

Regional and Urban Decline – Theoretical Approaches, Models and Classifications in the Course of Time

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1 Introduction

The document “Cities of Tomorrow,” compiled under the leadership of the Directorate General for Regional Policy of the EU, further develops and solidifies core thoughts of the development strategy of Europe 2020. Under the headline “Cities are decisive for the sustainable development of the European Union” the executive summary of this document (European Commission 2011, p. VI) substantiates amongst others that the development of cities will determine future economic, social and territorial development of the European Union, and that cities will become decisively important for their surrounding areas as economic engines, places of networking, creativity and innovation, and as business centres. Furthermore, a description of a common vision can be found (European Commission 2011, p. 10ff), in which cities can be viewed as (or can be expected to become) places of social progress, platforms for democracy, cultural dialogue and diversity, places of ecological and environmental renewal, as well as places with a high level of attractiveness and engines of growth. With this background, it is important to question whether all types of cities and urban agglomerations are able to fulfil these high expectations: Do all cities have the same or at least similar starting conditions which enable them to carry out the tasks of the drafted vision – and most notably, can all of them fulfil the role to be “engines of growth”?

This is doubtful and the doubts are well-founded: According to Haase et al. (2016 I) only one-third of all European cities have enjoyed continuous growth since the Second World War. Almost 42 % of all large European cities (population 200,000 and above) are shrinking (Turok and Mykhnenko, 2007). Urban shrinkage has become an important phenomenon in Europe. However, even though the phenomenon of urban shrinkage itself is an old one (Benke 2005; Friedrichs 1993; Wessmann 2014), the heterogeneity just briefly outlined and the authors’ doubts gave rise to ask and renew some research questions: How can this heterogeneity be explained? Which reasons cause problems for successful growing urban agglomerations, that adjustment becomes necessary but that the necessary and expected adjustment processes fail? Why are some urban agglomerations better in solving their adaptation problems than others? And why do some urban agglomerations make progress afterwards, while others limp behind or even shrink?

These questions marked the starting point of a research project which is a collaboration of the authors with Martin T. Rosenfeld (IWH, Halle – Germany). Our main focus – not in this paper but in future research – shall be Medium-Sized Cities (further referred to as MSC’s). These cities are neither

“Mega Cities” nor do they belong to the group of the somewhat smaller “Second-Rank Cities”. MSC’s – i.e. in our definition cities with 100,000 to 500,000 inhabitants – are also a widespread and very relevant type of city in Germany and in Europe: 44 percent of European urban population was living in cities like this in 2000, while only 20 percent of roughly 260 million Europeans were living in urban agglomerations with more than 2.5 million inhabitants (Giffinger, R. et al. 2007 [I], p. 3). This explains why Giffinger et al. (2007 [II], p.19) emphasize that European MSC’s play an important role for economic development in Europe; but they also note that MSC’s are a class of cities normally neglected in international comparative analyses. MSC’s constitute a type of city that is characterized by a large heterogeneity – some of them are currently developing quite well, many other cities from this group, however, are shrinking, stagnating or can in the best case be described as “slowly growing cities.” And the objective of our project is to take inventory of research on urban decline (shrinkage), to put different elements of this research into a common context and, thus, to improve the understanding of urban decline in general and especially for the case of MSC’s.

The following paper describes some ideas and the current state of this project. The authors just started thinking about these questions. Thus, what we present here is more or less hypotheses and assumptions, ideas on how to analyse these assumptions and questions. We can hardly provide answers – this paper is a work in progress. Nevertheless, as we want to continue thinking about the topic, the ERSA special session on “Slowly Growing Cities” seemed to be a platform to discuss all this – and maybe an opportunity to find (international research partners). The outline of our paper is as follows: Chapter 2 gives a short review concerning the research on urban decline since the beginning of the 1980’s. We are trying to elaborate that there have been at least three “waves of research interest” depending on the causes responsible for decline. The review will show that there are urban agglomerations which have not been able to adjust or had many difficulties during the adjustment processes – although these agglomerations are theoretically expected to have a high adaptability rate if faced with the challenge to adjust. Based on this result, chapter 3 analyses the question of why some cities grow and others do not anymore. A model developed by Michael Storper (2010) is combined with a recent paper of Richard Florida et al. (2017) to outline the idea that cities primarily grown on the basis of economies of urbanisation have a higher ability to adjust than those urban agglomerations that have likely grown based on economies of specialisation. Furthermore an idea of how to test this hypothesis will be presented. The paper ends with a summary, some first conclusions and suggestions for future research (chapter 4).

2 Old industrial regions, urban-regional decline and shrinking cities – same wine in different skins?

Meanwhile, there is a long-lasting research interest in regional and urban decline as well as in shrinking, respectively slowly growing cities. Our assumption is that this research interest has not been a continuum, but, over time, it is rather characterised by “ups” and “downs” revealing certain “waves of research interest”. One objective of this paper is to find arguments supporting this idea. Hence, the paper wants to improve the general understanding of urban decline by dealing with the following topics:

- Did the motives behind this kind of research change over time and, thus, help explain waves of research-interest.
- Can the supposed waves of research interest be explained by different causes of the beginning adjustment processes?

- How far did models and theories used by regional scientists to describe and explain regional and urban decline, as well as the adjustment processes change in the course of time.
- Are models and explanations in former research waves relevant and useful in explaining present problems?
- Do different terms used in this discussion mean different or similar things – e.g. are regions, agglomerations, urban agglomerations, cities different or similar types of regional entities.
- Did the analysed questions of detail change in the course of time?

The authors think that at least three “waves of research interest” that deal with the question of regional and urban decline, respectively, can be distinguished¹.

- **First wave of research interest:** The starting point of the first “wave of research interest” can be placed at the end of the 1970’s, and was related to the appearance of a new type of “problem region” – the so-called “old industrial regions”. The common characteristic of old industrial regions was a dramatic decline of their dominating manufacturing branches.
- **Second wave of research interest:** The abrupt change of the political and economic system in the former socialistic East-European countries marks the beginning of the second wave of research interest in urban and regional decline. As a consequence of the political and economic changes, many cities and regions in these countries became subject to pressure for structural adjustment and suffered a substantial decline – this can be placed in the early 1990’s.
- **Third wave of research interest:** The observation of disparate developments of population in urban agglomerations provoked a third wave of research interest in urban decline (or now mostly named “urban shrinkage”). This wave is more or less identified with demographic changes and a loss of urban functions. It started in the first years of the millennium (roughly after 2005). Urban shrinkage is now recognized as “a worldwide, multidimensional phenomenon” which has been underrepresented for many years in urban and regional research (Pallagst et al. 2017, p. 9).

In the following section, these three waves of research interest shall be described in greater detail to reveal their common and differing features.

2.1 Old-industrial Regions

Before the 1980’s, the pattern of regional disparities can be best characterized by the urban-rural divide. For decades, efforts by regional scientists had been focused on analysing and explaining the differences between rural-peripheral regions on the one hand – described by low economic growth rates, low income, high unemployment and out-migration of population – and urban agglomerations on the other hand – characterised by increasing production, incomes and employment and in-migration. Similarly, regional economic policy was mainly focused on reducing these urban-rural disparities. A change of this pattern of regional disparities can be observed in Germany and other European countries around the beginning of the 1970’s, when a new type of “problematic region” appeared – the so-called “old industrial regions” – the problems of which could not be explained by the classical models of regional science. As most of these old industrial regions were urban agglomera-

¹ Apparently other authors already had similar ideas. Haase et al. (2014) describe three anchor points of the debates: First the experience of deindustrialisation in mono-structured regions (Ruhr), second the decline of core cities as a consequence of demographic change and suburbanisation in the late 1980s and finally, the discussions of massive and rapid population loss experienced by East-German cities in the 1990. The last mentioned discussions emerged in the postsocialist eastern European countries (e.g. Poland, Czech Republic, Romania) after the fall of the Iron Curtain, too.

tions, the research on old industrial regions marks – from the authors’ point of view – a starting point of long-lasting research and discussions by regional scientists on a subject which is nowadays more often described by “urban decline” or “shrinking cities”.

2.1.1 Definitions and Examples

Following Hamm/Wienert (1989, p. 20f) a precise and commonly accepted definition of “old industrial area” did not exist in 1989, although this regional phenotype was already a well-known object of regional science. The characteristics normally used to describe old industrial regions were: early industrialization, above average densities of population and industrial activity, a high degree of industrial specialization or a regionally dominant branch of industry, respectively, and a low ability for structural adjustments. Based on these characteristics, the authors define old industrial regions as

- industry-oriented regions
- with a dominant branch of industry,
- confronted with economic decline,
- but failing in the necessary adjustment processes (Hamm/Wienert, 1990, p. 21).

In our context “old” should be interpreted as a lack of structural ability to regenerate. Steiner (1985, p. 387) mentions two characteristics of the regional phenotype: “old” stands for “an economic base going back to the last (19th) century” whose prosperity is now declining and “industry” means a limited number of sectors, or monostructure, e.g. textile, mining, steel production, paper, heavy engineering.

Although the extensive literature published on this item, especially in the 1980’s, normally used the general term “regions”, most of the analyses dealt with a special type of region, i.a. characterized by an above average degree of agglomeration concerning population as well as industrial and economic activity. Examples of this phenotype of regions – or better of urban agglomerations – dealt with in literature have been²:

- Iron, steel and coal: Ruhr-Area (Klemmer 1988 ; Hamm/Schneider 1987/88 ; Hamm/Wienert 1989) Saar-Lor-Lux, Nord-Pas-De-Calais, Pittsburgh (Kunzmann 1988 ; Markusen 1986), Steiermark (Tichy 1981)
- Cars: West-Midlands/Birmingham (Mawson/Taylor 1983; Hamm/Wienert 1990; Hamm 1993/94; Young 1988)
- Textile and clothing: Mönchengladbach (Hamm/Wienert 1990; Hamm 1993/94), Westmünsterland (Hassink 2007), Roubaix-Tourcoing (Hamm/Wienert 1990; Hamm 1993/94), Lowell (Heilemann 1985; Hamm/Wienert 1990; Hamm 1993/94)
- Shipbuilding: Merseyside, Göteborg-Uddevalla, Bremen

2.1.2 Explaining Decline

According to Boschma/Lambooy (1999 p. 391), old industrial regions are regions that have experienced long lasting periods of economic growth in the past. In many cases, the root of their growth and economic success was a specialization in products which were basic inputs to other sectors (e.g. iron, coal, steel, chemicals), or which were mass consumption goods (e.g. textiles, clothing). The decline of old industrial regions was in any case provoked by economic problems of the regionally dominating branch of industry. The processes especially concerned low-tech-industries. The problems

² Partly dealt with in (international) comparisons of several regions, partly dealt with in single case studies. Cf.

were predominantly caused by the liberalization of world-trade, by opening markets and globalisation leading to an increased number of foreign competitors on the home markets. A relocation of manufacturing activities from industrial countries to less-developed countries was a consequence of this in the middle and long run. As these branches of industry often had a high degree of regional concentration, they turned regional growth poles into negative growth poles and, thus, marked the starting point of regional or urban decline. Since regional economists assumed that these regions will benefit from positive agglomeration effects on regional development (Boschma/Lambooy 1999, p. 391), the beginning of the decline was unexpected to regional scientists, and not only to them, but also to regional politicians, firms, employees and the population.

As already mentioned in the introduction, the problems of this regional phenotype were quite new at the end of the 1970's. That is why Steiner (1985, p. 388) complained that until then, regional economists only used models explaining regional growth, while regional economic decline was inadequately explained. Furthermore, he lists in his paper four possible attempts which form a string of arguments to explain stagnation (or decline) (p. 388):

- A high proportion of industries which lost their competitiveness are no longer growth industries, and therefore can no longer guarantee a sufficient regional income.
- If this industry formed the export-base of the region, the decline of the regional export base led to a loss of a regional growth engine.
- Once regional decline started, a cumulative reinforcement might have taken place - though this does not really explain the decline itself, but merely explains the reinforcement of decline.
- Furthermore, a regional variant of the product-life-cycle-hypothesis combined with a loss of regional innovativeness and the ability to generate new products and a new product-cycle is used for explaining the developments of old industrial regions. The theory of product-life-cycle (Vernon, 1966; Norton, 1979, Rees 1979) states that at later stages of development of industries, changing input and location requirements may result in relocations of industrial plants. These relocations favor places with specific cost-advantages, such as low labor costs.

Friedrichs (1993, p. 908) starts with very general formulations concerning the causes of decline. He states that in all cases of this regional phenotype, there is "a loss of the relative economic position of the city in the wider market", a loss of market shares of the initial industries. However, he also admits that this statement is not very helpful because it gives no explanation as to why decline can occur. To close this identified gap, he mentions three hypotheses to explain decline:

- Following the capital-mobility hypothesis, a decline might occur if firms decide to disinvest in existing older plants and to increase investment in other countries to gain higher profit margins.
- Following the product cycle hypothesis, a decline might occur if firms prefer to invest in process innovations instead of investing in product innovations. It should be noted that this preference is not necessarily a voluntary one, but could be the result of a missing ability to innovate. In any case the described "strategy" can end in plant closures because of a lack of competitiveness.
- Following the control theory, a decline might also occur because the structures of worldwide specialization and division of activities have changed with production sites and headquarters at different locations.

It can be supposed that in most cases, a combination of these arguments provides a more comprehensive explanation than a monocausal approach.

Similar to Steiner, Boschma/Lambooy (1999, p. 392) argue that specialization and a structural concentration in mature industries form the starting point for explaining the developments of old industrial regions. The collapse of demand of the export base branch, which has previously been the growth engine, leads to regional decline. This loss of the export base starts a process of cumulative causation with all kinds of self-reinforcing multiplier- and accelerator-effects. Thus, success or failure may depend on factors that can hardly be influenced by the region itself.

2.1.3 Explaining a lack of ability to adjust

The above description based on structural concentration can explain why decline starts. However, urban agglomerations – and most old industrial regions are agglomerated urban areas – are typically expected to have a high ability to adapt to the necessities of structural change and to innovate and develop new products. In addition, the question remains why old industrial regions could not fulfill these expectations, and why instead a sometimes long-lasting phase of regional stagnation or slow economic growth below national averages could be observed in these regions (Steiner, 1985, p. 389). Possible explanations are:

- The out-migration of labor prevents wage flexibility to restore the competitive position of the region.
- An inflexibility of labor and wages result in high regional unemployment.
- Economies of agglomeration may turn into diseconomies of agglomeration (e.g. congestion, high costs for land and labor), a tendency to oligopolistic structures may rise, and new firms may no longer profit from externalities. This will result in a loss of flexibility in local labor markets, a loss of availability of local suppliers of intermediates, and a loss of entrepreneurial spirit; this poses a risk towards adverse entrepreneurial behaviour.
- Path dependencies and different types of lock-ins can also provide an explanation.

2.2 Regions Suffering from the Change of an Economic System – Regions in Transition

While most of the regional examples of the first wave of research interest were located in West-European countries and the United States, the second wave focused on regions in Eastern Europe sometimes using comparisons and looking for parallels to “traditional” old industrial regions.

2.2.1 Definitions and examples

There is no common definition of the “regions suffering from the change of economic system”. Examples of this phenotype of regions can be found in all post socialist countries – e.g. in Eastern Germany, Czech Republic, Poland.

2.2.2 Explaining decline

Decline in this regional phenotype can be explained quite similar to the decline of old industrial regions. In both cases, decline was provoked by economic problems of the regionally dominating branch of industry; only the reasons for those industries getting into problems have been different. The necessities for structural adjustments in West-European and North-American regions did not arrive suddenly and abruptly, but rather as a process that rose, developed and gradually grew as a consequence of trade-liberalisation and globalisation. In contrast to this political and economic transformation of the East-European countries which formerly had been members of the Council for Mutual Economic Assistance (COMECON), was a sudden occurrence which started at the beginning of the 1990's. The change from a centrally planned socialist economy to a market economy made the

industries in those countries abruptly subject to worldwide competitive pressure. These industries had been protected before the state of technology and productivity were often too low to resist the increasing degree of competition. In combination with regional specialisation, this resulted in necessary regional adjustment quite similar to those of old industrial regions: Regional growth poles became negative growth poles followed by decline and shrinkage.

2.2.3 Explaining a lack of ability to adjust

In a paper published at the beginning of the transformation process, Hamm (1991, pp. 92) used the experiences stemming from old industrial regions in Western-Europe and North-America to estimate possible difficulties of structural adjustment processes in Eastern-Germany. He concluded that the hindrances and obstacles making structural adjustments difficult in “regions suffering from the change of economic system” difficult are very similar to those of old industrial regions. Furthermore, old industrial regions also might provide a helpful forecast as to the time needed for these adjustments.

2.3 New “Urban Shrinkage”

The previous chapters have shown that the decline of urban agglomerations is not a new phenomenon, and that there is a strong relatedness between the two regional phenotypes of declining regions – namely old industrial regions and regions in transition. Nevertheless, authors who dealt with urban shrinkage during the last ten years gave the impression that this is a new topic when formulating statements like “For many years this phenomenon has been widely under-represented in international comparative urban and regional research, thus from the year 2005 on, ‘shrinking cities’ were labelled an emerging topic in spatial planning.” (Pallagst et al., 2017, p. 9).

2.3.1 Definitions and examples

Though there is no consensus about what shrinkage actually is, shrinking cities could be defined as “urban areas that have experienced population loss, economic downturn, employment decline and social problems as symptoms of a structural crisis” (Martinez-Fernandez et al., 2012, 213).

2.3.2 Explaining decline

The following considerations deal with the question whether the current discussions on urban shrinkage are “old wine in new skins” or why researchers of this third wave of research interest rightly might think that the seemingly “old” topic might be “an emerging topic”. There are – from the authors’ point of view – some reasons why urban shrinkage is a different or emerging topic:

First, the complexity of the urban shrinkage topic and its causes has grown. The trigger of urban shrinkage changed from a more or less monocausal to a multicausal, multifaceted one (Pallagst et al., 2013). The problems of old industrial and transition regions had been mainly economically induced. The starting point of decline in those regions had been branch problems caused by a loss of competitive ability leading to regional problems because of a high degree of regional specialization. This currently has changed. In their international comparison of shrinking cities Haase et al. (2016, p. 90) identified three major drivers of urban shrinkage (see also figure 1 for the following considerations):

- Economic decline going along with job losses;
- Suburbanisation and changes in the settlement system;
- Decline in natural population (the excess of deaths over births and subsequent ageing).

Without having examined in detail the authors think that a city's loss of urban functions in course of time might be another, fourth driver of urban shrinkage. Haase et al. further argue (see figure 1) that these three drivers themselves are influenced by other factors (e.g. regeneration policies, municipal infrastructures, land use patterns, and sociodemographic as well as socioeconomic aspects) which again all together influence the cities in a very time- and place-specific manner – economy, demography and suburbanisation have all played a role in East-German cities, whereas a decline in population cannot be attributed to the state of the urban economy e.g. in Genoa, Timișoara and Donetsk. In addition to that, pathways of shrinkage must be viewed in the context of their respective framework conditions, as it will be e.g. relevant whether there are tight or weak housing market conditions, in compact or fragmented cities, and in settings characterised by accentuated national welfare politics or neoliberal workfare arrangements. All of these factors influence the specific form of urban shrinkage, so that the outcomes can vary from city to city.

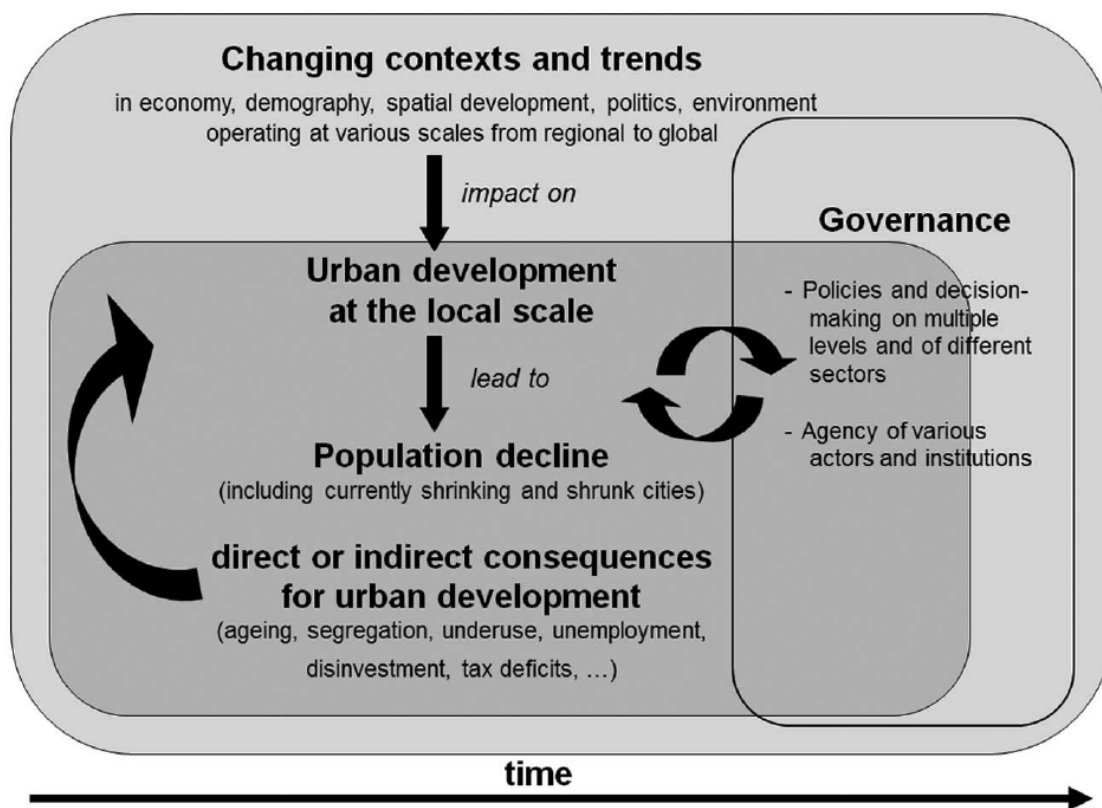


Figure 1: A conceptual model of urban shrinkage (Haase et al. 2014, p.1525).

Population losses are the common outcome. Haase et al. (2014, pp. 1524f.) distinguish direct and indirect impacts of population losses on urban development. Direct consequences can be either attributed to population loss (e.g., housing vacancies, the underuse of infrastructure, decreasing tax revenues) or to immediate effects of these macroprocesses (e.g. the emergence of brownfield sites following deindustrialization). The indirect consequences are defined as a product of feedback loops.

Second, as urban shrinkage changed to a more multicausal and multifaceted problem it also has got a wider dimension. While most of the regional examples in the first two waves of research interest had been industry-dominated regions with a high degree of industrial specialization urban shrinkage nowadays seemingly concerns different types of urban agglomerations. Therefore, shrinking cities

have become a worldwide, phenomenon appearing in many post-industrialised societies (Pallagst et al., 2013) and urban shrinkage occurs on a global scale.

Third, it should be mentioned that Pallagst et al. (2017, p. 9) stress urban shrinkage as “an emerging topic of *spatial planning*” and this also seems to make a difference to the two other waves of research: While it have been mainly regional economists and economic geographers who had been engaged in analysing the old industrial regions and the regions affected by system transformation this third wave of research interest is driven particularly by regional and urban planners.

Fourth, the different perspectives of researchers with slightly different backgrounds – regional economists, economic geographers and regional and urban planners – might explain some methodological and conceptual differences as well: Current research dealing with shrinking cities interprets shrinkage in most cases as a decreasing number of inhabitants. That explains why development of population is mostly used as main or sometimes sole indicator of city trajectories. Different reasons are offered as explanation for this procedure (Turok/Mykhnenko, 2007, p. 167):

- For doing comparative international analysis availability of data is a very pragmatic argument for the use of population data. But this pragmatic argument only holds in the case of comparative research; it does not hold in the field of single case studies and it only partly holds in international comparisons of such case studies.
- Although change of population does not provide a full picture of urban change it can be justified as a general indicator of changing urban conditions. But to accept this also means to impede a better understanding of interdependencies and explanations for the problem of urban shrinkage: Population change often is a reaction especially to changes in urban economic conditions. Thus, migration can also be viewed as a response to regional disparities of economic developments and employment opportunities. And population change can also be seen as an important factor influencing urban (economic) conditions. On the one side population size has positive effects as it increases agglomeration economies and productivity. On the other side negative effects might occur because a loss of population can cause wider economic and environmental problems for cities. Furthermore, changes of population affect local demand for e.g. goods, services, housing, infrastructure and regional employment connected with this demand. Finally population is connected with working age residents and thus also affects the supply of skills and qualified workforce.

Though the arguments for the use of population change as main or single indicator are plausible to a certain extend there remain some doubts whether it is sufficient to use population and changes of population as a one-dimensional indicator or descriptor for a multifaceted urban or regional phenomenon. It would imply reducing the number of indicators used in analyses while the topic of analyses (shrinkage) became more complex and multifaceted. Furthermore, from the authors' point of view the problematic of the regional (or urban) phenotype to be dealt with here is rather too complicated to use only one strict demarcation line between increasing and decreasing population in absolute terms. Instead, future research should go deeper beyond “urban shrinkage” or “shrinking cities”. As a consequence a wider definition of this urban phenotype seems to be necessary first. This definition should embrace urban agglomerations in decline, in shrinkage or in “slow motion”, i.e. with problems of economic performance, problems of adaption to necessities for structural change and problems to keep pace with general (national) economic developments. But this secondly also means

that developments of cities or urban agglomerations should be analysed and compared based on a broader multidimensional system of quantitative (and perhaps even qualitative) indicators.

2.3.3 Explaining a lack of ability to adjust

One can have the impression that the research priorities in dealing with urban shrinkage have changed during this third wave of research. Researchers' main interest in dealing with old industrial regions or regions in transition has been to understand the process of decline, the lack of ability to adjust and the reasons why the process of decline could not be reversed. In the current scientific debate consequences of shrinkage for urban planning play an accentuated role, while it is striking that relatively little effort is made to explain the phenomenon itself (Mayer, Knox 2009; Haase et al. 2014). But a simplifying description of shrinkage as a downward spiral or cumulative process seems only partially adequate, considering that shrinking cities can disappear completely, but also can start to regrow or at least stabilize. Thus, there must be factors, which stop the mechanism of shrinkage and lead to city regeneration (Wessmann 2014). It also shows that the phenomenon of urban decline is much more complex and needs appropriate explanations. It is noticeable, too, that the results and findings of former waves of research find comparatively little attention in the current debate. At least the cited references often do not go far into the past, even though the topic of shrinkage is – as mentioned before – not really new. A possible explanation might be the prevalent research practice to use sources that are up to date. Another explanation might be a change in wording and the use of varying terms describing similar things (e.g. decline versus shrinkage). However, it is questionable, if such proceedings lead to a loss of valuable knowledge gained in the past. Existing findings and experiences, e.g. regarding the conversion of old industrial regions, might provide useful insights, also for cities which are currently (still) flourishing (Schubert, Altrock 2004).

3 Why do (some) cities grow while others do not?

The discussion of old industrial regions and of regions suffering from a change of the economic system in this paper underpins the results suggested by product-cycle models (Norton/Rees, 1979) that specialized urban agglomerations will run into problems if their dominant industry gets problems. Storper (2010, p. 2033) follows, that all urban agglomerations will get confronted with the problem of how to adjust to structural change. Therefore, in his view the central questions to be answered are: What are the origins of successful regional specialization? And why do some urban agglomerations do better in adjustment than others – how can differences in successful adjustment be explained. For analyzing this questions Storper suggests that research on differences in urban growth should draw lessons from international economics where three forces of growth differences could be identified: specialization, human capital and institutions (2010, p. 2028ff):

- **Specialization:** Comparative advantage presupposed the origin of specialization can be explained 'unique' historical circumstances (history matters) and/or might be more or less accidental: Having the right people at the right place at the right time. Thus, specialization might also be driven by external factors. Furthermore, specialization can lead to agglomeration ("specialization matters") because it can create rents for places if it is based on advantages of proximity (localization economies). Examples for such localization economies are regional forward and backward linkages of the dominant industry, the possibility for labor pooling and technological spillovers.
- **Human Capital:** Increases in productivity stemming from the application of new knowledge to production are a second source of growth. Knowledge can be recombined and thus have a positive impact on productivity. Knowledge is embodied in the labor force, can be measured by hu-

man capital and it can e.g. be increased by research and development (R&D) or education. For being successful a region must fulfill the conditions that allow the recombination of knowledge, especially it must possess the characteristics to attract people with different skills.

- **Institutions:** Following Storper, institutions are a third factor determining economic growth: “By ‘institutions’ is meant a variety of things, ranging from the ways the formal de jure rules of political institutions affect their efficiency in facilitating economic activity, to what we might call de facto governance, referring to the real, on-the-ground ways that public-sector agencies and private-sector groups and individuals interact in detailed ways to shape the rules and resources of the economy, and the ways they mobilise beliefs and norms in so doing” (Storper 2010, p. 2036).

Furthermore, Storper argues that it is not sufficient to merely consider the three described forces of growth, but that the interrelations and interdependencies must be taken into account, too (cp. figure 2).

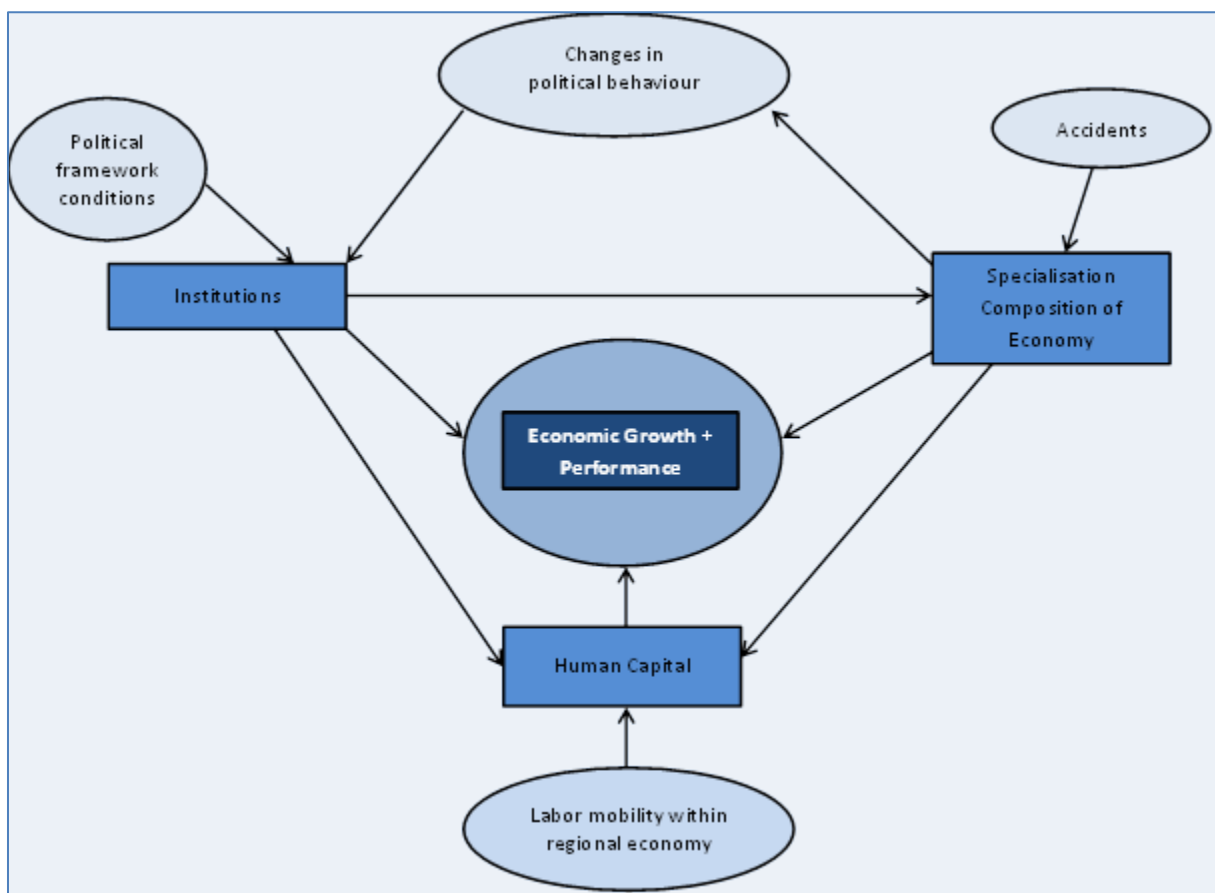


Figure 2: Why does a city grow – the Interactive Storper-Model³

Storper stresses the importance of knowledge embodied in human capital as one key factor of regional economic growth. The description of this key factor in his paper shows that this aspect is closely tied to innovativeness – an aspect accentuated by Florida et al. in a recent paper (2017). His arguments start from the theories of Josef Schumpeter that stress the high importance of innovation and entrepreneurship for economic growth and then use Schumpeterian ideas to discuss the regional distribution of innovation and the contribution of innovation to explain regional economic develop-

³ The figure tries to combine a figure used by Michael Storper in a draft version of his paper and figures 1, 2 and 4 in his article (Storper 2010).

ment. The starting point of Florida et al. is the diagnosis – based on empirical studies on patents, product innovation and venture capital – that innovation is geographically more concentrated than manufacturing, production and population and that especially urban agglomerations and cities are favored by this effect. Literature on regional and urban economic theory provide explanations for this finding (Florida et al. 2010, pp. 89f):

- Following Marshall, Arrow and Romer knowledge spillovers between proximate firms of the same industry can be a first explanation (MAR-externalities).
- Following Frenkel/van Oort (2007) creation of new technologies is path dependent and occurs in places which already have the necessary technological capacities. But radical new innovations occur in new places not handicapped by any kind of lock-in effects.
- Jane Jacobs (1969) argues that diversity stimulates innovation. She also stresses that variety not specialization is important to urban growth (Jacobs-externalities).
- Duranton / Puga (2001) distinguish specialized and diverse places and consider cities as incubators for innovation.

Discussing and combining these different ideas Florida et al. (2017, pp. 90ff) conclude:

- Expansion and development should be distinguished. While expansion is only growth in size and volume of activities, development means doing new things as differentiation of the previous ones based on innovation. As radical innovation can be better assigned to scope and urbanization economies as to scale and specialization economies, they assume a move away from specialization to diversity as driver of regional development and growth: “Scope and diversity trump scale and specialization” (Florida et al, 2017, p. 91).
- According to Jane Jacobs, they furthermore argue that new innovations start in cities, because cities are places, where a diversity of skilled workers live and interact. Furthermore, cities have the advantage that they dispose of a common set of rules and institutions. Thus cities can be seen as the enabling infrastructure for innovation.
- For a knowledge driven innovation economy urban agglomerations and cities will gain increasing importance as drivers of economic growth.

The results of Storper and Florida et al. raise questions for further research:

- Regional innovativeness can be seen as a driving force and determinant of regional growth in the future. Furthermore cities are the enabling infrastructure for innovation: “Innovation and entrepreneurship require the city.” (Florida et al., 2017, p. 93). That means: It is necessary (or at least very helpful) to be an urban agglomeration (city) to have innovations and successful entrepreneurial ideas (and growth as a consequence); and this aspect will even gain wider importance in the future. But though the argumentation of Florida et al. that being a city is a necessary condition for innovation is plausible so far, it must be heavily doubted that this is also a sufficient condition to guarantee success with innovation and entrepreneurship and with urban growth – the regional phenotypes of shrinking cities and urban agglomerations in decline raise these doubts. Thus the question arises what the sufficient conditions for a city’s innovativeness have been in the past and – more important – might be in the future.
- Following Storper and Florida et al. one can expect that the rise and development of urban agglomerations in the past normally can be best explained by the interaction of specialization, human capital (innovation) and institutions. Nevertheless, one can also suppose that in most cases

one of these determinants might have had a higher or the highest explanatory power. One then could ask whether urban agglomerations that can be assigned to have grown on the basis of scope and diversity have been more successful in adjusting to necessary structural changes than those that had grown based on scale and specialization.

4 Concluding Summary and Further Steps of Research

It should be mentioned here that the concluding summary should be “handled with care” as most of the assumptions presented here must be substantiated and confirmed; for that existing literature has to be examined more thoroughly than we have done until now.

First objective of this paper was to elaborate that there have been (at least) three phases of research interest in the topic of declining urban agglomerations. The first wave of research interest started at the end of the 1970's and dealt with “old industrial regions” – a regional phenotype characterized by dramatic decline of manufacturing branches. The second wave of research interest began with the abrupt change of the political and economic system in the former socialistic countries. In both phases decline was provoked by economic problems of regionally dominating branches of industry, while the reasons for these branch problems were similar, but nevertheless different: Structural adjustments became necessary because of changes concerning the regional integration in international markets – in the first case as a consequence of gradual process caused by trade-liberalisation and globalisation, in the second case as a sudden occurrence. The characteristics of third wave of research interest are different from that. It started roughly after 2005; demographic changes and a loss of urban functions became more relevant explanations. Urban shrinkage meanwhile is recognized as a worldwide, multidimensional phenomenon.

Which conclusions can be drawn from this finding? During the two first phases especially (medium-sized) manufacturing cities (urban agglomerations) with specialized economies suffered from decline. In the third phase demographical changes lead to regional losses of population. As a consequence a city might lose urban functions (in the fields of administration, shopping and retail, culture and leisure facilities). City leaders and urban planners must be aware that other types of cities than only the highly specialized ones might be affected by urban decline nowadays. And interesting questions for future research of urban and regional scientists remain:

- Which (new) types of urban agglomerations are affected by slow growth, shrinkage and decline?
- Which conditions must be fulfilled by a city to be resistant against urban decline and which circumstances make cities vulnerable to urban decline?
- Which factors increase the risk for becoming and remaining a city in decline or which factors increase its ability to adjust to any kind of structural change?
- Are medium-sized cities formerly characterized as specialized manufacturing cities more vulnerable because they still suffer from the consequences of industrial decline, structural change and adjustment processes in former times?

The second part of the paper tries to describe a basic theoretical framework that can be used for analyzing these questions. Cities and urban agglomerations are normally expected to have a high adaptability if faced with the challenge to adjust to structural change. But this contrasts with the well-known finding that there are some urban agglomerations that have not been able to adjust or had big difficulties during the adjustment processes. Combining ideas from Michael Storper and

Richard Florida et al. the paper tries to summarize factors explaining urban growth. These considerations end with the presumption that a city's ability to adjust depends on the factors that had been responsible in explaining the former rise of this region or city. If the rise of a certain city can be mainly explained by economies of specialization, then innovativeness might be a specialized one, concentrated in the dominating branch of industry. This kind of innovativeness might be lower compared to those cities where growth had been driven by economies of urbanization (Jacobs-externalities) in former times. Our idea for future research is to internationally collect as many case studies as possible on cities and regions in decline and then develop a standard framework to analyze and compare these case studies. The objective of this course of action is to test the presumption just formulated on city developments driven by economies of urbanization and the questions formulated above.

The stories told in this paper increase the doubts that all European cities – especially many of those with 100.000 to 500.000 inhabitants – can really fulfil the role as “engines of growth” in Europe. For finding suitable ways and measures to strengthen particularly shrinking and slowly growing MSC's a better understanding of causes of decline, difficulties to adjust and factors relevant for success or failure as well as their interdependencies is essential.

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