors have developed tourism through innovative entrepreneurship (developing new activities and products) and institutional entrepreneurship (transforming mind-set on

entrepreneurship). Space activities are on the other hand dependent on external actors and funding. In 2002, the municipality (Kiruna kommun 2002) declared that after large infrastructure investments around the mine, a 15–20 year window of opportunity would now follow when supporting diversification processes were essential. However, only one year later, LKAB informed the municipality that the town centre (including businesses and 6,000 inhabitants) would have to move, since the ore body is extending under the town and large land deformations are to be expected.

The town-move initiated in 2004 and the new national mineral strategy from 2013 are two key events that affect local agency. Traditionally, the local government's agency has had a reproductive nature, trying to protect the jobs and values that the mine brings to the community. However, in the period leading up to 2004, the local government exercised place-based leadership through bringing local actors together with the goal of strengthening diversification. This room for change agency decreased when they were left with the enormous infrastructural project of moving the town centre. LKAB finances the move, but the local government needs to plan and implement it. The move has become even more complicated as state legislation protects the surrounding land (for example for ensuring room for the indigenous group Sami to keep their traditional reindeer herding in the landscape) and therefore hinder extending the town into new areas. Additionally, national cultural heritage protection hinders demolition of important local buildings. Hence, the local government is caught between the SOE forcing the town to move and national legislation upheld by different branches of the nation state that are hindering the move. An informant from the local government described how they had asked the national government to take a helicopter perspective over their different organisations influencing the move, but they did not do so. The Swedish National Audit Office (Riksrevisionen 2017) have criticised both the SOE and the national government for their way of handling the move. But still, the local government is left alone to handle the move. The national mineral strategy further highlights the national importance of continued mining. Current local political leadership have tried to challenge the power of LKAB, by using zonal plans as bargaining chips to get more resources for the move. However, this was frowned upon by several of the informants and LKAB has even asked the national government to intervene.

To conclude, there has always been a strong bound between LKAB and the local government, mainly influencing the local government to exercise reproductive agency. The national government affects local agency both through ownership of the mine and a variety of legislation. The current town-move and the new national mineral strategy further reproduce the idea that the Kiruna mine is of national importance, which decreases room for local agency. After a short window of opportunity for diversification, relational specificity dominates power relations again.

### ***Structural change or structural break? Local agency in light of a top-down induced restructuring in Zeitz, Germany***

Zeitz is located in the Saxony-Anhalt part of the Central German lignite-mining district and seat of a lignite extraction company, the *Mitteldeutsche Braunkohlengesellschaft* (MIBRAG). Lignite has been extracted here since the 19<sup>th</sup> century with its peak in the

late 1980s when GDR government aimed to achieve energy self-sufficiency. Since the 19<sup>th</sup> century, Zeitz developed into one of the industrial centres of Central Germany with manufacturing industries in diverse fields from which an important part (sugar production, heavy machinery, and hydrogenation plant) has been intricately linked to the exploitation of the nearby lignite mines resulting in rather specific relationships among them.

After 1990, Zeitz experienced a considerable economic, demographic and reputational decline that has been perceived by the residents not only as structural change, but a veritable ‘structural break’ (mentioned in several interviews). The town lost its status as district capital in 1994. Most of the manufacturing industries as well as a number of open cast mines within the region closed and population shrank by about 20,000 people down to 28,000 today. This has had important impacts on municipal budgets which are in deficit since a couple of years constraining the room for manoeuvre of local actors especially with regard to voluntary tasks such as support of cultural, social and sports initiatives, economic development or investments.

Today, MIBRAG operates two open cast mines near Zeitz and has five subsidiaries with 2,700 employees, which makes the group by far the largest employer in the area and a considerable taxpayer for the municipality. Having been privatised in 1994 MIBRAG belongs today to the Czech holding EPH which shows little interest in regional development (Götze and Joeres 2021; also mentioned in some of the interviews). The few industrial enterprises apart of MIBRAG that are located in Zeitz can be considered as energy-intensive (e.g. sugar factory, metallurgy, chemical industries) and depending on the energy provided by lignite power plants. Up until recently, MIBRAG and the other industrial enterprises were considered to be stable providers of jobs and tax revenues which is now questioned in light of the recent changes in state strategies.

Following the 2015 Paris Climate agreements and in line with the European strategy to become climate-neutral by 2050 (EC 2018), the Federal Government adopted a climate protection plan for 2050, aiming at the transformation of energy provision (BMU 2016). One implication of this plan is the German exit from coal-based energy production and the related closure of lignite mines until 2038 which was decided by law in 2020 (‘Kohleausstiegsgesetz’). Related to this is the expressed will of the Federal government to avoid another ‘structural break’ by supporting the economic and social restructuring of the affected regions with extensive financial support as indicated in a second law on strengthening regional structures (‘Strukturstärkungsgesetz’). However, a direct support of affected enterprises and thus the immediate creation of new jobs is not possible due to European legislation. Additionally, the Federal Government follows its own agenda of supporting flagship projects related to its economic and energy-related strategies (e.g. the National Hydrogen Strategy; support of research, education and innovation; main infrastructure projects) meaning that 26 billion (out of 40 billion) euros of the so-called coal funds are spent directly by the Federal Government.

According to the interviewees, the process of centrally induced regional restructuring is seen by local actors including the municipality as both a risk (particularly related to employment numbers and municipal taxes) as well as a considerable chance and potential turning point for the region and the town of Zeitz. In Saxony-Anhalt, 1.68 billion euros can be spent directly on structural and revitalisation measures with a focus on the core district of lignite mining in the environs of Zeitz. Local actors now

aim at raising as much funds as possible from these so-called ‘coal funds’ and other sources but also try to influence funding schemes according to local needs through intense lobbying, thus exercising institutional entrepreneurship. For example, one funding line in Saxony-Anhalt has been conceived with particular focus on the needs of the Burgenlandkreis (the district within which Zeitz is located) regarding inner city regeneration and the preservation of monuments and the mayor attributes the merits for this to his own efforts (statement in city council report).

Moreover, the structural change has drawn particular attention of media and policy makers alike to Zeitz and the whole region, attention that was missing so far and might be beneficial for the town’s future development. This increased attention may influence the power relations between local and supralocal agents. Additionally, we could observe a growing engagement of actors moving to the town recently (e.g. entrepreneurs or the mayor who moved to Zeitz in 2016 after his election) potentially leading to more complementary relationships. Local actors increasingly take up broader trends such as digitisation or the creative industries discourse (e.g. by establishing a digitisation centre, several co-working spaces and a Virtual Reality site in Zeitz or by attracting summer schools and workshops such as a Creative Lab organised by the Federal Competence Centre for Creative Industries). Still, these developments are observed rather ambivalently as some residents rarely consider them being embedded in the town’s social and economic fabric and do not expect that they could compensate for the job loss in extracting and manufacturing industries or remedy the large number of vacant houses. Yet, as direct compensations for enterprises affected by the structural change are not possible, the creation of effective structures, an increase of the town’s attractiveness, networking in economic clusters and infrastructures, in sum institutional entrepreneurship on multiple scales, seem to be necessary to develop the town further and support innovative entrepreneurs.

However, limitations are set by limited capacities in the administration, a lack of relevant experiences and by the complexities and the pace of the restructuring process. Several interviewees mentioned that leadership is not considered to be particularly strong at the moment and local conflicts, e. g. between city council members and the administration, might impede the development of concrete strategies for the future. The corresponding structures both on federal as well as regional and local levels are only in the initial phase of implementation. The municipality needs to position itself rather quickly in a competitive and complex policy environment where several towns, comparable in size and economic performance, face the same challenges and compete for new businesses and residents alike. This entails the risk of acting too fast at the expense of civil society, sometimes even city council participation (several interviewees acknowledged that) and submitting projects that are already on the wishlist for years but are not embedded in a broader encompassing strategy based on complementary power relations.

### **The formation of a new hegemonic power bloc of local actors – the case of Most, Czechia**

The town Most (60,000 inhabitants) is located in northwest Czechia in the NUTS III Ústí nad Labem Region. The history of the town is tightly interlinked with lignite

mining which reached its peak (as regards employment and production volume) at the end of 1980s, when the socialist regime declined (Pavlínek 1998). Despite this, open pit mining continues in three mines in the immediate vicinity of Most but the lignite deposits in one of the mines on the northern outskirts of the town were depleted in 2006. From then on, the process of a hydric reclamation started here and in 2014 the pit lake of 311 hectares was filled.

According to the 1992 Mining Act ('Horní zákon'), mining companies are obliged to gather financial reserves for the elimination of mining impacts during their operation. However, this rule came into force after the privatization of Most mines in the early 1990s, and therefore the state resources obtained by the sale of state property were also used for the reclamation process implemented by the state-owned enterprise Palivový kombinát Ústí (PKÚ).

In 2004, the former mining territory of the current pit lake was bought by PKÚ which is the key player in the land reclamation process at the local level. In September 2020, the area of the pit lake was opened to the public. Before that, the entire area was managed as a mine in the local land use plan (and was therefore restricted for entry), although a significant part of the reclamation work had already been completed. Since this change of land use type, the area with basic infrastructure for recreation and sport has been opened to the public. Yet, the question arose who should take care of its further development and huge maintenance costs (water replenishment, maintenance of greenery, water cleaning). The original plan was that PKÚ would transfer the lake area to Most municipality free of charge. However, this transfer failed due to remarkably high maintenance costs and the EU directives implemented in the Czech legal system (EU 2008). In the case of a transfer or sale below the market price, the municipality would not be able to use the newly acquired land for market purposes (sale, business activities, etc.). Buying land for market price, on the other hand, is beyond the financial capacities of Most. Therefore, as Most representatives refused the transfer of the lake area, this resulted in the re-configuration of the role of PKÚ from the agent of reclamation to the manager of re-socialization communicating with representatives of local authority and other actors.

The uncertain property and legislative situation of the development process hinders and delays the activity of potential actors. The two main players in the development are therefore PKÚ and the town of Most (political leadership and officials). Both entities need to cooperate but the coordination of activities and plans often encounters unprecedented problems (transfer of land, the possibility of setting up a joint firm developing the area), which are then addressed by national public authorities. The deepening of the relationship and role of these two players can be illustrated by the case of the ongoing development study (in which planners, architects and other experts participate). Here, the municipality takes the role of a spatial planning authority, PKÚ (in the opinion of some interview partners) the role of the payer and the pioneer of development interventions in the territory. The former actor should also collect the opinions of the public on the lake area development. However, development ideas are so far initiated just by these two actors and any participation of the public and other actors in the formation of strategic vision simply does not exist and was even not stimulated by these two development actors (no participative tools to include the public have been used so

far). The public comes into play only in the role of potential users or service providers (e.g. sport and interest groups, snack sellers, universities).

Despite the legislative barriers we can observe growing cooperation between the two local key actors, the town representatives and local branch of the PKÚ, resulting in an increasingly complementary relation between both. However, these actors create a hegemonic power bloc that controls the planning process in the lake area and makes it relatively inaccessible for the general public. On the other hand, local public, NGOs and other initiatives so far have not mobilised for expressing their interests in the development of the area. Therefore, decision-making and selection of new development projects in the territory remains in the hands of two actors.

### ***From autonomy to centralization – the changing scope of local institutional agency in Tatabánya, Hungary***

Tatabánya is a medium size town (inhabited by 68,000 in 2020) situated in NW Hungary, with a good access to M1 motorway linking Budapest and Vienna and a scene to competing local strategies (Győr, Székesfehérvár, Budapest) for reindustrialization since the mid-1990s. Among the four case studies Tatabánya has the longest post-mining history reflecting how changes in external (structural) conditions shaped local agency; (1) in the period of economic recovery after the collapse of mining (1987–1994) local development was driven primarily by municipal agency, while (2) multiple centralization processes in the post-2010 era marginalized local agency in urban restructuring.

As a former socialist model town dependent on mining and heavy industries, Tatabánya faced a massive economic and social crisis (loss of 13,000 jobs locally) in the early 1990s. The reorganization, privatization and closure of local state-owned enterprises was arranged in a top-down manner by central state bodies. Nevertheless, the decentralization of state power to municipal scale in 1990 opened a window of opportunity for local agency. The lead was taken by the mayor and a handful of local intellectuals (dominantly former employees of state-owned enterprises in executive position) who mobilized municipal resources for series of institutional innovations, such as setting up the College of Business Studies, an Economic Development Agency and a management firm (IPH Ltd.) managing the Tatabánya-Környe Industrial Park, one of Hungary's first and largest facilities. Local agents combined their relational capital in international business, central state apparatus and municipal institutions to run this institutional setting as a fix entry point for global investors in the still-evolving national institutional system that also works as a buffer between the business world and the sluggish and troublesome municipal decision-making process. 'This allowed us to get rid of the dirty socialist industrial town image' (former leading person of the city). The industrial park worked as a mechanism of selling land to stimulate economic growth by promising quick return thus, promoting greenfield facilities. It was in line with national development priorities that considered such spaces as vehicles of reindustrialization and regional development in the 1990s and early 2000s (Kiss and Tiner 2012) with little concern for environmental impacts. This allowed local agents to channel public funds to stimulate a massive-scale influx of FDI resulting in diversification of local industry (including electronics, health and environment industry,

machinery) and high employment rate by the early 2000s. Tatabánya was considered as a best practice in national policy discourses feeding the prevailing neoliberal narrative of urban and regional development in Hungary and beyond (Rechnitzer 2002; Szirmai et al. 2002; Brenner 2009). Along with that, the mining past was ‘purified’ by being moved in the realm of history (represented by a few renovated buildings and the Mining Museum) while vast tracts of brownfield areas (220 ha) remained underutilized and without recultivation.

The structural limits of local agency emerged after the 2008–10 financial and economic crisis. One structural constraint was the rearrangement of global capital flows and power relations driving those (Hudson 2006) that entailed locally the decline of FDI influx (2010–15) and later (from 2016), the entry of new investors seeking for massive infrastructure capacities and central state funding supporting those. Moreover, locally embedded entrepreneurial agents (dominantly, MNEs) reacted to the crisis and new market dynamics by investing in the production of higher value-added products. However, this trajectory was limited by the structural deficits of local labour market. As a response, corporate agents’ targeted major cities to recruit engineers and ‘third’ countries to find semi-skilled workers for which they needed a central governmental support (work permits). Finally, central governmental policies shifted clearly toward relational selectivity after 2010. This turn manifested in the centralization of public services, a substantial reduction of municipal finance (by 50% at national scale) and in limiting local regulative power (e.g. over land use change). Along with that, the institutional arrangement and practices of development policy were transformed into individual bargaining processes between urban municipalities and the government. The central state also entered local land markets as the owner of the new national network of industrial parks Inpark to guide FDI along re-defined sectoral and spatial preferences, competing with the municipal facilities of IPH (see above)

To keep local economy on a diversified and dynamic path in the unfolding centralised system, municipal leaders and local institutional agents developed a strategy that rested on multiple tiers. Local institutions for economic development were still considered as mediators between entrepreneurial agents and the municipality, yet their functions had to be aligned with changing conditions (focusing on channelling EU and national state funds in local projects). Moreover, local leaders mobilized their relational capital and bargaining skills to involve public funds in major infrastructure schemes (e.g. in transportation and a new energy supply system). Local institutional agents also exploited their (county seat) position in the unfolding centralized system to get control over the resources of the wider region, such as labour (recruiting talented young people for local vocational training), water (get supply from a neighbouring town’ reservoir through a regional public utility company) and other environmental assets (through regional tourism organizations). Finally, municipal leaders were lobbying jointly with other Hungarian mayors to get control over EU development resources directly; this ‘scale jumping’ in development policy (Smith, 2000) seems to be a success and could restore local agents’ scope to a certain extent. Nevertheless, centralization processes challenged and in long term, have undermined the autonomy of local agents.

Case	State strategies	Strategies of local actors	Agency and power relations
Kiruna (SWE) Mining in progress	Competing state strategies (continued mining vs. protection of town and land)	Using formal competences for negotiations	Reproductive agency prevails and decreasing scope for local agency Specific power relations: economic interests of mining and town development are aligned after a short period with attempts to implement more relational complementarity through diversification
Zeitz (DE) End of mining ahead	Change agency of state (exit from coal-based energy production + financial support)	(Attempts for) Economic diversification	Emergent change agency Formerly specific power relations: dependence of key enterprises on locally available energy source lignite; Potential relational complementarity: involvement of agents from other sectors, e.g. digitisation/creative industries/culture
Most (CZ) Creating a post-mining landscape	No explicit economic strategy (regeneration only for leisure and recreation)	Use of external funds (regional/national, European, FDI)	Reproductive agency prevails Specific power relations: municipality and SOE following a specific goal, little involvement of agents with complementary power relations
Tatabánya (HU) Restructuring the post-mining economy	Economic and political recentralisation (gaining control over local resources)	Influencing negotiations between central state and investors by mobilising relational assets	Change agency in 1990s, but scope for local agency decreasing From complementary to specific power relations: after decentralization in 1990s after 2008 recentralization of power

Figure 1. State strategies, local agency and power relations in the case studies (own elaboration).

### Comparative analysis

With our case studies, we have shown that strategies of local actors are anchored, transformed or hindered by a given institutional setting and the respective power relations on multiple spatial scales. The cases presented in this paper show not only a wide variety in form and status of mining activities but also in the strategies of the respective national states and local actors as well as in the exercise of local agency and power relations. Figure 1 provides a summary of the case studies focused on states' and local agents' strategies as well as the prevailing power relations and forms of agency.

We show that the interplay between state strategies and strategies of local actors results in different sets of power relations that are complex, dynamic and changing over time. Power relations unfold in interaction between local agents as well as between local and national, even supranational agents (e.g. the EU) leading either to more specificity in their relations or to more complementarity (Yeung 2005). Local agents, then, try to navigate through these relations by developing their own strategies.

The national state has in each of our cases a strong position in setting the scene for either a continuation of mining activities as in the case of Kiruna or the closure of mines and their subsequent regeneration (all other cases). Yet, the role of state actors is rather ambiguous and potentially leading to local conflicts around mining and post-mining development, as illustrated especially by the examples of Tatabánya and Kiruna. On one hand, the state represents and has to secure public interests (e.g. protecting the environment and cultural heritage, supporting the well-being of all citizens and strengthening cooperation among different kinds of actors), while on the other hand

it is also an agent of economic restructuring and growth guided by market imperatives through regulative agency (e.g. opening local markets to international investors), a developer (investing public funds supporting their local activities, e.g. infrastructure) and a subject to financialized markets (fiscal discipline and dependence on financial markets).

Thus, power relations between the nation state and local actors are influenced by differing institutional contexts and values assigned to the respective resources or their economic and geopolitical strategic importance in comparison to their financial and environmental costs (see also Hudson 2006).

In our cases, it could be observed that the decision to close a mine opens a window of opportunity to diversify the economy, revitalise the local environment and develop more complementary power relations as, for example, in Tatabánya and Zeitz where local actors seized the opportunity to engage in new fields of development (industrial parks in Tatabánya, creative industries and new industrial branches in Zeitz). Also bust periods open up opportunities, as exemplified by diversification initiatives in Kiruna. However, local agency works also selectively privileging some particular actors (e.g. foreign investors in Tatabánya, big manufacturing enterprises and specific creative actors in Zeitz) while excluding others (e.g. civil society organisations or even city council members with a weaker voice). Thus, growing complementarity between a limited number of actors, as it could be observed also in Most between the municipality and PKÚ, might result in the creation of new hegemonic blocs controlling the way how local development is done and leading to new relational specificities. This exclusion is not always intended but often the result of limited time horizons for action (e.g. funding deadlines), limited knowledge of some actors about involvement opportunities or a lack of will to be involved. Additionally, agency might be scattered among a multitude of actors which develop relational complementarity to each other but are not strong enough to successfully engage with dominant, more powerful actors. This could be observed in Kiruna where during a short period of increasing relational complementarity local agency emerged with the aim to diversify the economy but it was hindered by the town move.

A number of these challenges, namely a lack of will to be engaged in development issues or to establish more powerful coalitions might be rooted, at least partly, in the specific local and social structures and cultural attitudes prevailing in mining regions. Even in cases where state institutions are promoting local agency and the engagement of civil society as in Zeitz, it takes time until local actors develop joint strategic visions, and switch gears from a mining mentality (of secure jobs provided by external actors) to activating their own potentials for new path development. This finding resonates with recent studies on the impact of culture and informal institutions on local resilience and entrepreneurship in old-industrial regions (Gherhes, Vorley, and Williams 2018; Gherhes, Vorley, and Brooks 2020; see also Dale 2002). Moreover, this feature might be even stronger in post-socialist old industrial towns (apart from Zeitz also Most and Tatabánya) where civic engagement in local politics tends to be weaker than in Western countries as a consequence of the undemocratic restrictions under the former regime, a painful economic restructuring and a disillusionment about democratic development (Potluka et al. 2018). This suggests that further claims should be formulated to

understand how agency is constructed in different political-economic contexts, and how this process is shaped by hegemonic narratives (i.e. that of civil society or state agency).

Our cases show also very well that timing plays a major role in the development of power relations and changes of the scope for local agency. This is most visible in Tatabánya where we could observe that a window of opportunity might close due to changing strategies of the nation state, here towards a recentralisation of public competences in the field of social and economic development. Yet, the same applies to the other cases. In Zeitz, for example, it is still too early to assess whether the current window of opportunity provided by state funding for lignite mining regions and the related public attention to these regions will result in more relational complementarity or just in new relational specificities. It can be argued that perceiving and taking an opportunity that opens up is very much dependent on current power relations and the positions and capacities of local actors at a specific point in time (Grillitsch and Sotarauta 2020). Further on, especially smaller places are in general more dependent on external factors and decisions that favours relational specificity over the development of complementarity. In all our case studies, local agents act and try to initiate change in highly competitive environments (e.g. competing for state funding or external investments) which is particularly challenging for small places given their limited institutional and individual capacities for manoeuvring in increasingly complex power relations.

## Conclusions

This paper reflects on the complexity of local and regional development oscillating between local agency and structural boundedness, especially shaped by the nation state. State strategies are actualised within various socio-spatial relations and with different temporal horizons. The example of small mining towns shows that sector- and place-specific interventions of the state are particularly important for the development of regions and localities in lock-in position, by enabling or constraining local agency to a considerable extent. Local agents can mobilize place-specific institutions and relational resources to shape development policies while being at the same time particularly vulnerable and dependent on state resources. Hence, the hierarchical arrangement of public institutions and state development practices on multiple scales defines the scope of local agency and has an explanatory power for differences in local trajectories.

Mining regions are illustrative for the contradictory and fragmented nature of the state because they embody processes of industrial transition and mining activities, which are heavily regulated by national and supranational authorities. Our cases show that the state has set the regulatory framework for mining and revitalisation activities and has significant control over agenda setting while maintaining at the same time different functions in social, economic, and environmental development. Locally, the state has a rather ambiguous role and presents itself either as owner of the land and/or structurally relevant businesses, or as institutional entrepreneur by establishing new regulations on national and regional scales, or as local agent aiming to diversify the local and regional economy and induce structural change. In each case, local actors are confronted with the complexity of multiscale state institutions, which lead them to pursue different, locally specific strategies and might induce local conflicts (as in

Tatabánya where the locally managed industrial park competes with the centrally managed one or in Zeitz where strategies for the future still need to be defined). These struggles can overwhelm peripheral regions with few financial and personal capacities. Yet, depending on the national institutional structures and the underlying power relations, local actors can potentially draw advantage from such institutional settings. As institutions are not perfectly aligned, and sometimes conflictual, there is room for interpretation, leveraging some institutional assets for own advantage, or combining them in new ways. This institutional plasticity (Strambach 2010) provides a chance to open up new windows of opportunity and establish for example new business branches as tourism in Kiruna or creative industries in Zeitz.

This paper also foregrounds time and history for the scope and intensity of local agency. This refers, for example, to the long-lasting effects of a local culture, which in our cases was tied to mining activities even in cases where mining had already been stopped. It takes time for local actors to develop agency after a long period of relying on jobs provided by an external actor. This applies both to the cases in Germany and Sweden in periods when the future of mining is uncertain, as well as to those in Hungary and Czechia where institutional capacities and the social embedding of municipalities have been slowly emerging in a post-transition context that exposes local communities to strategies of powerful external agents (e.g. EU and national development policies, lead firms of GPNs) (see also Gwosdz, Domański, and Bilska-Wodecka 2020). However, the cases of Tatabánya and Kiruna have also shown that a window of opportunity can close again if state strategies change and local agents' room for manoeuvre might diminish.

This paper provides evidence for the great influence of state strategies on local agency in specific spatio-temporal contexts in mining regions. What unites all our cases is the important role that the state plays in setting the framework for local agency and its strong control over the agenda setting process. Yet, strategies of local actors proved to be as diverse as state strategies and specific structural conditions. Local strategies include using formal planning powers in bargaining, mobilising local and non-local networks for industrial diversification, attracting attention to local needs, applying to non-local (national, European) funding opportunities, and attempting to influence negotiations between central state and investors. The interplay and relative importance of state and local agency for development varies over time, between regional and national contexts, and reflects the changes in power relations beyond national state/local agent's nexus (e.g. financialization and industrial restructuring at global scale).

To be sure, mining regions are extreme cases where the role of the state is more important than in other types of regions. Such extreme cases are suitable to shed light on the role of the state and its interplay with local agency. It suggests that the state has a strong potential to promote or hinder bottom-up agency of local and regional stakeholders and policy makers which is in line with recent findings of studies about place-based approaches in Europe in general (e.g. Keller and Virág 2021). Yet, we argue that the identified link between relational specificity reducing the opportunities and relational complementarity increasing the opportunities for local agency is a general finding. This finding holds when comparing across cases as well as when comparing how power relations and local agency changed over time in each case. This finding is important theoretically as it focuses attention on conditions that affect the emergence of local agency. It is also important for policy makers because it suggests that in order to

promote local agency, and thereby regional development, policies at multiple scales should be conscious about creating complementary power relations and strengthen the involvement of different types of actors.

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## References

- Bækkelund, N. G. 2021. “Change Agency and Reproductive Agency in the Course of Industrial Path Evolution.” *Regional Studies* 55 (4): 757–768. doi:10.1080/00343404.2021.1893291.
- Baeten, G., E. Swyngedouw, and L. Albrechts. 1999. “Politics, Institutions and Regional Restructuring Processes: From Managed Growth to Planned Fragmentation in the Reconversion of Belgium’s Last Coal Mining Region.” *Regional Studies* 33 (3): 247–258. doi:10.1080/00343409950082436.
- Birch, K., D. MacKinnon, and A. Cumbers. 2010. “Old Industrial Regions in Europe: A Comparative Assessment of Economic Performance.” *Regional Studies* 44 (1): 35–53. doi:10.1080/00343400802195147.
- Bjørge, F., and A. Røiseland. 2018. “Taming Wickedness: Industrial Megaprojects and Local Governance Strategies.” *Urban Research & Practice* 11 (1): 37–52. doi:10.1080/17535069.2017.1291717.
- Boschma, R. A. 1997. “New Industries and Windows of Locational Opportunity: A Long-Term Analysis of Belgium.” *Erdkunde* 51 (1): 12–22. doi:10.3112/erdkunde.1997.01.02.
- Boschma, R., L. Coenen, K. Frenken, and B. Truffer. 2017. “Towards a Theory of Regional Diversification: Combining Insights from Evolutionary Economic Geography and Transition Studies.” *Regional Studies* 51 (1): 31–45. doi:10.1080/00343404.2016.1258460.
- Brenner, N. 2004. *New State Spaces: Urban Governance and the Rescaling of Statehood*. Oxford: Oxford University Press.

- Brenner, N. 2009. "Open Questions on State Rescaling." *Cambridge Journal of Regions, Economy and Society* 2 (1): 123–139. doi:10.1093/cjres/rsp002.
- Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit (BMU). 2016. "Klimaschutzplan 2050." Klimaschutzpolitische Grundsätze und Ziele der Bundesregierung. Berlin. [https://www.bmu.de/fileadmin/Daten\\_BMU/Download\\_PDF/Klimaschutz/klimaschutzplan\\_2050\\_bf.pdf](https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/klimaschutzplan_2050_bf.pdf)
- Coe, N. M., and D. C. Jordhus-Lier. 2011. "Constrained Agency? Re-evaluating the Geographies of Labour." *Progress in Human Geography* 35 (2): 211–233. doi:10.1177/0309132510366746. <https://doi.org/10.1177%2F0309132510366746>.
- Commission of the European Communities (EC). 2008. "Communication from the Commission to the European Parliament and the Council: The Raw Materials Initiative — Meeting Our Critical Needs for Growth and Jobs in Europe." Commission of the European Communities. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52008DC0699&from=SV>
- Crevoisier, O. 2001. "Der Ansatz des Kreativen Milieus: Bestandsaufnahme und Forschungsperspektiven am Beispiel Urbaner Milieus." *Zeitschrift für Wirtschaftsgeographie* 45: 246–256.
- Cruickshank, J., W. Ellingsen, and K. Hidle. 2016. "A Crisis of Definition: Culture versus Industry in Odda, Norway." *Geografiska annaler. Series B, Human geography* 95 (2): 147–161. doi:10.1111/geob.12014.
- Dale, B. 2002. "An Institutionalist Approach to Local Restructuring: The Case of Four Norwegian Mining Towns." *European Urban and Regional Studies* 9 (1): 5–20. doi:10.1177/096977640200900101.
- Emirbayer, M., and A. Mische. 1998. "What Is Agency?" *The American Journal of Sociology* 103 (4): 962–1023. doi:10.1086/231294.
- European Commission (EC). 2018. "A Clean Planet for All. A European Strategic Long-term Vision for a Prosperous, Modern, Competitive and Climate Neutral Economy." COM(2018) 773. Brussels. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773>
- European Union (EU). 2008. "Consolidated Version of the Treaty ON the Functioning of the European UNION - PART THREE: UNION POLICIES AND INTERNAL ACTIONS - TITLE VII: COMMON RULES ON COMPETITION. TAXATION AND APPROXIMATION OF LAWS - Chapter 1: Rules on competition - Section 2: Aids granted by States - Article 107." Brussels. <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A12008E107>
- Fitjar, R. D., and A. Rodríguez-Pose. 2011. "When Local Interaction Does Not Suffice: Sources of Firm Innovation in Urban Norway." *Environment & Planning A* 43 (6): 1248–1267. doi:10.1068/a43516.
- Garud, R., and P. Karnøe. 2001. *Path Creation as a Process of Mindful Deviation*, eds. P. Dependence, R. G. Creation, and P. Karnøe., 1–38. Mahwah, NJ: Lawrence Erlbaum.
- Gherhes, C., T. Vorley, and C. Brooks. 2020. "Making Sense of Industrial Decline: How Legacies of the past Influence the Development of Entrepreneurship Cultures in Formerly Industrialized Places." *Entrepreneurship & Regional Development* 32 (9–10): 899–921. doi:10.1080/08985626.2020.1842914.
- Gherhes, C., T. Vorley, and N. Williams. 2018. "Entrepreneurship and Local Economic Resilience: The Impact of Institutional Hysteresis in Peripheral Places." *Small Business Economics* 51 (3): 577–590. doi:10.1007/s11187-017-9946-7.
- Görmar, F., and J. Harfst. 2019. "Path Renewal or Path Dependence? The Role of Industrial Culture in Regional Restructuring." *Urban Science* 3 (4): 106. doi:10.3390/urbansci3040106.
- Götze, S., and A. Joeres. 2021. "Kohleausstieg: Das Milliardengrab der Lausitz." <https://correctiv.org/aktuelles/klimawandel/2021/06/29/kohleausstieg-das-milliardengrab-der-lausitz-folgekosten-des-kohlebergbaus-milliardenausgaben-fuer-steuerzahler> (last check: 19/07/2021)
- Grabher, G. 1993. "The Weakness of Strong Ties. The Lock-in of Regional Development in the Ruhr Area." In *The Embedded Firm: On the Socioeconomic of Industrial Networks*, edited by G. Grabher, 255–277. London: Routledge.

- Griffin, L. 2012. "Where Is Power in Governance? Why Geography Matters in the Theory of Governance." *Political Studies Review* 10 (2): 208–220. doi:10.1111/j.1478-9302.2012.00260.x.
- Grillitsch, M. 2019. "Following or Breaking Regional Development Paths: On the Role and Capability of the Innovative Entrepreneur." *Regional Studies* 53 (5): 681–691. doi:10.1080/00343404.2018.1463436.
- Grillitsch, M., J. V. Rekers, and M. Sotarauta. 2021. "Investigating Agency: Methodological and Empirical Challenges." In *Handbook on City and Regional Leadership*, edited by M. Sotarauta and A. Beer, 302–323. London: Edward Elgar.
- Grillitsch, M., J. V. Rekers, and M. Sotarauta. 2019. "Trinity of Change Agency: Connecting Agency and Structure in Studies of Regional Development (No. 2019/12)." Lund: Lund University, CIRCLE–Center for Innovation, Research and Competences in the Learning Economy.
- Grillitsch, M., and M. Sotarauta. 2020. "Trinity of Change Agency, Regional Development Paths and Opportunity Spaces." *Progress in Human Geography* 44 (4): 704–723. doi:10.1177/0309132519853870.
- Gunko, M., N. Kinossian, G. Pivovar, K. Averkieva, and E. Batunova. 2021. *Exploring Agency of Change in Small Industrial Towns through Urban Renewal Initiatives*. Geografiska Annaler: Series B, Human Geography. doi:10.1080/04353684.2020.1868947.
- Gwosdz, K., B. Domański, and E. Bilska-Wodecka. 2020. "Localised Capabilities as an Intermediating Factor in the Transition from an Old to a New Development Path: The Case of Post-socialist Industrial Towns." *Moravian Geographical Reports* 28 (2): 123–135. doi:10.2478/mgr-2020-0010.
- Harfst, J. 2021. "Framework Conditions and Development Potentials of (Old) Industrialised Towns and Regions in Central Europe." PhD thesis. Leibniz University Hannover. <https://www.repo.uni-hannover.de/bitstream/handle/123456789/11098/Dissertation%20Harfst%2C%20J%C3%B6rn.pdf?sequence=3&isAllowed=y>
- Hassink, R. 2010. "Locked in Decline? On the Role of Regional Lock-ins in Old Industrial Areas." In *The Handbook of Evolutionary Economic Geography*, edited by R. Boschma and R. Martin, 450–468. Cheltenham: Edward Elgar.
- Hodson, M. 2008. "Old Industrial Regions, Technology, and Innovation: Tensions of Obduracy and Transformation." *Environment and Planning A: Economy and Space* 40 (5): 1057–1075. doi:10.1068/a39103.
- Hudson, R. 1992. *Institutional Change, Cultural Transformation and Economic Regeneration: Myths and Realities from Europe's Old Industrial Areas*. Vol. 26. Durham: University of Durham, Department of Geography.
- Hudson, R. 2005. "Rethinking Change in Old Industrial Regions: Reflecting on the Experiences of North East England." *Environment and Planning A: Economy and Space* 37 (4): 581–596. doi:10.1068/a36274.
- Hudson, R. 2008. "Cultural Political Economy Meets Global Production Networks: A Productive Meeting?" *Journal of Economic Geography* 8 (3): 421–440. doi:10.1093/jeg/lbn005.
- Hudson, R. 2016. "Rising Powers and the Drivers of Uneven Global Development." *Area Development and Policy* 1 (3): 279–294. doi:10.1080/23792949.2016.1227271.
- Isaksen, A., S.-E. Jakobsen, R. Njøs, and R. Normann. 2019. "Regional Industrial Restructuring Resulting from Individual and System Agency." *Innovation: The European Journal of Social Science Research* 32 (1): 48–65. doi:10.1080/13511610.2018.1496322.
- Jessop, B. 2001. "Institutional Re(turns) and the Strategic – Relational Approach." *Environment and Planning A: Economy and Space* 33 (7): 1213–1235. doi:10.1068/a32183.
- Jessop, B. 2005. "Critical Realism and the Strategic-Relational Approach." *New Formations: A Journal of Culture, Theory and Politics* 56: 40–53.
- Jolly, S., M. Grillitsch, and T. Hansen. 2020. "Agency and Actors in Regional Industrial Path Development. A Framework and Longitudinal Analysis." *Geoforum* 111: 176–188. doi:10.1016/j.geoforum.2020.02.013.

- Keller, J., and T. Virág. 2021. "A Drop in the Sea or Catalyst for Change: Diverse Effects of the Place-based Approach in Europe." *European Planning Studies*. 1–19. online first. doi:10.1080/09654313.2021.1928047.
- Kiruna kommun. 2002. "Översiktsplan för Kiruna kommun." *Del 1: Förutsättningar för sektorsövergripande utvecklingsplanering*, Kiruna: Kiruna kommun.
- Kiss, É., and T. Tiner. 2012. "Depending on Motorways - Transport Connections of Hungarian Industrial Parks and Their Enterprises." *Hungarian Geographical Bulletin* 61 (2): 131–153. <https://ojs.mtak.hu/index.php/hungeobull/article/view/2999>
- Kronenberg, J. (2013). Linking Ecological Economics and Political Ecology to Study Mining, Glaciers and Global Warming Environmental Policy and Governance 23, 75–90 (2013) Published online in Wiley Online Library
- Kronenberg, J. 2013. Linking Ecological Economics and Political Ecology to Study Mining, Glaciers and Global Warming. *Environmental Policy and Governance* 23: 75–90. <https://doi.org/10.1002/eet.1605>
- Legendijk, A. 2007. "The Accident of the Region: A Strategic Relational Perspective on the Construction of the Region's Significance." *Regional Studies* 41 (9): 1193–1208. doi:10.1080/00343400701675579.
- Lashitew, A., M. L. Ross, and E. Werker. 2020. *What Drives Successful Economic Diversification in Resource-Rich Countries?* Manchester: Effective States and Inclusive Development Research Centre, The University of Manchester.
- Laurence, D. C. 2006. "Why Do Mines Close?." In *Proceedings of the First International Seminar on Mine Closure*, Perth (p. 83–94). Australian Centre for Geomechanics.
- MacKinnon, D., A. Cumbers, A. Pike, K. Birch, and R. McMaster. 2009. "Evolution in Economic Geography: Institutions, and Adaptation" *Political Economy, and Adaptation* 85 (2): 129–150. doi:10.1111/j.1944-8287.2009.01017.x.
- Macleod G, Goodwin M.1999. "Space, scale and state strategy: rethinking urban and regional governance." *Progress in Human Geography* 23 (4): 503–527. doi:10.1191/030913299669861026
- Marot, N., and J. Harfst. 2012. "Post-Mining Potentials and Redevelopment of Former Mining Regions in Central Europe – Case Studies from Germany and Slovenia." *Acta geographica Slovenica* 52 (1): 99–119. doi:10.3986/AGS52104.
- Massey, D. 1993. "Power-geometry and a Progressive Sense of Place." In *Mapping the Futures*, edited by J. Bird, B. Curtis, T. Putnam, G. Robertson, and L. Tickner, 59–69. London: Routledge.
- Massey, D. 2005. *For Space*, 232. London: Open University.
- Miörner, J. 2020. "Contextualizing Agency in New Path Development: How System Selectivity Shapes Regional Reconfiguration Capacity." *Regional Studies* 1–13. doi:10.1080/00343404.2020.1854713.
- Morgan, R. 2016. "Exploring How Fishermen Respond to the Challenges Facing the Fishing Industry: A Case Study of Diversification in the English Channel Fishery." *Regional Studies* 50 (10): 1755–1768. doi:10.1080/00343404.2015.1057892.
- Paasi, A. 2002. "Place and Region: Regional Worlds and Words." *Progress in Human Geography* 26 (6): 802–811. doi:10.1191/0309132502ph404pr.
- Pavlínek, P. 1998. "Privatisation and the Regional Restructuring of Coal Mining in the Czech Republic After the Collapse of State Socialism." In: Pickles, J. and A. Smith (eds.). *Theorizing Transition: The Political Economy of Post-Communist Transformations*. 207–227.
- Pavlínek, P. 2005. "Privatisation and the Regional Restructuring of Coal Mining in the Czech Republic after the Collapse of State Socialism." In *Theorizing Transition*, edited by J. Pickles and A. Smith, 227–247. London: Routledge.
- Pemberton, S., and M. Goodwin. 2010. "Rethinking the Changing Structures of Rural Local Government – State Power, Rural Politics and Local Political Strategies?" *Journal of Rural Studies* 26 (3): 272–283. doi:10.1016/j.jrurstud.2009.12.005.
- Potluka, O., J. Kalman, I. Musiałkowska, and P. Idczak. 2018. "Civic Engagement in Local Politics in Central Europe." In Kerley, R., Liddle, J., Dunning, P. eds. *The Routledge Handbook of International Local Government*, 344–360. London: Routledge.

- Rechnitzer, J. 2002. "A városhálózat az átmenetben, a kilencvenes évek változási irányai." *Tér és Társadalom* 16 (3): 165–183. doi:10.17649/TET.16.3.1986.
- Regeringskansliet. 2013. *Sveriges mineralstrategi*. Näringsdepartementet.
- Riksrevisionen. 2017. *Omvandlingen av Kiruna och MalMBERGET - bristande underlag hos regeringen* (RIR 2017:34).
- Rodríguez-Pose, A. 2018. "The Revenge of the Places that Don't Matter (And What to Do about It)." *Cambridge Journal of Regions, Economy and Society* 11 (1): 189–209. doi:10.1093/cjres/rsx024.
- Schmalz, S., I. Singe, and A. Hasenohr. 2021. "Political Discontent and Labour in A Post-growth Region: A View from East Germany." *Anthropological Theory* 21 (3): 364–385. doi:10.1177/1463499620982784.
- Smith, N. 2000. The restructuring of spatial scale and the new global geography of uneven development. *Japanese Journal of Human Geography*, 28: 51–66.
- Sotarauta, M., H. Kurikka, and J. Kolehmainen. 2021. "Patterns of Place Leadership: Institutional Change and Path Development in Peripheral Regions." In *Handbook on City and Regional Leadership*, edited by M. Sotarauta and A. Beer, 203–225, Cheltenham: Edward Elgar Publishing.
- Sotarauta, M., and N. Mustikkamäki. 2014. "Institutional Entrepreneurship, Power, and Knowledge in Innovation Systems: Institutionalization of Regenerative Medicine in Tampere, Finland." *Environment and Planning. C, Government & Policy* 33 (2): 342–357. doi:10.1068/c12297r. <https://doi.org/10.1068%2Fc12297r>.
- Sotarauta, M., and N. Suvinen. 2018. "Institutional Agency and Path Creation." In *New Avenues for Regional Innovation Systems - Theoretical Advances, Empirical Cases and Policy Lessons*, edited by A. Isaksen, R. Martin, and M. Trippel, 85–104. Cham: Springer.
- Strambach, S. 2010. "Path Dependence and Path Plasticity: The Co-evolution of Institutions and Innovation—the German Customized Business Software Industry." In *The Handbook of Evolutionary Economic Geography*, edited by R. Boschma and R. Martin, 406–429. Cheltenham: Edward Elgar.
- Suvinen, N. 2014. "Individual Actors Building an Innovation Network." In *The Social Dynamics of Innovation Networks*, edited by R. Rutten, P. Benneworth, D. Irawati, and F. Boekema, 140–156. London: Routledge.
- Szirmai, V. A., A. Gergely, G. Baráth, B. Molnár, and Á. Szépvölgyi. 2002. *Verseny és/vagy együttműködés?* Budapest- Székesfehérvár: MTA Szociológiai Kutatóintézet, MTA RKK NYUTI.
- Uyarra, E., K. Flanagan, E. Magro, J. R. Wilson, and M. Sotarauta. 2017. "Understanding Regional Innovation Policy Dynamics." *Actors, Agency and Learning* 35 (4): 559–568. doi:10.1177/2399654417705914.
- van Heur, B. 2010. "Beyond Regulation: Towards a Cultural Political Economy of Complexity and Emergence." *New Political Economy* 15 (3): 421–444. doi:10.1080/13563460903290938.
- Venables, A. J. 2016. "Using Natural Resources for Development: Why Has It Proven so Difficult?" *Journal of Economic Perspectives* 30 (1): 161–184. doi:10.1257/jep.30.1.161.
- Wirth, P., B. Cernic-Mali, and W. Fischer. 2012. *Post-Mining Regions in Central Europe - Problems, Potentials, Possibilities*, 272. München: oekom.
- Yeung, H. W. 2005. "Rethinking Relational Economic Geography." *Transactions of the Institute of British Geographers* 30 (1): 37–51. doi:10.1111/j.1475-5661.2005.00150.x.