Urban decline within the region: Understanding the intra-regional differentiation in urban population development in the declining regions Saarland and Southern-Limburg
Hoekveld, J.J.

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Conclusion and discussion

This study has been organised in three parts. The first part, chapter 2, is a theoretical review of the concepts and theories of urban decline and shrinkage. These were scrutinized for their usefulness for explaining inter-regional and intra-regional differences in levels of decline. The research question for this part of the study was: *how can inter-regional and intra-regional differentiation in levels of decline in Western European regions be explained?* This resulted in the formulation of a conceptual model which was used for the following analyses.

The second and third part of the dissertation addressed two gaps that I identified in our understanding of urban decline. The first gap concerned the process of urban shrinkage, more specifically how the demographic and economic changes are unfolding and affecting each other. The main research question for this part of the analysis was: *how does the process of regional decline unfold over time?* The findings were reported in chapter 3. The second gap concerned the explanation for the differences in population development between cities within a declining region. The research question for this part of the study was: *how can intra-regional differentiation in the level of urban population development in the declining regions of Saarland and Southern-Limburg be explained?* This intra-regional differentiation in population development has been investigated in two declining regions with a relatively similar spatial and economic profile: the former mining regions of Saarland in Germany and Southern-Limburg in the Netherlands. Chapters 4 and 5 present the findings of these analyses. In this concluding chapter, I highlight the findings of the individual chapters.

6.1 Summary of findings

The theoretical model

On the basis of an extensive literature study, chapter 2 presented a conceptual model which captured the drivers of inter-regional and intra-regional differentiation in levels of urban decline in Western European regions. It was argued that inter-regional differentiation (the differences in demographic and economic development *between regions*) is the result of the degree to which higher-level processes filter through the institutional and spatial context. In the wider urban decline and shrinkage debate, the main focus is given to the higher level process of deindustrialization and structural
economic changes as causes of urban decline or shrinkage at regional level in Western Europe. These are affecting local and regional employment structures and lead to out-migration. Negative rates of natural increase (due to extremely low birth rates and high death rates) increasingly lead to regional population decline as well. The institutional framework with its policies and regulations determines whether a region is affected by those higher level processes at all and to which degree. The regional or national government may for instance protect their industries, actively try to diversify its economic structure or employ family policies to stimulate the birth rate. The spatial context, or the bundle of regional characteristics, is important too. The important characteristics are the employment structure of the region, infrastructural connectivity and the relative location of the region within the national territory.

Intra-regional differences are the differences in economic and demographic development existing between cities and villages in the same region. These local economic and demographic developments are in turn shaped by individual demographic events (migrations, births and deaths) and economic events (growth or decline of firms and employment) in those cities. The question is therefore why demographic and economic events differ between cities, especially considering the fact that they have all been exposed to the same institutional context, to the same wider economic restructuring, and are located in the same spatial context. The literature principally focuses on the process of suburbanization as a cause of intra-regional differentiation in population development. However, the conceptual model presented at the end of chapter 2 identifies additional factors as being involved in explaining these differences: the local context, or local characteristics comprising city type, local amenities and opportunities, the city’s image, and the degree to which work, leisure, educational locations are found within a reasonable commuting time elsewhere within the region. These local characteristics are partly fixed and partly affected by those higher level processes, filtered through the institutional and spatial context. The local political context is an important feature in this respect too, as local policies and politicians can control these amenities and opportunities to a certain extent. However, they are constrained by legislative and financial frameworks set by higher administrative levels.

The process of urban shrinkage
According to the model as described in §2.9, differences in levels of urban shrinkage between regions are assumed to be the result of structural economic change and institutional and spatial characteristics. However, once started, the process also takes on its own dynamic, which may add to further decline. This is investigated in chapter 3.
The development of the process of urban shrinkage was investigated in three Dutch shrinking regions, all located within the same institutional context and all sharing one specific spatial characteristic of being border regions (Zeeuws-Vlaanderen, East-Groningen and Southern-Limburg). If differences in the level and process of decline between the regions are found, they are likely to be attributed to the specific spatial contextual factors of the regions.

A marked difference between the regions was the impact of natural developments versus migration on total population development. Whereas in Zeeuws-Vlaanderen population decline was primarily the result of natural decreases (outnumbering net migration), in East-Groningen, net migration was more negative than the natural decrease for the majority of the shrinkage years. Migration was in Southern-Limburg more important than natural developments between 1997-2007 and this pattern reversed after 2007. Even though negative natural developments (as in Zeeuws-Vlaanderen) have a more persistent effect and are harder to reverse (Flöthmann, 2003), the fact that the region still had a more or less stable migration rate was a positive sign, indicating the region was still fairly attractive for migrants. The attraction potential of East-Groningen on the other hand appeared to be lower.

A time series analysis was performed on a set of demographic and economic variables. The study found that firstly the trajectories of shrinkage are different in the three regions (there is no template) and secondly these trajectories encompass more factors than only those variables entered in the time series analysis.

There are three remarkable findings. Firstly, the (lagged) relation between economic and demographic variables varied between the three regions. In Southern-Limburg the population was already declining due to migration while the number of jobs were still increasing. Apparently, different factors must have caused migration. I suggest that a mismatch between the type of employment and the qualities and characteristics of the labour population in terms of age and educational level may be part of the explanation. In East-Groningen and Zeeuws-Vlaanderen, net migration started decreasing the moment employment was decreasing too: a classic shrinkage trajectory.

The second finding concerns the importance of specific regional characteristics for these shrinkage trajectories. These were the University of Maastricht (attracting students and scholars), specific regional reproductive behaviour (the lowest fertility rates in Southern-Limburg and among the highest rates in Eastern-Groningen) and the opening of the Westerschelde tunnel in Zeeuws-Vlaanderen.

The third finding concerns the importance of the border. Although expectations were that the border would affect regional development, it was not
expected that this effect was variegated in and within the three regions under study. Southern-Limburg is wedged between Germany and Belgium, and the interaction in terms of cross-border migration between Southern-Limburg and these two countries varied in different periods and parts of the region: in particular, the eastern part of the region received a lot of Germans, who were attracted by the low housing prices relative to the Aachen region in the 1980s and 1990s. Later, these Germans moved back, which contributed to local population decline. In the Maastricht- and Heuvelland part of the region, the interaction with Belgium was more unidirectional: in the 2000s the Belgian side of the border attracted Dutch households because of relatively low housing prices. This effect is waning because of the current housing market crisis, which reduced the housing price differences between the Dutch and Belgium side of the border (Gemeente Riemst, 2011). Most interestingly, in Zeeuws-Vlaanderen, also bordering Belgium, the housing price differences are still large enough to have spurred cross-border migration. Recent, the migration flows consist of Belgians who were attracted to Zeeuws-Vlaanderen, instead of the other way around. The migration flow in East-Groningen was from the Netherlands to Germany. This was an indication that the differentiated levels of attractiveness of the three regions (expressed in migration rates) should be estimated in relation to the attractiveness of the area just across the border: Zeeuws-Vlaanderen borders an area with larger growing cities (Antwerp and Ghent) and Southern-Limburg borders the Aachen region on the one side, and the Liege/Tongeren area on the other side, both with their own push- and pull factors. There are no larger cities bordering East-Groningen in Germany.

The recent positive migration rates in the Southern-Limburg case proved that it is possible to at least temporarily break the continuous cycle of outmigration, even though the total population is still declining (due to continuous negative net rates of natural increase). Most likely, the cause for these positive migration developments was the influx of Eastern-European labour migrants. If the size of this flow were to increase further and stabilize, it could hypothetically compensate for the losses caused by natural developments, and so move the region from position 3 in the scheme of figure 1.1 to position 4. However, this scenario is not likely given the large elderly cohorts which will continue to result in increasing death rates in the near future, the possibility of increased immigration restrictions and the fact that these jobs will not infinitively increase either. Moreover, growth would again only take place in specific parts of the regions whereas other parts would continue to decline. This would contribute to increasing intra-regional differentiation in population development.

It must be concluded that one cannot simply state that population decline is caused by economic decline or vice versa. Economic decline certainly influences the
shrinkage trajectories of the region. However, other factors (such as reproductive behaviour, (cross-border) housing market developments and accessibility measures) interfere in the process.

**The intra-regional differentiation in population development**

In the second part of the analysis, the primary topic was population decline within the region. The question to be answered was how intra-regional differentiation in the level of urban population development in the declining regions Saarland and Southern-Limburg could be explained.

In the two regions, the analyses showed that the current intra-regional differentiation in population decline was not the result of one single contemporary process but rather of the accumulation of multiple developments occurring in three periods, in each of which different macro-processes and local and regional characteristics played a decisive role. I drew a distinction between the period of economic boom, the period of economic bust and the period of post-restructuring decline. Below I discuss per period which local, regional or national characteristics contributed to the differentiation in population development in the two regions.

*The period of economic boom*

This period of economic boom lasted from approximately 1900-1958/1960 (the latter years refer to the first coal crisis in the Western European countries), and was interrupted by the economic crisis of the 1930s and the World Wars. The intra-regional differentiation in population decline was the result of one process (coal mine exploitation and industrialization) in combination with two local-level characteristics (the spatial distribution of mining pits and steel industries and housing opportunities for miners). In the first half of the 20th century, this attracted large numbers of workers and these people started large families (which in turn affected birth rates). The spatial concentration of these individual demographic events in the industrial parts of the regions resulted in a clear spatial pattern of population development. The age composition was skewed in these parts, with a relatively young population compared to the hinterland. The explanation for the intra-regional differentiation is in this period therefore fairly simple, and this explanation accounts for both regions.

*The period of economic bust*

The period of approximately 1960-1985 was heralded by two distinctive macro developments, which initiated the change from economic and demographic growth to economic and demographic decline (with reference to the scheme in figure 1.1.: from
position 1 via position 4 to position 3). These developments were, firstly, the severe economic transformations taking place in the mining and steel industries which affected employment opportunities in those industrial cities and villages and, secondly, the changes in reproductive behaviour (lower birth rates), that concerned individuals throughout the regions. The third development was the process of suburbanization, which had of course a spatially differentiating effect. Again, these processes were found in both regions.

The closure of the mines and economic restructuring led to high out-migration from of the industrial heartlands of the regions. The national governments employed different strategies to deal with the ongoing economic changes in the two regions. In 1965, the Dutch government decided to terminate coal mining entirely within 10 years and formulated a large-scale economic restructuring policy. This drastic dismantlement of the mining industry in the Netherlands was possible because the economy was booming in other sectors in 1965, which meant that miners could initially be easily re-employed in other jobs. Secondly, the discovery of the natural gas field in Groningen reduced the dependency on coal for energy supply. Thirdly, Dutch coal mining was a monoculture, which meant that the closure of the mines would not set off a chain reaction of decline in other sectors as well, which was the case in many other coal regions (Kasper et al., 2013). Saarland’s coal mining, on the other hand, was heavily subsidized and the national government decided it had to be continued, albeit at a lower level with substantially reduced coal extraction and number of miners. It was not until 2012 that coal mining terminated definitively in the region.

Even though this time frame of mine closures differs considerably between the two regions, the type of restructuring policies and their effects on the differentiation in population development did not differ much between the two regions. Both regions aimed to diversify the economic structure and create alternative employment to compensate for the losses in the mining and steel industry, which – also in both regions – was successful in certain parts of the regions and failed in others. In Southern-Limburg, economic restructuring of the eastern mining area was fairly unsuccessful: the new employment did not always suit these unemployed people and the new companies (attracted by state subsidies) did not always survive. In the western mining area, on the other hand, the development of the large chemical industry DSM and the attraction of the automobile company DAF gave an impetus for growth in the area, which largely compensated for losses in the mining industry. Furthermore, the inauguration of the University of Maastricht attracted students and scholars and generated population growth in this city. The success of the university and the chemical industry are examples of factors curbing the direction of economic
and demographic development. However, this spatially differentiating effect of the restructuring policies was not foreseen by the policy makers: according to Kasper et al. (2013), the government assumed at that time that it did not matter where the new companies were located within the region, as the employees would be willing to travel to their place of work. This assumption turned out to be a bit too optimistic: especially in the eastern mining area the municipalities suffered from high out-migration. Still, in those former industrial municipalities this high out-migration did not result in population decrease yet because of large natural surpluses (as remnants of the population boom period).

The same spatial differentiation in economic and demographic development was found in Saarland, where successful restructuring took place in the middle Saar valley (around Saarlouis and Dillingen). Here, the former blast furnace developed into a competitive steel company (albeit sensitive to economic fluctuations) and the success rate of newly attracted and established companies was relatively high. On the other hand, in the area around Saarbrücken, Neunkirchen and Völklingen the diversification of the economic structure was less successful. The varied successes of the restructuring policies were reflected in the spatially differentiated population developments: the population size declined more strongly in areas where restructuring was less successful than where restructuring was more successful. There was one important difference between Southern-Limburg and Saarland: the net rate of natural increase was already negative in the industrial cities in this period in Saarland, whereas in Southern-Limburg it was still positive and thus compensating for migration losses. The reason for this difference was the fact that the total fertility rate in Saarland plummeted more sharply than in Southern-Limburg and it remained at this lower level. There was a national component to this factor: Southern-Limburg has had for 25 years already the lowest total fertility rate (TFR) of all Dutch regions (1.35-1.48 child per woman), yet this value was still much higher than those in German regions (where the highest TFR of all Länder is currently 1.48). Moreover, the level of childlessness (especially among highly-educated women) was much higher in Germany. This was perhaps related to the fact that especially societal expectations related to ‘good motherhood’ are high, especially in West-Germany: the combination of motherhood and labour participation was (felt to be) frowned upon (Dorbritz and Grünheid, 2012).

In this period, another factor started to play a role. Whereas until now employment opportunities had determined individual demographic events and thus the spatial distribution of the population, from the 1950s non-economic residential preferences started to play a role as well. It was particularly the suburbs that profited from this process. Not all suburbs developed in the same way though. Former
industrial suburbs were clearly less attractive than suburban municipalities with a more rural character.

During the period of economic bust, the spatial differentiation in population development was the result of a wider societal trend (the collapse of the coal market) affecting a city because of specific local-level characteristics (whether a mining town or not) and institutional characteristics (governmental attitude and restructuring policies), aggravated by the process of suburbanization and superimposed by a general trend of decreasing birth rates. This pattern was again found in both regions.

The period of post-restructuring decline
The 1990s formed another demarcation point heralding a new phase in both regions. In the late 1980s the population increased again slightly, because of the echo-baby boom and even more in Saarland because of the influx of Germans and East-Europeans after the fall of the Iron Curtain. However, after this last upswing, population decline resumed without any chance of recovery any time soon.

The spatial differentiation in population decline in this period was also the result of multiple processes. Firstly, death rates enter the picture as one of the explanatory variables for differential population development. The root of these high death rates is found in the past: since the population grew so strongly in the boom period, there was a skewed age composition in those mining areas. By the 1980s-2000s, those people who were young in the boom period reached the end of their lives which contributed to high death rates. Economic development thus has strong ripple effects that carry through the decades. The situation was aggravated by the fact that the mining areas lost their attraction potential for migrants after economic restructuring, which in turn initiated a process of ageing in place. However, it must be said that the birth, death and migration rates (and thus the level of total population development) have gradually become more uniform across the regions over time and the effect of the economic development trajectory on population development is becoming less pronounced.

A second regional characteristic, which affected the municipalities to more or less the same degree, was a lack of employment for, in particular, highly-educated young people. In Saarland, young people aged 25-35 and educated at Saarland University had difficulty finding employment, which was why they migrated to other regions. In Southern Limburg, it was, in particular, the group aged 18-25 that left the region in search for education. The problem was that these young people were not coming back after graduating, which was, according to the interviewees, due a
mismatch between the type of education they had followed and the employment structure in the region (just like in Saarland).

The border impacted local population development as well. In both regions, substantial cross-border exchange took place and is still taking place. This exchange is spurred on by institutionally-induced cross-border differences in housing prices, housing opportunities and subsidization schemes. Yet this exchange is generally confined to the small strip of municipalities along the border (thus having a spatially differentiating effect). In Saarland, the area bordering Luxembourg attracts large numbers of people working in Luxembourg and living in Saarland, as housing is less expensive in Saarland. At the same time Saarländer are attracted to cheaper housing supply in Lorraine (although, just as in Southern-Limburg, the differences in housing prices between Saarland and Lorraine are diminishing, which also reduces cross-border migration). A similar spatially differentiated border effect was found in Southern-Limburg, which has already been discussed in the previous section.

Another regional factor contributing to differentiation in population development was the spatial distribution of housing opportunities and, more specifically, the regulation of opportunities via regional housing market policy. In Saarland, the influence of the regional administration on local housing policy was stronger than in the Netherlands. In Saarland, the central places planning principle determined how much new housing construction was allowed and in which areas. In Southern-Limburg, housing policy was primarily a local matter. However recently, the combination of population decline and an unremitting expansion of housing supply by local administrations (contributing to increasing vacancies) urged the Dutch Province of Limburg to consolidate its grip on local housing policies by means of a housing decree. The spatially differentiating effect of these housing policies was two-fold: firstly, population declined less (or even grew) in those areas where the construction of, in particular, single-family housing was allowed. The second effect had to do with home ownership rates and vacancies. In both regions, regional administration took the number of vacancies into account, using different methods, when deciding on the local housing construction quota. Rural municipalities with high home ownership rates and high vacancy rates of privately owned dwellings and lots experienced a feeling of disadvantage when compared with municipalities with lower home ownership rates, as these privately owned vacant lots and dwellings consequently limited their housing quota and they had limited power to tackle these vacancies.

This regional housing market policy relates to the local political situation. It was stated in the introduction of this dissertation that institutional ‘thickness’ and ‘sclerosis’ or lock-in can contribute to differences in developments between cities. The
importance of such institutional characteristics is confirmed in both cases, but in
different ways: in Saarland it was found that the mayor in particular had a marked
influence on local developments as he/she was an important player in negotiating
regional housing market policies, promoting the city for firms and city marketing.
Furthermore, local officials were crucial in attracting higher-level funding, supporting
the argument for ‘institutional thickness’. In Southern-Limburg, an argument was
made for the impact of ‘institutional sclerosis’, as the lack of political decisiveness and
party quarrels in a city council can lead to paralysing village politics (where the council
members predominantly represented the interests of the village that they were from,
instead of the interests of the entire municipality).

As the analysis of residential mobility patterns and preferences in the
Southern-Limburg case proved, decline was not predominantly caused by regional out-
migration. Rather, municipal migration rates were mainly affected by intra-regional
migration and international migration, and less by inter-regional migration. These
migration flows were, for the most part, fuelled by life-course transitions such as
cohabitation or separation, leaving the parental nest or moving into a home for the
elderly, and less by economic arguments. The most important residential preferences
regarded the dwelling and neighbourhood characteristics, which resembled the
preferences of respondents in other, both growing and declining regions. Specific
regional characteristics were, firstly, the importance of local attachment, which may
have a mitigating effect on migration. This aspect was also mentioned in Saarland.
Secondly, Southern-Limburg respondents significantly more often did not find the
preferred dwelling in the preferred town than respondents in the rest of the
Netherlands.

In this period, the intra-regional differentiation in population development
was therefore the result of the spatially differentiated death rates as a continued
effect of the boom period, housing policy and opportunities, the way in which local
officials were able to influence these policies and opportunities, and the way in which
these opportunities were appreciated by intra-regionally moving households.

6.2 Reflection on theories

In the theoretical discussions in chapters 1 and 2, population decline was theoretically
positioned within the framework of urban change. The literature offered a number of
approaches for the existence of different stages in regional development and for why
shifts between stages occur: the structural economic approach, the institutional
approach and the behavioural approach.
The two regions clearly demonstrate the importance of structural economic developments for explaining economic and demographic development. Regional development can be described in analogy with the industrial life cycle with birth, bloom, decay and death (or, when the region is able to reinvent its economic structure: recovery). The two regions under study are (still) in the decay stage because of, among other things, structural economic changes. The economic opportunities were the primary driver of the birth-, bloom- and decay stage of economic and demographic development of the two regions. It was expected that large-scale economic changes would only explain differences in population development between regions and not between cities in that region. However, it turned out that this assumption was false: the industrial cities within the region experienced the highest economic and demographic growth and decline.

The importance of institutional settings came to the fore during all three stages. Regional and national governments tried to fuel and guide regional economic development and restructuring. In addition, local, regional and national housing market policies proved to be strong determinants in intra-regional differentiation in population development, not only in a context of growth (as pointed out in traditional institutional approaches), but also in a context of decline. It was expected that differences in development at local level would be ascribed primarily to local level political and societal actors. However, the study revealed that higher level institutions and policies may possibly make an even larger contribution to intra-regional differences in population development, particularly through housing policy and subsidization schemes, than local politics do.

It is not just a matter of where housing is located, but also where people want to live. This calls for the use of behavioural explanations. The study showed that these explanations are gaining importance in explaining intra-regional population development. In particular, intra-regional moves are fuelling these intra-regional differences. In the introduction I wondered whether the same principles of residential mobility would apply in a declining region as in a growing region. And, when this is the case, whether these differences are merely the consequence of a composition effect of the population or not. Although I did not investigate the pattern of intra-regional differentiation in population development in growing regions, I did investigate the migration motives and preferences of the population in both shrinking and growing regions. The study in Southern-Limburg revealed that intra-regional moves were determined largely by the same motives and preferences as in other, growing, regions. A difference was that in Southern-Limburg the respondents had more difficulty finding the preferred dwelling in the preferred town, and this was indeed partly the result of a
composition effect and partly of a regional effect: in Southern-Limburg significantly more often people could not find the preferred dwelling in the preferred town because of a lack of housing in general and a lack of elderly apartments in particular. The latter argument is found in other declining regions too, whereas the first is unique for Southern-Limburg. So it is the combination of the population composition and the structure of the regional housing market that contributes to this lower level of realized preferences. More research is needed into this direction to confirm these findings.

A second finding is that the intra-regional residential mobility flows were certainly not just going from the core city to the suburbs, in contrast to what was stressed in the literature. The case was rather that there was a criss-cross pattern of moves between cities, between suburbs, between rural villages and any combination of these categories. Scholars should therefore be aware of the possibility of other intra-regional migration flows in addition to the suburbanizing flow while studying the causes of shrinkage.

There are a couple of factors that steer population development which were not part of these structural economic, institutional and behavioural explanations but which did contribute to the intra-regional differences to a large degree. The first is the importance of natural increases (births and deaths). They appear to be strongly related to economic development. Structural economic approaches should therefore broaden the focus: economic development does not only contribute to population growth via migration, but also via natural increases and decreases. Particularly the ripple effects of past boom and bust should be taken into account. In the introduction, I questioned whether these natural changes could have affected the region uniformly, or whether they had had a spatially differentiated effect. Firstly, natural development should be broken down into birth and death rates to see what the true effect of this factor is on differentiation in population development: in the period of decay the variance in birth rates within the region was limited, whereas the variance in death rates was high, with particularly high death rates in the former mining municipalities (but now these differences are levelling out).

A second factor was the influence of the border. Expectations were that the border just played a role at regional level and less at local level, but this assumption had to be rejected: in both regions, the municipalities located directly at the border had undergone significantly different developments when compared with the cities and villages located further away from the borders. This means that the border location should not be treated as just a regional characteristic, but also as a local characteristic. This spatially differentiated border effect is the result of cross-border
institutional differences (which again stresses the importance of higher-level institutional settings for intra-regional differentiation). For a full understanding of these intra-regional differences in population development, one should take the institutional characteristics of regions bordering the case study region into account as well.

Is urban shrinkage indeed an unprecedented and unique phenomenon? I agree that the extent and perseverance of shrinkage as we now find it in many regions and cities in the Western World is indeed rather exceptional. Yet, the driving forces of this process and more specifically the driving forces of the intra-regional differentiation in shrinkage are not that unique. I found that the mechanisms driving the differentiation in decline in a declining region are actually the same as those driving the differentiation in growth in a growing region. These determinants are the availability of employment opportunities and housing opportunities in areas meeting the preferences of the population. In a growing region, the cities with the most employment opportunities and/or the most attractive living environments attracted the largest number of migrants, and in declining regions the cities with the least employment opportunities and/or the least attractive living environments declined the most. The natural development-mechanisms driving the differentiation are also the same: those areas that offered economic and non-economic attractive opportunities attracted young people, pushing up birth rates and reducing death rates, whereas the opposite occurred in unattractive areas. However, there does not necessarily have to be a contemporary mismatch between economic and non-economic opportunities and people’s preferences, resources, opportunities and constraints, as current growth or decline may also be the result of the (mis)match of the past, which, often via birth- and death rates too, still ripples through population compositions decades later.

6.3 Academic and societal contribution

This research contributed to our understanding of urban shrinkage in several ways. It demonstrated that shrinkage is not a matter of simple cause and effect, but that it is an intricate process with multiple reinforcing feedback loops. It was also demonstrated that this shrinkage trajectory is different for different (types of) regions, which calls for an increased sense of regional awareness and the acknowledgement of the impact of regional characteristics in shrinkage trajectories. At the same time, specific local conditions can deflect local population developments in other, unexpected, directions. This calls for an increasing local awareness too.
The research also demonstrated that a true understanding of the spatially differentiated population developments requires that one looks much further back in time, not only to those migration, death and birth rates of the last decade, but to those of the past decades or even century and how they are rippling through population compositions until this day.

Finally, the research revealed the importance of ‘normal’ intra-regional residential mobility flows for intra-regional differentiation in population development, which are not steered by unique and unprecedented preferences, but by the same principles steering residential mobility in other, growing, regions as well.

These findings may not offer the clear-cut answers policymakers are looking for while formulating planning for decline policies. Urban decline is the outcome of a multitude of processes, some contemporary, some remnants of the past. One can try to address one of those processes, for instance the outmigration of young people, but still the other processes will continue to fuel decline. This is not to say that all is lost and nothing remains but to wait for the inevitable. For there are still some cities and villages which are able to break out of the negative cycle of decline. It is rather a plea for coordinating this intra-regional differentiation in population development, both with respect to those cities that are doing well and those that are declining. For, without coordination, inevitably an inter-municipal battle over inhabitants and firms will start. There are, in this respect, several ways forward possible, each with different outcomes for intra-regional differentiation in population development. The choice for such an intra-regional development policy is ultimately a difficult political choice. A first option is to concentrate energy and money on the most vital parts of the region, while the rest is left to fend for themselves. A second option is to concentrate on the vital parts, while securing a minimum level of liveability in the areas with less potential. A third option is to spread all energy and resources evenly over the region. Whichever choice is made, it definitely requires an up-scaling of political power, tasks and responsibilities to regional level, in order to overcome inter-municipal battles over inhabitants and businesses.

With coordination I also mean being ready for the future. This does not only apply to the near future, where further ageing will require adaptations in health care and the housing market structure (more elderly apartments, as the analysis in Southern-Limburg showed). For, eventually these large elderly cohort of the baby boom generation will die and then a new stage will come. Then, the cards of the intra-regional differentiation in population development will once again be reshuffled. Studying the contours of this future is necessary, so that future needs relating to
housing for example, can be anticipated and a future mismatch between opportunities and preferences can possibly be prevented.

6.4 Reflection on data and methods

Carrying out research entails making choices, each of which have their own merits and drawbacks. I briefly discuss these choices, merits and drawbacks below.

The first and most fundamental choice concerns the levels of analysis and the choice for studying in particular *intra-regional* differentiation of population development. In many studies of shrinkage the focus is on either a particular region or a particular city. However, this research made clear that a full understanding of shrinkage requires, first, a study of the multi-level interaction between the local and the regional (and how these are affected by the national or even global), and second, being more sensitive to the fact that one city’s fortune is not only the result of the characteristics of that city itself, but also of those neighbouring cities in the settlement system.

The second fundamental choice concerned the use of theoretical concepts and terminology. The choice for the shift from the general term, urban shrinkage, to the specific term of population development was prompted by the fact that I wanted to investigate all cities in a declining region, and it was not necessarily true that in such a region all cities were economically declining too. These pockets of economic growth would have been omitted if I had focused on urban decline instead of population development. Indeed, as it turned out, there were cities with economic growth and population decline in the case study regions.

Population development was subdivided into two components: migration and natural developments (births and deaths). Nevertheless, I chose not to interview any migrants about their preferences, resources, opportunities and constraints. I did this because I had to make a choice between focusing on an in-depth geographical analysis of the region and its cities, and a more demographic analysis of the inhabitants and their residential location decisions. The latter would certainly fill one remaining gap in our understanding of urban decline. However, other aspects like the impact of natural developments and political frameworks etcetera, which appear to have received even less attention so far, would not be addressed. In my opinion these elements are crucial for a better understanding of the process of decline, and so I decided to focus on the local level instead of the individual.

Still, some insights into the preferences and motives of migrants were established in part of the analysis, by applying the rich WoOn survey. Without these
data, I would not have been able to show that, at least in the Netherlands, largely the same principles apply in a declining region as in a growing region. In the literature it is often stressed that shrinkage is a unique phenomenon. In this study I have found support for the statement that actually it seems more fruitful to see growth and decline as two sides of the same coin. Despite the richness of this dataset, there were also drawbacks; unfortunately, the sample was too small to create sufficient data for analysis at municipal level. So, I could not ascertain whether there were significant differences in the preferences, motives and constraints of respondents living in the different municipalities. It would have been most valuable to my research if data had been available at this level: it could have shown whether people living in different (types of) cities also have different motives, living preferences and constraints.

For the analysis of the process of decline in chapter 3, I used a time series analysis of a limited dataset of demographic and economic variables. A drawback of this method was that it revealed, but did not explain relations between the variables. So, an additional qualitative analysis is always required. Furthermore, the in-depth case study of Southern-Limburg made clear that entering a longer time period in the time series analyses would possibly have revealed those long-term ripple effects of the boom period too.

Quantitative analysis in which existing data is used, of course has its shortcomings. Undertaking additional literature analysis and interviews to provide a deeper understanding of the relations found is therefore necessary. Furthermore, a mixed-data, mixed-method type of analysis is especially important as local and regional characteristics and peculiarities were a central research object in my analysis. It is in the nature of those statistical methods that local peculiarities are filtered out as outliers. However, it is precisely these outliers that may be fascinating and crucial for a better understanding of intra-regional differentiation in population development. These peculiarities can only be retrieved with additional field observation and interviews with local and regional key persons.

The spatial demarcation of the two regions was based on functional urban area (FUA) criteria. Indeed, the core-hinterland relations in terms of employment did form a web which more or less extends over the case study regions. However, there were substantial relations with the bordering FUAs too, especially at the borders of the FUA. In both regions, the distance between home and place of work increased over the past years, which would beg a closer examination of what may be considered ‘the region’. The spatial demarcation of the local level was based on municipal administrative boundaries. This involuntary choice was the result of a lack of data at a lower level of analysis (preferably village or hamlet level). This was unfortunate, since
there are still differences in population development between villages within the same municipality.

On the basis of the model one could make a matrix of different types of regions, according to their institutional context, their spatial context and the type of macro structural processes occurring in that region. I investigated two regions filling the hypothetical cell ‘severely declining border region in Northwest Europe, having experienced dramatic economic restructuring’. Despite this highly specific regional profile, the conceptual model formulated in chapter 2 did provide a solid stepping stone for investigating this type of region. I do think that the model can also work to explain intra-regional differentiation in other types of regions, as it leaves room for different institutional, spatial and local characteristics to dominate over others in different types of regions. In former mining regions such as the ones studied here, a particularly dominant factor was the ripple effect of birth and death rates as a consequence of regional economic development for instance. This factor may be less important in a peripheral agricultural region in Switzerland for example, where infrastructural connection may instead be more important for population development.

6.5 Further research

Although the findings of this research may be a good starting point for a better understanding of the causes of intra-regional differentiation in population development, there are still some questions and issues to be answered.

What is desperately needed is a more widely accepted definition of urban shrinkage and urban decline. Too often, definitions are used loosely and it is unclear what exactly a scholar is referring to: population decline, economic decline or both; whether the consequences of decline are included too; which time frame of decline is used and what kind of spatial unit the study applies to. Subdividing the different components of decline, that is immigration rate, out-migration rate, birth rate and death rate, and, when including economic decline, number of jobs, types of jobs and unemployment rate is also necessary. Changes in each of these components may have different causes and they should be stated that way for the sake of conceptual clarity.

In this dissertation an attempt has been made to use time series analysis for understanding the process of decline. The time frame and number of cases were limited. However, the results are promising and exploring the use of the method in different cases is worthwhile, especially with a longitudinal dataset which captures the
different stages of development. However, it still requires additional qualitative analysis to explain the results found.

Another issue worth examining further is the impact of a firm and relatively sudden additional economic crisis on urban decline, such as the one effective since 2008. Such crises form another factor that joins the messy interplay of processes that is called decline. Such factors could easily be mistaken for the process of economic decline that was already occurring in the region anyway. That is not to say that there cannot be a regional component to the impact of additional economic crises. Rather, I argue for a close examination of what is a regional component of a macro factor or an intrinsic regional development. This calls for an increasing awareness of levels of analysis, units of analysis, time-frames, concepts and use of terminology in urban decline research.

Finally, this dissertation revealed the mechanisms of decline and the dominant factors of the conceptual model in one particular type of region. The next step is to validate the model for other types of regions too, according to their institutional and spatial context and the dominant macro processes occurring in that region.