Trinity of Change Agency: Connecting Agency and Structure in Studies of Regional Development

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Keywords: agency, structure, regional development, research design, comparative case study, critical junctures, key events

JEL codes: P48, R10, R58

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1   Introduction

Studies on regional development have often focused on structural preconditions such as resource endowments, infrastructure, institutions, human capital, or support structures for innovation and entrepreneurship. In contrast, agency is an essential but understudied factor for regional development and in particular regional structural change (Asheim et al., 2016, Boschma, 2017, Uyarra et al., 2017). This relates to the fundamental debate in social sciences about agency and structure (e.g. Jessop, 2001, Giddens, 2007:1984), which, however, has often remained theoretical with a large gorge to empirical work. Consequently, this book chapter aims at addressing the following key questions: What is particular about studies on agency and structure in studies of regional development? What are the challenges in this regard and how can we address those?

Finding that there are still relatively few systematic studies on agency in the context of regional development, this section presents our own struggles in developing an adequate methodology for the ReGrow (Regional Growth Against All Odds) project. This Scandinavian project covering Finland, Norway and Sweden aims at identifying to what extent and how various actors and actor groups have shaped regional growth trajectories. Twelve comparative in-depth case studies zoom in on the role of agency in regional development. In the process of conducting the case studies, we have reflected, revised, and improved the methodology. Now, we feel in a position that sharing our experiences may be of value to researchers who have an interest in studying agency and structure.

In the course of the project, we identified the following six challenges:

1. Getting the ontology right;
2. Getting the research design right;
3. Getting the time period right;
4. Getting the spatial scale right;
5. Getting the research instruments right; and
6. Getting the data collection right.

For each of these challenges, which were present in all of our case studies, we discuss i) its nature in more general terms relating to literature on structure and agency and respective empirical applications, i) illustrate the problem with concrete examples from the ReGrow project, iii) describe our strategy of addressing the challenges, and iv) provide some reflections about the applicability of our strategy in more general terms. By doing so, we hope to provide insights and potentially guidance to scholars of agency and structure in regional development.

2   Methodological Challenges

2.1   Getting the ontology right

In studies of agency, it is unavoidable to develop a clear understanding what agency means and represents. This challenge has been debated for long (e.g. Jessop, 2001, Archer, 2003, Giddens, 2007:1984). For instance, in human geography, Gregson (2005) discusses a broad understanding of agency encompassing the agency of things as well as agency exercised by humans. As regards agency of things, the author refers to the agency of a virus (food and mouth decease in the UK) or the agency of the 9/11 terror attack. As the general notion of agency can by mobilized to study a variety of empirical phenomena where actions or interventions produce particular effects, it is necessary to develop an ontology that suits a specific research question for two reasons: i) provide clarity about the objects of study, and ii) delimit the scope of the research project.

This was the first challenge we encountered when using agency in our studies on regional development. We would like to give the example of the role of agency in regional development in a labour market region in western Norway known for a strong maritime industry. One important factor for the growth of the industry was the discovery of offshore oil resources and the changing oil prices. Using the notion of agency, we could study the agency of changing oil prices (agency of things) equally well as the agency of local shipyards exploiting the opportunities in the oil and gas sector (human agency). Both types of agency have a clear effect on regional development. In essence, this illustrates that getting the ontology right is also a boundary problem. It is necessary to define what the notion of agency represents in a given research context and what not.

In the ReGrow project, we made the decision to use the notion of agency to only represent human agency, defined as 'the ability of people to act, usually regarded as emerging from consciously held intentions, and as resulting in observable effects in the human world' (Gregory et al., 2009). Strictly speaking, changes of oil prices, or, more generally, changes in the global demand for certain products or product groups, also result from people's actions – however, involving the decisions of millions of individuals globally. Although regions are embedded in global systems (e.g. global value chains and production networks) most regions are price takers. Being a price taker means that regional actors cannot affect the price of a commodity or the global demand for a product, or product group, i.e. they do not have agency in these respects. However, regional actors affect regional development in terms of seeing, creating, and utilizing opportunities that often relate to changes in technologies, markets, and institutions. Studies on agency in regional development should primarily focus on such actions and interventions of regional actors.

We further limited our focus to change agency in terms of actions with the aim to or result of breaking with existing regional development paths (cf. Coe and Jordhus-Lier, 2011). We are particularly interested in change agency because only change agency can be the source for regional renewal and transformation beyond mechanical regional consequences to extra-regional system changes. Based on an in-depth literature review, we have identified three types of change agency, each originating from a different theoretical tradition, with strong potential to affect regional development (Grillitsch and Sotarauta, 2019). These are innovative entrepreneurship, institutional entrepreneurship, and place-based leadership. Besides theoretical depth, there exists solid empirical evidence that these types of agency are important drivers of structural change to the economy, institutions, and places. We have argued that these types of agency often play together and necessitate each other in shaping regional development trajectories, hence forming what we call the Trinity of Change Agency. For instance, growth opportunities of entrepreneurial ventures are partly dependent on the institutional context and regional support structures. Our studies on change agency in regional development thus capture actions that fall under the categories of innovative entrepreneurship, institutional entrepreneurship, and place-based leadership, being aware, however, that change agency does not necessarily need to be present in a specific region, and that agency might also be agnostic to or directed against change.

However, a study on agency is incomplete or even flawed if it fails to connect agency with structure. In our studies on regional development, we find the notion of opportunity space useful because change agency is not only shaped by the past but also driven by perceived opportunities and expectations about the future (Emirbayer and Mische, 1998, Garud et al., 2010, Steen, 2016). We suggest that the opportunity space manifests at three levels (Grillitsch and Sotarauta, 2019, p. 11):

- "Time-specific opportunity space: Delineates what is possible given the global stock of knowledge, institutions, and resources at any moment in time.
- Region-specific opportunity space: Defines what is possible considering regional preconditions.

- Agent-specific opportunity space: Captures perceived opportunities and capabilities of individual agents to make a change. "

Continuing the example about the labour market region in western Norway, the changing oil price creates specific opportunities in time. The capabilities and resources related to designing and producing offshore vessels shaped opportunities specific to the region. The change process, however, was highly contingent on the capabilities, power, network and resources of individual agents and groups of them.

We feel that this ontology of agency and opportunity spaces has general relevance for studies on regional development, regardless in which context the research is conducted. This is because the types of change agency that we focus on are of generic nature and not limited to a particular context. Innovative entrepreneurship, institutional entrepreneurship, and place-based leadership are types of agency that are found and relevant in developed, transitions and developing countries. Conversely, the opportunity space is specific to a particular time, region, and agent. Why change agency emerges, how it unfolds, and what the intended and unintended consequences of change agency for regional development are will therefore partly depend on general structural conditions as provided by a specific time or regional context.

2.2 Getting the research design right

Agency and structure are closely related and interdependent, which makes it difficult to disentangle causal relationships. While there has been substantial theoretical debate about the nature of the agency structure relationship, we sympathize with Archer (1982) advocating for an analytical duality of agency and structure. Accordingly, empirical studies gain from a clear analytical distinction between the two concepts, which is necessary to investigate why and how, at any point in time, structure conditions agency; and how agency subsequently changes or reproduces structure. This also implies that agency needs to be studied over time applying a process perspective (Sotarauta and Pulkkinen, 2011, Grillitsch and Sotarauta, 2018). An appropriate research design, consequently, needs to provide for a set-up where it is possible to analyse and distinguish effects of agency and structure respectively, and in interaction over time, on regional development.

In ReGrow, we were confronted with what Storper (2011, p. 333) identified as "one of the great challenges for social science. Cities or regions, like any other geographical scale of the economic system, have complex economic development processes that are shaped by an almost infinite range of forces. There is a thorny question as to what social science should aim to do in the face of such complexity." A key question for us was how we could distinguish the effects of general structural properties, in our context regional preconditions such as industry mix, human capital endowments and infrastructure, and extra-regional changes over time such as changes in global demand for certain products or product groups from the intended and unintended consequences of the actions of regional stakeholders. Without a credible sorting mechanism of causes and effects, we felt that it would be difficult or even impossible to understand the extent to which, and how regional stakeholders potentially contribute to shaping development trajectories.

In order to deal with this, we combined three case-selection strategies in a multiple-case study framework using both quantitative and qualitative methods. In a first step, we identified a set of *extreme cases*: regions that in some periods have performed much better or much worse than would be expected based on structural factors. In order to do so we reverted to quantitative models that explain regional growth by a number of factors capturing region-specific preconditions such as the

industry mix and innovation capabilities as well as generic fluctuations over time. Doing justice to the time dimension necessary to study agency, we run the model for a 25-years period. In order to single out unexpected growth trajectories, we analysed the residuals of the growth regressions. The residuals capture the part of regional growth that is not explained by the structural factors in the model.

In order to distinguish systematic deviations from random ones, we investigated the patterns of the residuals. A systemic pattern holds two conditions: i) it is an outlier (i.e. the residual is extreme as compared to other residuals in the respective year; and ii) it is consistent (i.e. a positive (or negative) outlier in a number of consecutive years). These periods of unexpected and extreme high or low growth are the region-specific growth trajectories that we are interested in. We show in our analysis that i) the unexplained part of regional growth after considering structural factors (the residuals) is surprisingly high, and that ii) region-specific growth trajectories are apparent and robust to different specifications of the empirical model. This provides a strong empirical justification to study why such region-specific development trajectories exist and what role agency plays in shaping them (for more details, consult Grillitsch et al., 2019).

In a second step, we made a selection from the extreme cases that maximized variation in regional characteristics and allowed for cross-case comparisons. In order to inform our final case selection we prepared *regional profiles* for each of the extreme cases based on desktop research. These profiles include basic information about location, industry profiles, as well as structural preconditions. Additionally, they include basic descriptions of regional pre-conditions, such as the industrial and knowledge infrastructure, as well as the relevance of exogenous drivers of (economic) change. *Common regional stories* emerged from the comparative analysis of all regional profiles. Such stories pivoted around medium-sized regions with a high share of manufacturing employment, resource dependent northern regions, cross-border regions, smaller regions with a stronghold in a niche, regions dominated by large firms, and service oriented regional centres.

The common stories led to the identification of regions that operate under similar structural constraints and are object to similar system changes. For instance, all medium-sized manufacturing regions increasingly faced global competition with resulting reallocation of standardized production. Maintaining or enhancing job and income opportunities for all those manufacturing regions meant a search for new sources of competitiveness by, for instance, introducing new technologies or business models. As this illustrates, such common regional stories are well suited to carve out agency and other region-specific factors from more general structural preconditions and system changes. We then selected cases to allow for *comparisons* (e.g. at least two cases for a common story) and *variation* (i.e. cases representing different common stories).

Following Eisenhardt and Graebner (2007, p. 27) "[t]heoretical sampling simply means that cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs". The authors continue that multiple cases "clarify whether an emergent finding is simply idiosyncratic to a single case or consistently replicated by several cases" (ipid, p. 27). Our approach to a theoretically informed multiple case selection is applicable in different settings. After all, the quantitative approach to identify extreme cases is flexible as regards the dependent variable (the outcome that is of interest) as well as the battery of structural variables that the researcher wants to account for. The qualitative approach of identifying common stories with promise for comparison and variation between cases can also be applied in various contexts. The suggested approach provides a systematic framework for studying agency and structure in regional development.

2.3   Getting the time period right (MS)

Agency is best studied in its full complexity by situating it in the flow of time. An empirical investigation calls for a conceptual framework that is temporally sensitive, actor oriented and geared to specify the temporal relations between the main phases, critical junctures and relevant actors and their strategies in different phases. In this kind of analysis, agency is not to be located in the attributes of individual actors only, but in the relationships connecting actors to regional development and institutional changes related to it.

In getting the time period right, it is important to consider the nature of change. Both policy-makers and scholars have a tendency to emphasise changes that are visible deviations from the past. They can be measured, and key actors interviewed. However, institutional change studies show that even major changes more often than not are less iconoclastic than they appear on the surface. According to Streeck and Thelen (2005), the most promising way to study institutional changes is to approach them as gradual transformations. An accumulation of supposedly minor changes over extended periods of time may cause a significant discontinuity, and hence not all incremental changes are adaptive or reactive for continuity of a past path. In this thinking, major changes may surface beneath the seeming stability to produce something that manifests itself to actors as an abrupt change or remains difficult to detect but still gradually shaping institutions. This type of change may be labelled as 'creeping change' (Streeck and Thelen, 2005).

Consequently, such questions as 'what are the identified main phases of a regional development process under scrutiny', and 'who are the key actors in different phases of developments', and 'what kinds of change strategies they adopt' surface as central. This again highlights the need to compile empirical observations on interaction patterns between actors, data on actors' interpretations and reflections of their intentions and activities, as well as reflections in connection to a specific change process. Actors' interpretations are central when appraising the relationship between structure and agency. According to Barley and Tolbert (1997), retrospective interview and archival data are valuable in this kind of study, but, of course, we need to be aware that they are subject to rationalized reconstructions. The main focus ought to be on agentic regularities instead of mental models or individual plans. Patterns of interactions, specific in a particular setting, are of interest and that again directs the attention to observable and recurrent activities (Barley and Tolbert, 1997). Therefore, we are not interested in finding out *how* actors construct reality but rather *what* we can learn from their constructions about change dynamics, regional development and agency.

The kind of process analysis advocated here is needed for five key tasks: i) identification of critical junctures and types of them; ii) characterization of event sequences and their properties; iii) specifying dependencies in temporal sequences; iv) evaluating theory derived assumptions of agency and causality with the main aim to identify generative mechanisms or a plotline; and v) recognizing the coherent pattern, which integrates a compelling narrative crystallizing the explanation (applying Pentland, 1999, Van de Ven et al., 1999, Poole et al., 2000, Pierson, 2004).

Consequently, a methodology is needed that enables the identification of main development phases, critical junctures and the search for influential actors, and their strategies, through the course of events, instead of pre-selection of influential actors according to their formal positions. Often, for pragmatic reasons, the data collection is begun with some known actors identified in the analysis of the secondary data, after that snow-ball method is utilized (being aware of its biases).

We define a *main phase* as a distinct and identifiable period between critical junctures in a regional change process. In other words, a phase is the relationship in time between the successive critical junctures. A main phase can be separated from other phases by economic, institutional, agentic and/or

structural changes, depending on research questions and the unit of analysis. *Critical juncture* is a particular time period in a sequence of events; it is an analytical devise for the identification of main phases and turning points in between them. A critical juncture potentially gives rise to a new path dependent process. In the words of (Pierson, 2004, p. 135), junctures are "critical because they place institutional arrangements on paths or trajectories, which are then very difficult to alter". At a critical juncture, a change process is open to alternative paths, and actors or exogenous events settles which path it orients to. At a critical juncture, change process is defined by a high degree of contingency and several possible trajectories. Path dependency theories suggest that a regional development path, having been shifted to a new path, often becomes locked in to a new path by increasing returns, externalities, or other mechanisms (Martin and Sunley, 2006).

Pierson (2004, p. 45) defines four criteria that determine whether a system is at a critical juncture or not:

- *Multiple equilibria*: a range of consequences is in general conceivable
- *Contingency*: Several such future events are possible, which cannot be predicted precisely
- *Timing and sequencing* are critical. In path dependent processes, when something happens may be of importance.
- *Inertia*: After the emergence of a new path new feedback loops generally leads to a phase that is resistant to change efforts.

 Critical junctures are often seen as highly contingent or random, but in regional development analysis, the ambition is to bring forth convincing explanations for why one path rather than another emerged in a critical juncture. Identification of critical junctures is partly based on the identification of key events and sequences of them. *A key event* is a thing of importance that happens or takes place changing a direction of a change process or leading it to consequent significant events. Often, critical junctures are comprised of multiple key events, some of them occurring prior to or after a critical juncture. Applying the definition of an incident by Makkonen et al. (2012), a key event refers to "any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person [actor/-s] performing the act". Further, they say an event "must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to leave little doubt concerning its effects."

The temporal length of a critical juncture is often not possible to define *a priori*. Moreover, even with a well-defined research question and sound theoretical frameworks, the proper starting point for the identification of a change process can be subject to debate. There is no unerring way to decide how far back in time investigators ought to go when examining a change process or aiming to identify critical junctures through the agentic lens (Bennett and Checkel, 2015). In some cases, it may possible to identify clear junctures and key events, while in some other cases, the change process is so 'creeping' that there are no easily detectable, visible junctures or events. Of course, a process tracing needs to begin somewhere, and as Bennett and Checkel (2015) maintain, investigators should make defensible decisions about how to proceed in their process analyses.

In the Regrow project, the main phases were identified using an econometric analysis focussing on changes in employment and related structures. Following the econometric analysis, the first qualitative data collection phase was based on a desktop research drawing on published and other documents and reports on the respective cases; this allowed us to characterise the change processes by constructing fact-based temporal sequences of key events at each case. Next, the key actors, identified in the previous data collection phase (not all were identified, snowball method was also used), were

interviewed. The fact-based sequence of key events was complemented by subjective interviews. The interview guide was constructed using the data from the previous phases. All the interviewees had had a key role of some kind in one or more critical junctures or in a specific key event. Finally, the case specific process descriptions were constructed by cross-analysing the constructed interview and secondary data-based observations against the results from the econometric analysis.

In the Regrow project, to start the empirical analysis, the main phases were identified through the econometric analysis, but another option would be to identify a definitive key event to start the analysis and expand from there both forward and backwards in time. Such a research strategy was used in the institutional analysis of the evolution of regenerative medicine in Tampere, Finland, the first revolutionary clinical treatments serving as anchor key events (Sotarauta and Mustikkamäki, 2015). The Regrow case portfolio would also provide a range of agency related key events to anchor the analysis, prime example being the closure of Nokia's mobile phone plant and R&D activities in a small town of Salo (Finland). At all events, in our approach, the length of a critical juncture is not defined *a priori.* Instead, *critical junctures, key events and main phases accompanied with observations about agency are core outcomes of the empirical analysis.* In some cases, it may be impossible to identify clearly critical junctures at all, the minor changes accumulating in time thus constructing gradually a new path. In some other cases, there may be clear-cut and easily identified abrupt changes forming a juncture (a closure of a major plant, for example). We should be aware, however, that even seemingly abrupt changes may have been boiling underneath of existing institutions for some time before something major surfaces.

2.4   Getting the spatial unit right (JVR)

When investigating regional development, one has to define spatial boundaries. The definition of a *region* is multifaceted in and of itself, referring variously to jurisdictional boundaries (such as Region Blekinge), a shared culture and identity (such as Gnösjö), statistical units (such as NUTS 2 regions), or functional units (such as labour markets). Some of these units come with administrative authorities, resources and responsibilities such as education or health care, but in other cases the unit of 'region' is a level for which we have collected standardized data on population, industry and society, allowing comparison across regions and over time. In the study of regional development, we often aim to identify functional units where social and economic processes are at least partly affected by the assets, interaction patterns, and institutions of the specific region in question (Boschma, 2004). A common functional unit used refers to labour market regions, which are defined based on commuting patterns, with the purpose of being able to evaluate employment and workforce dynamics. In other words, these are reasonably coherent regions in which people work and live, and in which we can expect actors to be 'close' enough (geographically, but also culturally) to interact on a regular basis.

In our investigations with a focus on the role of *agency* in regional development, three concerns regarding the spatial unit quickly emerged. The first follows directly from this fuzzy definition of 'what is a region'. Although labour markets are the common unit of analysis for (predominantly quantitative) studies in regional development for reasons identified above, these are probably not the most appropriate unit when one wishes to (qualitatively) investigate agency and how governance, responsibility or authority are exercised. Labour market regions are functional regions without administrative responsibilities attached to them, and they often include several different municipalities and are often only parts of one or several counties.

In ReGrow, labour market regions seldom overlap with a single municipality (with the exception of some small labour market regions in the periphery), which has added considerable complexity and

workload to the case studies. One logical starting point for our desktop research has been to consider policy documents and strategies prepared by municipal- and regional authorities. In the case of the labour market region of Olofström-Karlshamn, this implied looking at two different municipalities over a 25-year time period, both part of the same regional county authority (Region Blekinge). In the case of Gislaved, however, the labour market region included four separate municipalities, belonging to two regional counties and where some municipalities established a strong collaboration with other municipalities outside the labour market region in question. In order to cope with this complexity, we constructed maps to clearly mark municipal- and county level boundaries of authority. As with "getting the time period right" the appropriate spatial unit is a result of the analysis. As a guiding principle, we asked ourselves where important actions, events and critical junctures occurred that characterised a change process of a specific place. For instance, labour market regions often include locations where the jobs are and locations where people live. If the research question relates to job creation (which is the case for ReGrow) a natural focus is to zoom in to those parts of the labour market region where jobs are created or destroyed.

The second concern regarding the spatial unit of analysis is that regions are not closed units in a vacuum, but are open and situated in flows of people, goods and capital (Asheim et al., 2016, Trippl et al., 2017). Key events in one region can well have their antecedents elsewhere, in the form of sources of ideas, networks and experiences. In the ReGrow project, we found ourselves chasing what we started referring to as 'patient zero' in Olofström-Karlshamn; the original source of ideas or the first time people met. It became clear that the construction and launch of Netport in Karlshamn – a triple helix organization combining a university campus with the physical spaces suitable for small firms in the emerging IT industry in the region – was a direct outcome of events unfolding a decade earlier in the small nearby town of Svängsta. Here, a group of like-minded individuals turned an industrial building left empty by the bankrupt typewriter company Halda into a space suitable for 20 small and medium sized firms in new fields of logistics, IT and services. Netport in Karlshamn in 1999 was strongly shaped by the ideas, experience and social networks that emerged from the events in Svängsta in 1993. In other words, when studying change agency, we needed to ask ourselves also "Where are the origins of events located" and "Where is the agency located that affects a place"?

This last question raises the third concern when studying change agency in regions: That regions are nested in national and supra-national scales (Gertler, 2010, Hassink, 2010, Grillitsch, 2015). Change agency should be considered multi-scalar, where decisions and events taking place at one scale shapes the opportunities for agency at another scale (Grillitsch and Rekers, 2015). Regional development paths are thereby not under the sole influence of regional actors. Whereto should we trace agency? In ReGrow, our Olofström-Karlshamn case is shaped heavily by the job losses at a single factory of VolvoCars in 2008. Several interviewees were keen to point out that this was not a 'Volvo crisis', or even 'a crisis in the automotive sector'. "No.." they said, "…it all started with the Lehman brothers", to which I responded in ignorant surprise "What? They have an office here in Olofström?" This episode quickly highlighted the need to identify boundaries for our investigation of change agency. Lehman brothers, which we consider in our analysis part of a key event – the financial crisis affecting regional development in Olofström-Karlshamn, were outside our scope but some projects at county-level (Region Blekinge) that were directly linked to actions in our labour-market region via people or financial resources, were inside the scope of our investigation.

In order to get the spatial unit right when studying micro-level agency in regional development, we therefore have to consider which boundaries to draw, how porous these boundaries are to flows of people, ideas and resources from neighbouring regions, and to what extent we can trace agency as multi-scalar.

2.5   Getting the research instruments right (JVR)

Studying agency implies asking the question who did what, when, where, why, how, with whom and to what consequence. Many of the big 'what's' and 'when's' can be identified through desktop research using local newspaper archives, municipal plans and strategies, regional policy documents and other publications pertaining to regional development. This research strategy is able to generate a timeline of events, which, together with quantitative material on employment by industry, is able to paint a quite detailed picture of regional development trajectories. However, in order to go beyond events and actually investigate change agency – actions directed towards achieving change – it is necessary to go down to the micro-level and identify actions, as well as the actor's perceptions, intentions, motivations, networks, enablers and obstacles. Interviews of semi-structured nature are our best bet in gathering this type of material, triangulating findings between interview subjects and between interview material and printed sources. When embarking on such a research strategy, one needs to carefully consider the design of the research instrument, the interview guide, as well as how it will be used during the interview. Here we discuss each in turn.

Interview guides, as the name implies, steers the conversation between the researcher and the interviewee. The more detailed this guide is, the more structured is the planned conversation, departing from the point of view of the researcher. In our ReGrow project, we started out with a detailed matrix to record actions and their associated triggers and aims, as well as the factors enabling and/or constraining individuals' actions such as skills, resources, networks, etc. We quickly realized that in order to gather data about individuals' perceptions, motives and intentions, we needed to let them speak freely and to let them share their stories. Although we had an interview guide, this mainly consisted of an introduction to our project and the time period on which we wanted to focus, an introduction to the interviewee. The bulk of the interview was thereafter guided by a series of prompts to force the interviewee to go into details about who they worked with ('who invited you', 'who did you ask and why'), where they got ideas from ('who was the first to suggest this', 'where did you get this idea from, had you seen it somewhere else or done this before in a different context?'), etc. This part of the interview was therefore quite unstructured, following the memory, emotions and enthusiasm of the interviewee. Although such a semi/un-structured interview places substantial demands on the researcher to have the background knowledge necessary to situate the actions identified by the interviewee in the regional timeline, this approach has generated very rich empirical material including many unforeseen connections between people, between events and between localities.

We encountered two issues related to using the research instrument that ought to be kept in mind when studying change agency in regional development. The first is the issue of time and memory. Whenever we ask individuals to speak about their actions in the past, we have to deal with selective memory, a cleaned version of history, errors and forgetfulness. The first three we try to avoid by presenting interviewees with a general sketch of the region's events timeline, and by triangulating between documents and interviews and between interviewees. Forgetfulness we try to avoid by preparing some triggering events or presenting the interviewee with printed newspaper clippings that include photographs of the time-period in question. The second issue is the homework that needs to be done prior to each interview in order to create a 'bubble' in which the interviewee is willing to take the time to go back to events in the past and to share their personal views, strategies, feelings sometimes. The researcher needs to demonstrate knowledge of the region, knowledge of the timeline of events, knowledge of the interviewee's biography and role in the region, and some awareness of the range of stakeholders that were involved. In other words, there needs to be some perceived

overlap between the world of the interviewee, and the knowledge base of the researcher. Furthermore, this knowledge base is not static but rather grows during the fieldwork period, and by the end of the case study, one needs to be careful to avoid asking leading questions.

2.6   Getting the data collection right (JVR)

The quality of the material that one can generate with carefully designed and prepared instruments, rests in large part on the selection of who one speaks with and what about. The challenge when studying change agency in regional development, is that there is an abundance of people, events and actions to investigate, especially when considering the difficulty of identifying the spatial and temporal boundaries of the case. Here we reflect on two aspects of selection procedures during the fieldwork period; selecting interviewees, and selecting the actions from their stories that allow us construct a regional 'action-timeline' with the possibility to triangulate between different sources of material.

The first challenge is relatively straight-forward and not unique to the investigation of (change) agency in regional development. When selecting interviewees during the ReGrow project, we adopted three complementary strategies, including desktop research, gatekeeper contacts and snowball sampling. The gatekeeper, for instance a member of the funding agency's local network in the region or a regional representative of the research council, was a tremendously valuable resource, identifying individuals and acting as a reference when we initiated contact. We are quite sure several interviewees would not have spoken with us as candidly as they did, had it not been for our gatekeeper's reference. We verified and supplemented this point of entry with the results from our desktop research. Finally, we asked our interviewees who they thought would be relevant people for us to speak to now that they knew the kind of stories and reflections we were interested in hearing more about. Such snowball sampling helped to generate new lines of inquiry, new points of view on the same actions, and by the end of the fieldwork period it served to confirm we covered most of the relevant ground when no new names came up. Snowball sampling also prompted us to ask an additional question: "Your name has been mentioned a few times during our fieldwork, why do you think people see you as someone relevant for us to speak with about these events?" This question generated wonderful self-reflections from interviewees, revealing their personalities and attitudes that helped to contextualize their actions and their role in the region's development trajectory.

The second challenge pertains to selecting the relevant 'actions' from interviewees' stories. When studying (change) agency, we agreed that the smallest unit of analysis was that of the action undertaken by an individual, or group of individuals with the intention to achieve change. It is these actions that we wished to categorize in the ReGrow project, into three types of change agency – each with their own triggers and aims, enabling and constraining factors, and impact on the regional development path. One can imagine that 1500 minutes of interview material collected for each single case study include many potential actions belonging to many different stories. During the fieldwork we experienced episodes of micro-overload, where there were so many stories to keep track of that we risked losing overview to the sea of details. In order to cope with this, we designed and filled out so-called 'protocols' immediately following interviews in which we distilled their stories to a set of actions. This protocol complemented our interview notes and the audio-file, and allowed us to synthesize our material from interviewees, building up an 'action-timeline' for the region as a whole. As mentioned earlier, even though actions are the smallest unit of analysis in a study on agency, the analytical effort needs to be directed towards understanding the patterns how a set of actions and interactions affect the emergence of regional paths. This aims to go beyond a historical, descriptive account to an explanation for why certain paths emerged in the way they did (and why certain thinkable alternative paths did not materialize).

3   Conclusions

While theoretically appealing and increasingly used in regional development studies, the concept of agency and its relation to structure is theoretically and empirically challenging. With this book chapter, we aim to share the challenges we faced in a systematic study of agency in a comparative case-study research design. We have identified six key challenges, which we summarize in Table 1, providing a short description and possible solution.

Table 1: Challenges and possible solutions in studies on agency in regional development

Challenge	Description	Possible Solution
Ontology	Due to the very general character of the notion of agency, it is necessary to delimit what agency represents in a given research context.	The focus on human agency that is directed towards or results in a change of regional trajectories has turned out to be a useful entry point in our case studies.
Research design	Agency and structure are intrinsically related making it difficult to disentangle how agency is effected by or is affecting structure.	The identification of cases that deviate from expectations based on regional structural preconditions and common development stories has helped us to identify agentic processes and non-regional factors affecting regional development.
Time period	Changes are often creeping and/or less iconoclastic than they may appear on the surface. Antecedents to a change process can potentially be traced back very long in history.	The concepts of critical junctures, key events, and main phases have been important for us to delineate the time period of investigation
Spatial unit	Messy and porous boundaries between various levels of administrative and functional regions, and multi-scalar linkages.	Starting with functional units, we increasingly - during the analysis - sharpened our focus to the locations and scales that mattered most for understanding agency in regional development processes
Instruments	In understanding perceptions, motives, intentions, and consequences of actions, interview data is a key source but prone to problems due to selective memory, cleaned version of history, errors and forgetfulness.	We found that relatively open interviews provided the richest stories about agency. In line with this, we designed the interview guide to includes prompts about the details concerning agency (who, when, where, how, with whom, to what consequence, etc.). Interviews where used not to understand what happened (we used secondary data for that) but why it happened the way it did.
Data collection	Selection of interviewees and selection of actions relevant	We used three strategies for selecting interviewees: desktop research,

	for regional change processes from interviewees' stories	gatekeeper contacts and snowball sampling. The selection of relevant actions relied on a clear ontology provided by the Trinity of Change Agency. We used interview protocols, audio-files, and interview notes, systematically and promptly synthesizing the material from the interviews.

Our studies on micro-level processes of regional development and in consequence agency have proved challenging but also fascinating due to the richness of stories and explanations that we could collect. The challenges we summarize above are most likely not complete and largely based on our study in a Scandinavian context. For instance, the Scandinavian countries are high-trust societies, in which we found interviewees to be accessible and to talk in a relatively unconstrained way about their own perceptions and stories. The more sensitive the research topic becomes and the lower the level of trust, interview data may become increasingly misleading and challenging to interpret, making higher demands on triangulation of sources. Notwithstanding this limitation, we do believe that the presented synthesis of challenges we encountered in multiple case studies provides a relatively comprehensive picture about the struggles researchers will encounter in studies on agency and should consciously reflect upon in their research strategy.

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