

## SPA TOWNS IN GERMANY: PREFERRED MOVING LOCATIONS FOR OLDER PEOPLE?

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With 3 figures and 4 tables

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**Summary:** From the available studies on the spatial patterns and causes of migration of older people, it can be assumed that the ‘wellness’ infrastructure is an important pull factor of places. In the absence of differentiated data on this infrastructure at the municipal level, this paper uses the variable ‘spa’ as a placeholder for this wellness infrastructure. It is assumed that health resorts offer special qualities of this infrastructure. This is reflected in a particularly positive population development of these places. However, the area-wide and at the same time spatially small-scale consideration of the population in two age groups over 50 years could not confirm this assumption. Only in some types of spa towns, such as the Baltic resorts, was the development in these age groups clearly above average. In some places, such as the North Sea islands and spa towns in the alpine upland and low mountains, there were even declines. The spa town status by itself is not sufficient to explain the attractiveness of these places for higher age groups. This requires further analyses, especially of the infrastructure facilities, local recreational qualities, housing availability and the subjective motivations of the incoming people.

**Zusammenfassung:** Aus den vorliegenden Untersuchungen zu den räumlichen Mustern und Ursachen von Wanderungen älterer Menschen lässt sich die Vermutung ableiten, dass die ‚Wellness‘-Infrastruktur ein wichtiger Pullfaktor von Orten ist. In Ermangelung differenzierter Daten zu dieser Infrastruktur auf kommunaler Ebene wird in diesem Beitrag die Variable ‚Kurort‘ als Platzhalter für diese Wellness-Infrastruktur herangezogen. Es wird davon ausgegangen, dass Kurorte besondere Qualitäten dieser Infrastrukturen bieten. Dies spiegelt sich in einer besonders positiven Einwohnerentwicklung dieser Orte wider. Die flächendeckende und zugleich räumlich kleinteilige Betrachtung der Einwohnerentwicklung in zwei Altersgruppen über 50 Jahre konnte diese Vermutung allerdings nicht durchweg bestätigen. Nur in einigen Kurorttypen wie den Ostseebädern lag die Entwicklung in diesen Altersgruppen deutlich über dem Durchschnitt. In einigen Orten wie etwa auf den Nordseeinseln und in Kurorten im Voralpenland und Mittelgebirgen waren sogar Rückgänge zu verzeichnen. Der Status Kurort alleine reicht offenbar also nicht aus, um die Attraktivität dieser Orte für höhere Altersgruppen zu erklären. Dazu bedarf es weiterer Analysen, insbesondere der Infrastruktureinrichtungen, Naherholungsqualitäten, des Wohnungsangebots sowie der subjektiven Motivationen der Zuziehenden.

**Keywords:** Seniors, spa towns, living amenities, internal migration, Germany

### 1 Introduction

In view of the increasing aging of the population in most economically developed countries, the issue of senior internal migration patterns has become increasingly important in recent years (BRANDON 2021, EGIDI et al. 2020). Previous studies indicate that quality of life factors play a major role in the selection of internal migration destinations (OLIVER 2010, GUSTAFSON 2001). Besides the good housing supply, these factors also include a good offer of health care services (DORFMANN & MANDICH 2016). This raises the question of the extent to which spa towns are attractive destinations for senior citizen internal migration. This is because many of them offer appropriate health care services, as well as high-quality leisure activities.

Only a few explicit studies focus on the question of the importance of spa towns for senior citizen internal migration (PFORR & LOCHER 2012, WEIDINGER & KORDEL 2015). Therefore, this paper presents an empirical study of the internal migration to spa towns in Germany. First of all, the current state of research on the topic of senior citizen internal migration is described, with a focus on the reasons for internal migration. After that, the paper gives some general information about spa towns in Germany and presents the previous results on the topic of spa towns as a destination for senior internal migration.

Afterwards, the study of population developments in Germany between 2008 and 2017 is presented. This study is the first in Germany to take a differentiated look at senior age groups down to the level of cities and municipalities. The development

dynamics of the senior age groups in these places will be analyzed, again with a special focus on the spa towns. As a final step, the results will be discussed and perspectives will be formulated.

## 2 State of research

### 2.1 Internal migration of seniors – spatial patterns

Due to the increasing aging in economically developed countries, the phenomenon of age-specific internal migration has gained importance in many countries throughout the world. A closer look at international studies provides further insights on the topic of elderly internal migration or retirement internal migration. First and foremost is the USA, where ‘sunbelt internal migration’ has been a phenomenon for a long time (FRIEDRICH & KAISER 2001, BEAN et al. 1994, BRANDON 2021). However, states in the northeastern and midwestern United States also exhibit particularly high rates of growth in older age groups, due to both internal migration and natural ageing.

In Europe internal migration of the elderly both within (CRIBIER 1980) and between countries (WARNES 1994, WARNES et al. 1999) has been relevant at the European level since the 1970s (ACKERS & DYER 2002, KING et al. 1998). Studies concentrated on this form of internal migration from the North and West to the South (especially Spain and Greece) of Europe.

Compared with the United States in particular, the phenomenon of large-scale retirement internal migration was less developed in Germany for a long time. Research activities were correspondingly low. In the 1970s, the first studies of senior internal migration to rural regions in Germany were presented (KOCH 1976, WABRA 1973), followed by further studies in the 1980s (ROHR-ZÄNKER 1989, KEMPER-KULS 1986). The dominant pattern were movements from the cities to peripheric regions. The majority of seniors migrated over short distances, tending to move to the outskirts of their own urban region. However, there are some rural regions that are destinations of large-scale senior internal migration on a greater extent: The coastal regions, the Alps and the Black Forest (ROHR-ZÄNKER 1989: 216). A new study of internal migration for the over-50s in Germany, based at the level of districts and independent cities, showed an orientation of internal migration toward the northwest and southeast of Germany, as well as

parts of the southwest and the Berlin urban hinterland (WEIDINGER & KORDEL 2015).

However, the general trend toward reurbanization is becoming relevant for seniors as well. In a nationwide study, ENGFER (2018) determined an ongoing and distinct reduction in the relative internal migration losses of nucleated towns compared to peripheral regions in the over-65 age group between the 1990s and 2000s. Especially in eastern Germany, the classic pattern of counter- or suburbanization of seniors has been considerably weakened.

### 2.2 Causes of internal migrations: Lifestyle factors

In other age groups, internal migration-movements are usually job-oriented if they are large-scale, but if they are small-scale, the lifestyle is usually the decisive factor. In the case of seniors, work as a factor usually no longer plays a role. Senior internal migration can be regarded at least in part as lifestyle internal migration (WILLIAM & HALL 2000, OLIVER 2010, GUSTAFSON 2001).

Very differentiated quantitative and qualitative studies on the causes of senior internal migration are available for the United States: The role of natural qualities and climatic factors was clearly elaborated: Attractive landscapes and mild winters act as pull factors (SHARMA 2012, WILMOTH 2010, POU DYAL et al. 2008, RAPPAPORT 2007, OEHMKE et al. 2007, GUSTAFSON et al. 2005, DUNCOMBE et al. 2003). The causes of the destination choice of age internal migration show similarities to those in tourism (WILLIAMS & HALL 2000). Important explanation factors include the income gap between source and target countries, which enable the favourable use of corresponding amenities. DORFMAN & MANDICH (2016) operationalized a broad set of health care factors as well as cultural and recreational facilities and climate data as explanatory variables of internal migration, differentiating between urban and rural regions. Particularly, the health infrastructure explained a large part of the internal migration or non-internal migration in the results of the senior groups.

For Europe, and Germany in particular, there are fewer empirical results on elderly internal migration than for the United States. Although internal migration rates are higher in the 50+ generation than in the 40- to 50-year generation, spatial persistence is the dominant phenomenon even with retirement age. Internal migration-movements are mainly for private or family reasons (KRAMER & PFAFFENBACH

2009). Nevertheless, lifestyle factors play an important role when it comes to the destination: According to a representative survey of over 50-year-old people who had moved mainly from Berlin to the peripheral regions of Brandenburg in the 1990s, rural qualities such as landscape and silence are key factors in their choice of residence (BORN et al. 2004). An empirical study in small Bavarian towns reveals that the majority of seniors' influxes were voluntary and more due to pull factors such as infrastructure facilities in the town than to family ties; differences between social status groups were small (SCHIEMANZ 2020): According to a study, the importance of senior internal migration to rural regions has increased slightly in Austria. The real estate, natural conditions and changes in the region of origin were the most frequent reasons for changing residence in old age (GRUBER 2016).

In addition to these results for senior internal migration within Germany, there are also studies of senior internal migration from Germany to other countries such as the Mediterranean region (EGIDI et al. 2020). As BREUER (2005) points out, using the example of German seniors who have acquired real estate on the Canary Islands, internal migration as a permanent move to retirement residences is rarer than the seasonally used second homes for the elderly (GUSTAFSON 2002) in warmer destinations. Overall, therefore, the phenomenon can be described as a form of multilocality or tourism as well as internal migration (BELL & WARD 2000).

On the one hand, there are advantages, such as the inflow of human resources and capital from those residents who can also provide impulses in the local social networks. On the other hand, there are disadvantages, such as conflicts with long-time residents and the fact that the need for care increases with age (GRUBER 2016). This includes the question of the economic impact of internal migration, especially on the regional economy and the real estate market (HAAS & SEROW 1990, JINYHUP 2021).

Overall, for Germany, but also for other countries, there is a need for research primarily in the area of secondary statistical analyses of hard data on the question of the causes of senior citizen internal migration. Motives for internal migration are mainly determined through surveys. In order to generalize the statements on the spatial factors that explain internal migration, though, information on housing availability and infrastructure facilities would be helpful. However, such data is not available in the required spatial differentiation. Therefore, it is important to question whether the variable spa town status can

serve as an explanatory variable for internal migration of seniors. It can be assumed that the status of spa towns is representative of a number of qualities, especially in terms of infrastructure facilities. In this context, the consideration of spa towns can contribute to the general research on senior internal migration.

### **2.3 Spa towns as presumably particularly attractive places for senior internal migration**

One-third of all overnight stays in Germany in 2008 took place in one of the more than 300 spa towns (PFORR & LOCHER 2012); considering the small size of most spa towns, this is a remarkably high number. The issue of health care generally becomes more important with increasing age. Spa towns can generally be regarded as places with an above-average health care infrastructure. Therefore, they are not only of high relevance as destinations of a certain tourism branch, but possibly also as destinations of senior internal migration.

Generally, spa towns are municipalities or parts of municipalities that have been awarded a corresponding designation because they are suitable for medical therapies, in particular for a health cure. The presence of natural remedies in the soil, water or climate, or by particularly high air quality are characteristic. Germany's approximately 398 spa towns and health resorts - the numbers fluctuate each year due to recognition and de-recognition - can be divided into four main categories (BRITTFNER-WIDMANN 2006): The largest group, with 164, are the places with mineral and mud spas baths as well as those with medicinal spring cures; in addition, there are 79 Kneipp spas and Kneipp spa towns, 108 climatic spas and climatic health resorts and 84 seaside spas and seaside resorts. For the recognition as spa towns in Germany, federal-state-specific legally formulated criteria apply.

Besides spa towns, tourism destinations are part of the health industry due to their natural environments and existing infrastructure. In Germany alone, around 400,000 people directly and indirectly employed in spa towns generated annual sales of over 30 billion euros in 2013 (VERSICHERUNGSWIRTSCHAFT HEUTE 2014). Since the late 1970s, however, many German spas have fallen into crisis. Reasons for this, amongst others, are changes in insurance regulations for spa stays, but also outdated infrastructures of the towns themselves, their partly antiquated image and the increasing competition with health tourism destinations abroad (PILLMAYER et al. 2021).

In recent years, cost pressures in the health care sector have forced some traditional spa towns to reorient themselves toward wellness and experience offerings. The increasing importance of solvent senior citizens has also created opportunities for spa towns. They need to supplement their traditional competencies in infrastructure and reputation with new offers and forms of marketing (PFORR & LOCHER 2012). Spa towns can be seen as the embodiment of 'healthy living' and thus as a potentially important element of senior lifestyle internal migration. Many spa towns see the elderly as a potential source of local development (WEIDINGER & KORDEL 2015).

WEIDINGER & KORDEL (2015) presented the only quantitative study in Germany that investigated the question of the extent to which spa towns are places where seniors migrate to. The study considered nationwide internal migration over 50-year-old people between 2008 and 2012. However, separate calculations were only made for the 25 'most important' spa towns, and the criteria for assessing importance were not mentioned. The result was that the top 25 spa towns overall had above-average rates on internal migration among those 50 and older. However, a closer look at the map (WEIDINGER & KORDEL 2015: 42) shows that developments in this group were diverse. While in southern Germany and near the North Sea and the Baltic Sea, the important spa towns had particularly strong senior influxes, many spa towns in eastern Westphalia and southern Lower Saxony, for example, were conspicuous for above-average senior internal migration losses. The study for the 25 most important spa towns provides initial indications: Spa towns can be particularly attractive to seniors, but other factors such as climate or landscape attractiveness probably have to be included. Since this study does not even consider 1/10 of Germany's spa towns, its results cannot be regarded as representative.

#### 2.4 Summary of the need for research

Altogether, two spatial trends can be observed in the internal migration of seniors: A partial reversal of regional suburbanization in the direction of reurbanization (ENGFER 2018) and a relatively stable trend of elderly internal migration toward certain rural regions in the south and near the coasts. Lifestyle factors are playing an increasing role in the reasons for elderly internal migration. These also include aspects of health. In this context, it is reasonable to assume that spa towns, of which many are experienc-

ing a structural change in the direction of wellness and lifestyle tourism due to the structural change in the health care sector and changed demand behavior, are attractive not only as tourist destinations, but also as places for the elderly to move to. In the absence of regional statistical analyses with 'hard' variables to explain the internal migration of seniors, the variable 'health resort status' suggests itself, since certain qualities such as, above all, the wellness infrastructure could be associated with the spa town status. However, the only available study for Germany that examines the question of spa towns for senior citizen internal migration only considers some of the spa towns and does not differentiate the senior age groups any further. Moreover, it is located at the spatial level of districts and independent cities, meaning that precise statements are not possible, especially for smaller spa towns. This research gap will be closed in the following study.

### 3 Empirical analysis

The following empirical study addresses this research gap. It takes a differentiated look at senior citizen internal migration for all German spa towns at the small-scale level of cities and municipalities.

#### 3.1 Research questions, methodology and data

The following empirical analysis is based on the above-mentioned need for research and is oriented on these guiding questions:

1. How did the population in the older age groups develop according to municipality and city types?
2. How did the population of the older age groups develop in spa towns?
3. What spatial patterns can be identified for spa towns in the internal migration of older people?

The special feature of the analysis lies in the small-scale consideration below the county level. The central measure for the following analyses is the average annual growth rate based on the development of the population in these three age groups, for which class divisions are specified by the statistics:

- **Pre-retirees (55- to 65 years):** This group includes residents who retire before the statutory retirement age, as well as residents who decide where to live in view of their retirement and who may have to accept longer commutes to work.



- **Silver-Ager and Seniors (over 65 years):** The Silver-Ager residents have entered retirement age. However, they are hardly worse off than the pre-retirees in terms of their physical fitness and financial possibilities and have even more free time. Moreover, the group also includes people of the more classic image of senior citizens. Physical fitness and spatial activity are gradually declining, and with increasing age these residents become in need of care.

Like any other grouping for statistical analysis, this one is highly simplistic and represents only a part of the realities of life. The definition of who is considered 'old' has already softened and become partly decoupled from the question of retiring from work. Moreover, lifestyles among older people are becoming increasingly differentiated (GRUBER 2016).

Especially the drawing of the age group boundaries has to follow the specifications of the official statistics. Nevertheless, this trisection reflects the changing importance of the factors of residential location choice quite well. The first group is still in work life, but the prospect of retirement is already influencing the residential location. While the second group represents a leisure-oriented, carefree life after working life, healthcare aspects and the corresponding infrastructure requirements play a greater role in the group.

Whereas the study for Germany mentioned in chapter 2.1. evaluates data at the level of administrative districts, the approach taken here can be more detailed. The level of investigation is the municipalities in Germany (as of December 31, 2019) from the Federal Statistical Office (STATISTISCHES BUNDESAMT 2008-2017).

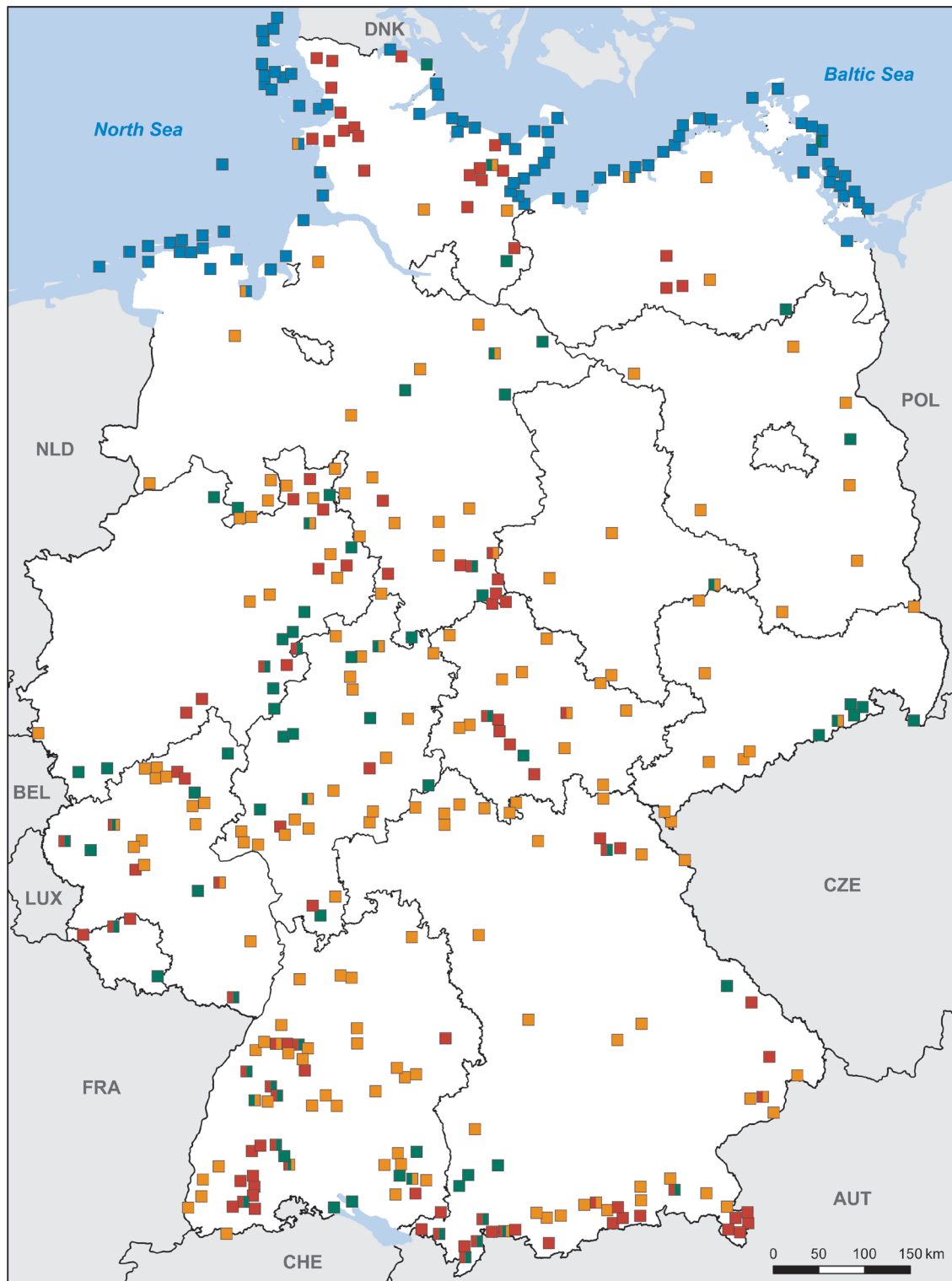
This allows for a more precise depiction of developments in small and medium-sized towns (FRIESER & HILPERT 2021), which often belong to counties, are characterized by tourism and are presumably particularly attractive for senior internal migration. Nevertheless, the small-scale delineation has a disadvantage: in order to elucidate the causes of population trends, a range of information would be required: for example, on health, leisure or shopping facilities and the housing market. However, this data is only available in very incomplete form at the small-scale level. Therefore, the status of the place as a spa town is used as a placeholder variable for these infrastructure indicators. Spa towns are assumed to have particularly good infrastructure facilities for these age groups, which explains their attractiveness and positive population development. The information

on the spa status was included in the dataset based on the SANA VITA (2021) source (Fig. 1). It should be noted that a spa town can have up to three predicates at the same time. Due to deficit of data at the district level, the spa towns of Kassel-Wilhelmshöhe, Stuttgart-Bad Cannstadt, Lübeck-Travemünde and Rostock-Warnemünde cannot be taken into account. In addition, the in- and emigration in the corresponding age groups are examined. The assessment is also carried out according to the BBSR's city and municipality type and spatial location. As a rule, large cities have a population of at least 100,000 and assume the function of a regional or a medium-sized center. Medium-sized towns with a function as a medium center have a population of 20,000 to less than 100,000. The group of small towns is subdivided into larger small towns ( $\geq 10,000$  inhabitants) and small towns ( $<10,000$  inhabitants). As a rule, they have the function of a basic center. The rural municipalities result from the municipal associations that cannot be assigned (BBSR 2023a). With regard to the delimitation of the spatial location, the following applies: In very central areas, the daily population is more than 410,000 persons. The threshold of the reachable daily population for central areas is 183,000 to under 410,000 and in peripheral areas at 81,000 to under 183,000. Areas with a reachable daily population of less than 81,000 persons are defined as very peripheral (BBSR 2023b).

## 3.2 Results

### 3.2.1 Population dynamics in older age groups

The development of the number of inhabitants shows that the spa towns grew slightly between 2008 and 2017. While in 2008 there were 4,751,511 inhabitants living in spa towns, representing 5.8% of the total population, in 2017 there were already registered 5.9% of the total population. Table 1 shows the average population development of the considered age groups in the various types of spa towns. The results in Table 1 show that the 50-to 65 age group has experienced considerable growth in general. The over 65 age group is also growing in the respective types of spa towns, but the growth is a bit less than for the 50- to 65-year-olds. For those people under 50, there is a general decline. Looking at the different types of spa towns, for the age group plus 50, there is a distinct growth in climatic spas in medium-sized cities (4.5%), while mineral and thermal spas in rural municipalities are only char-



■ climatic spa  
■ Kneipp spa, Schroth spa and Felke spa  
■ mineral/thermal and mud spa  
■ seaside spa

state border  
 federal state border

Fig. 1: Regional distribution of spa towns in Germany. Source: Own illustration based on SANA VITA 2022

**Tab. 1: Average annual change [%] in the number of inhabitants in types of spa resort by age groups and types of cities 2008 – 2017**

City and municipality type	Spa resort type	growth rate under 50 years	growth rate 50- to 65-years	growth rate over 65 years
<b>rural municipality</b>	no spa	-2.3	2.6	0.2
	spa	-2.6	1.5	0.3
	seaside spa	-2.3	1.8	1.2
	climatic spa	-1.2	2.1	0.7
	mineral/thermal and mud spa	-4.6	0.3	-1.4
	kneipp spa, schorth spa and felke spa	-1.9	2.1	0.4
<b>small town</b>	no spa	-1.7	2.8	0.7
	spa	-1.7	2.3	0.7
	seaside spa	-2.2	1.7	1.0
	climatic spa	-1.8	2.6	0.6
	mineral/thermal and mud spa	-1.4	2.2	0.7
	kneipp spa, schorth spa and felke spa	-1.6	2.5	0.5
<b>large small town</b>	no spa	-1.3	2.6	0.9
	spa	-1.4	2.5	0.5
	seaside spa	-2.0	2.8	1.0
	climatic spa	-1.3	2.8	0.5
	mineral/thermal and mud spa	-1.2	2.3	0.6
	kneipp spa, schorth spa and felke spa	-1.6	2.6	0.5
<b>medium-sized city</b>	no spa	-1.0	2.2	0.7
	spa	-1.2	2.8	0.9
	seaside spa	-1.9	1.4	1.1
	climatic spa	-1.9	4.5	2.5
	mineral/thermal and mud spa	-1.3	3.3	1.1
	kneipp spa, schorth spa and felke spa	-0.8	2.2	0.4
<b>big city</b>	no spa	0.2	1.6	0.3
	spa	-0.4	1.2	0.1
	seaside spa	-	-	-
	climatic spa	-	-	-
	mineral/thermal and mud spa	-0.4	1.2	0.1
	kneipp spa, schorth spa and felke spa	-	-	-

Source: Based on Statistisches Bundesamt (2008-2017) & BBSR(2023a)

acterized by an average annual growth rate of 0.3%. For the age group of more than 65 years, it can be determined that especially climatic spas in medium-sized cities have grown particularly strong with an average of 2%. In contrast, mineral and thermal

spas show a distinct decline with an average annual growth rate of -1.4%.

According to the results from Table 2, there is a particularly strong growth for seaside spas in central locations for the 50- to 65-age group (average

Tab. 2: Average annual change [%] in the number of inhabitants in types of spa resort by age groups and space types 2008 – 2017

Spatial location	Spa resort type	growth rate under 50 years	growth rate 50- to 65-years	growth rate over 65 years
<b>very peripheral</b>	no spa	-3.3	2.4	-0.2
	spa	-2.0	2.2	1.0
	seaside spa	-1.1	2.3	1.0
	climatic spa	-1.4	2.4	0.7
	mineral/thermal and mud spa	-2.5	2.6	0.9
	kneipp spa, schorth spa and felke spa	-2.2	1.7	1.3
<b>peripheral</b>	no spa	-2.0	2.4	0.3
	spa	-1.8	2.3	0.4
	seaside spa	-1.5	2.5	0.4
	climatic spa	-1.5	2.5	0.4
	mineral/thermal and mud spa	-1.9	2.3	0.2
	kneipp spa, schorth spa and felke spa	-1.9	1.8	1.0
<b>central</b>	no spa	-1.0	2.5	0.8
	spa	-1.2	2.8	1.0
	seaside spa	-2.1	4.7	2.8
	climatic spa	-0.9	2.2	0.5
	mineral/thermal and mud spa	-1.3	3.0	1.3
	kneipp spa, schorth spa and felke spa	-1.9	1.8	0.6
<b>very central</b>	no spa	-0.2	1.9	0.6
	spa	-0.5	1.8	0.3
	seaside spa	-1.1	3.0	0.4
	climatic spa	-0.8	2.3	0.2
	mineral/thermal and mud spa	-0.4	1.7	0.2
	kneipp spa, schorth spa and felke spa	-	-	-

Source: Based on Statistisches Bundesamt (2008-2017) & BBSR (2023b)

annual growth rate 4.7%). Overall, with an average annual growth rate of 1.7%, growth rates in this age group are lowest for kneipp spa, schorth spa and felke spa in the very peripheral area and mineral and thermal spas in the very central area. In addition, the strongest growth in spas is generally in very peripheral areas for the over-65 age group. A more differentiated view shows that especially seaside spas in the central areas have high average growth rates (2.8% annually).

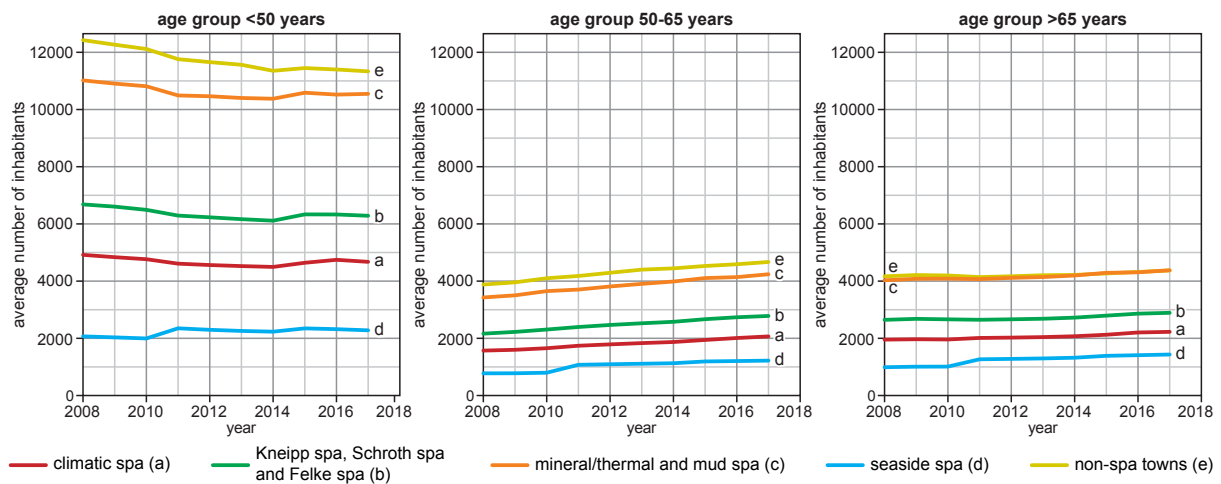
A year-by-year comparison in Figure 2 shows that these developments in the age groups under 50 years, 50-to 65 years and over 65 years were relatively stable to slightly increasing in all types of spa towns. The increase for the seaside spas in 2011 is due to the statistical recording systems.

### 3.2.2 Internal migration dynamics in older age groups

Regarding the dynamics of internal migration, Table 3 shows that especially spa towns that are also small towns which are characterized by a slight growth in both age groups. It is interesting to note that peripheral municipalities, small towns and larger small towns with the 'seaside spa' designation show positive net internal migration. Migration in the 50- to 60-age group is particularly strong in small towns with a seaside spa designation. Furthermore, in spa towns, which are also large cities, it becomes clear that there is an migration of people in the age groups.

Table 4 presents the net internal migration per 100,000 inhabitants by the different age groups. It reveals that, especially in central and very central





**Fig. 2: Annual population development 2008 - 2017 by age group in the individual spa types. Source: Own illustration based on STATISTISCHES BUNDESAMT (2008-2017)**

locations, there are declines in both age groups. However, internal migration was slightly higher in 2008 than in 2017. In general, increases are particularly evident in very peripheral regions. In very peripheral regions, mineral and thermal spas as well as kneipp spas, schroth spas and felke spas in particular show an increase in internal migration. Furthermore, seaside spas are characterized by high positive internal migration saldo in all space types.

However, Figure 3 shows that spa towns located on North Sea islands are characterized by internal migration in both age groups. The seaside spas located on the mainland, meanwhile, show distinct increases predominantly in the 50- to 65 age group.

#### 4 Discussion and conclusion

The study was able to close the research gap for Germany on the spatial distribution and development of cities preferred by seniors and spa towns as presumably particularly important places for certain population groups.

Existing empirical studies have also found that senior citizen migration is becoming more important in Germany due to the increase in the population in older age groups. Even though large cities are increasingly attractive for older age groups, a large proportion of senior citizens migrate to rural regions (ENGFER 2018). In addition to personal factors (KRAMER & PFAFFENBACH 2011) and a quiet, attractive landscape (BORN et al. 2004), infrastructure factors (SCHIEMANZ 2020) play a particularly important role in the influx (OLIVER 2010, GUSTAFSON 2001). This also includes a modern healthcare infrastructure,

highlighting the increasing orientation toward life-style factors (DORFMANN & MANDICH 2016).

The pull factor of the health infrastructure in particular raises the question of the comparatively high attractiveness of spa cities as places of residence for older age groups. The only regional statistical study conducted so far for Germany (WEIDINGER & KORDEL 2015) confirmed the assumption of a special attractiveness of health resorts for senior citizens. However, it only considered the 25 largest and thus not even 1/10 of all German health resorts, meaning its results cannot be considered generalizable. The analysis was conducted only at the statistical level of counties and independent cities. The clear majority of German spas, however, belong to counties, so data for entire counties do not adequately reflect their specific developments.

For this reason, this study once again pursued the hypothesis confirmed for the largest German health resorts, according to which health resorts are particularly attractive for senior citizens to move to. In contrast to the previous study, it covers all health resorts and carries out the analysis on a small scale at the level of cities and municipalities. The senior citizens are differentiated by age groups.

The study showed that, overall, spa towns recorded growth rates in both the pre-retiree (55- to 65-years) and senior (over 65 years) age groups. However, only the growth rates of the spa towns from the group of medium-sized towns were above the values of the non-spa towns; especially for the age group of pre-retirees, the growth rates were even lower than expected. The analysis differentiated by types of spa towns produces interesting results. For the 55- to 65 age group, there was particularly distinct

Tab. 3: Population saldo in spa resorts by age groups and city types 2008 - 2017

City and municipality type	Spa resort type	Population saldo under 65 years 2008	Population saldo 50- to 65-years 2008	Population saldo over 65-years 2008	Population saldo under 65 years 2017	Population saldo 50- to 65-years 2017	Population saldo over 65-years 2017
<b>Rural municipality</b>	no spa	-417	4	-42	267	54	-78
	spa	-391	156	138	330	201	153
	seaside spa	-329	346	187	251	323	162
	climatic spa	-367	75	-19	435	114	29
	mineral/thermal and mud spa	-293	118	286	204	113	276
	kneipp spa, schorth spa and felke spa	-683	85	101	596	274	136
<b>Small town</b>	no spa	-295	-1	13	416	57	10
	spa	-283	129	178	387	216	210
	seaside spa	-257	294	166	161	424	258
	climatic spa	-305	113	148	305	194	89
	mineral/thermal and mud spa	-343	97	204	660	210	283
	kneipp spa, schorth spa and felke spa	-167	83	252	300	126	151
<b>Large small town</b>	no spa	-184	-17	28	473	30	29
	spa	-220	53	119	497	144	111
	seaside spa	347	182	180	417	529	183
	climatic spa	-232	29	58	317	67	103
	mineral/thermal and mud spa	-215	64	173	584	145	151
	kneipp spa, schorth spa and felke spa	-236	90	61	526	180	92
<b>Medium-Sized city</b>	no spa	-37	-21	0	493	19	18
	spa	-22	24	45	449	98	81
	seaside spa	-339	195	61	105	237	182
	climatic spa	-27	27	-27	514	150	77
	mineral/thermal and mud spa	17	13	78	491	84	92
	kneipp spa, schorth spa and felke spa	28	15	34	507	97	60
<b>Big City</b>	no spa	399	-65	-83	648	-49	-66
	spa	141	-44	-60	606	-43	-25
	seaside spa	-	-	-	-	-	-
	climatic spa	-	-	-	-	-	-
	mineral/thermal and mud spa	141	-44	-60	606	-43	-25
	kneipp spa, schorth spa and felke spa	-	-	-	-	-	-

Source: Based on Statistisches Bundesamt (2008-2017) & BBSR (2023a)

growth in medium-sized cities and seaside spas. For the age group of more than 65 years, it emerges that medium-sized climatic spas have grown particularly

strong. Mineral and thermal spas, on the other hand, have seen a marked decline. The spatial observation in figure 3 reveals the differences between the lo-

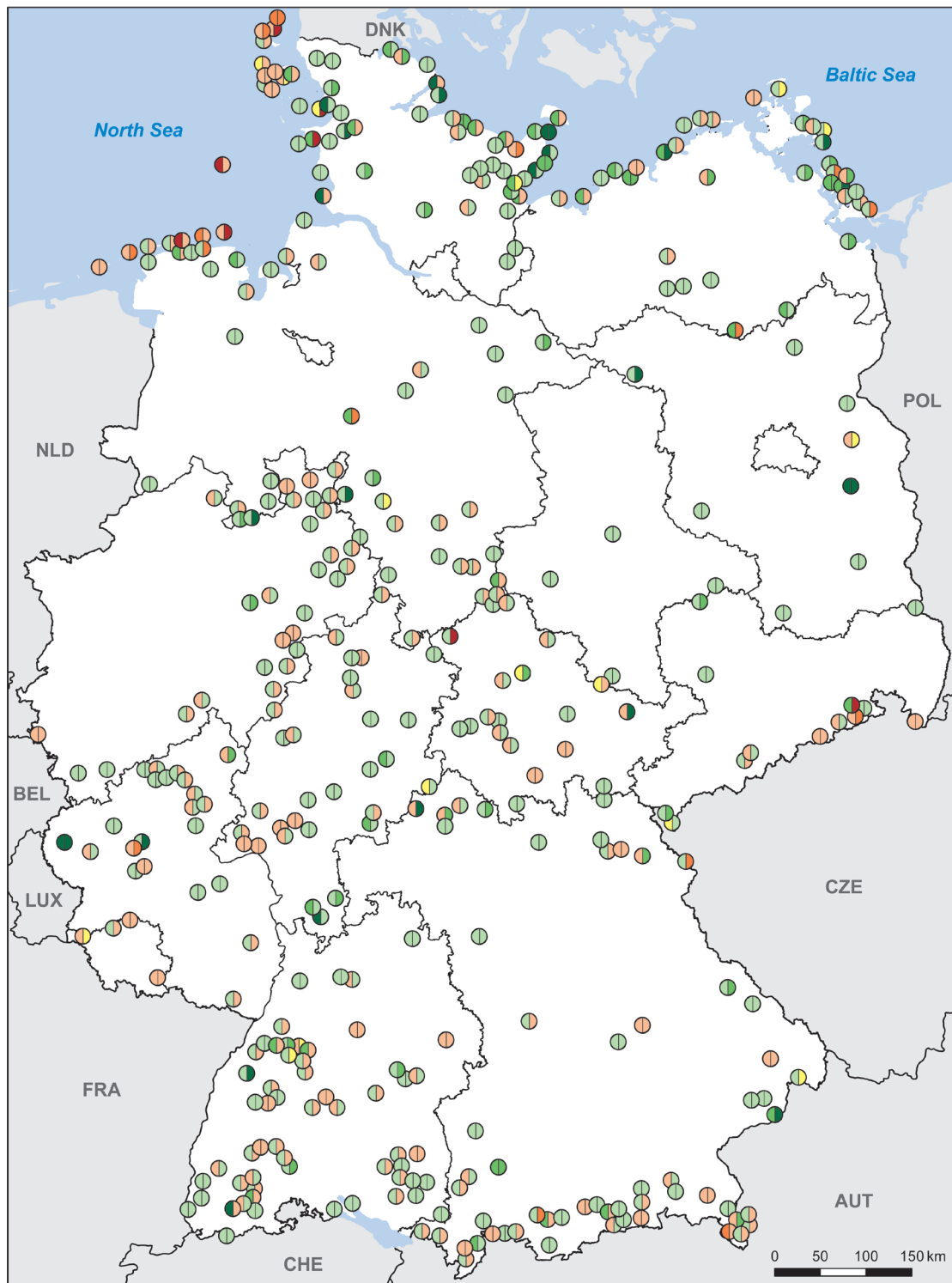
Tab. 4: Population saldo in spa resorts by age groups and space types 2008 - 2017

Spatial location	Spa resort type	Population saldo under 65 years 2008	Population saldo 50- to 65-years 2008	Population saldo over 65-years 2008	Population saldo under 65 years 2017	Population saldo 50- to 65-years 2017	Population saldo over 65-years 2017
<b>very peripheral</b>	no spa	-822	21	-41	59	93	-48
	spa	-409	216	184	178	270	209
	seaside spa	-362	317	144	122	353	206
	climatic spa	-208	159	100	394	228	162
	mineral/thermal and mud spa	-716	155	277	6	163	272
	kneipp spa, schorth spa and felke spa	-121	254	451	366	222	309
<b>peripheral</b>	no spa	-396	1	2	322	67	10
	spa	-273	71	92	388	156	141
	seaside spa	-63	192	126	239	369	219
	climatic spa	-292	56	65	356	133	98
	mineral/thermal and mud spa	-332	73	133	525	170	202
	kneipp spa, schorth spa and felke spa	-192	53	49	380	111	60
<b>central</b>	no spa	-51	-6	8	526	33	9
	spa	-69	41	105	640	122	95
	seaside spa	-181	205	126	496	302	46
	climatic spa	-62	42	40	472	94	64
	mineral/thermal and mud spa	-61	46	136	685	121	112
	kneipp spa, schorth spa and felke spa	-46	12	81	724	164	103
<b>very central</b>	no spa	260	-59	-54	603	-38	-44
	spa	141	-42	-15	496	-18	-6
	seaside spa	-	-	-	-	-	-
	climatic spa	-182	-77	-122	250	75	-56
	mineral/thermal and mud spa	196	-42	-1	523	-28	1
	kneipp spa, schorth spa and felke spa	-44	53	76	386	127	72

Source: Based on Statistisches Bundesamt (2008-2017) & BBSR (2023b)

cations on the Baltic Sea and the North Sea. While some Baltic resorts had very large increases in the high age groups, some North Sea islands had population declines in the high age groups. This could indicate that housing costs in these highly attractive locations for more affluent younger population groups and second home owners, such as Sylt, have risen so much that they can no longer be borne, espe-

cially for the local higher age groups (MEYER 2022). At the same time, it is conceivable that aspects such as medical care on islands also play a role in internal migration. Depending on the location and the medical problem, a transfer to the nearest specialist clinic on the mainland may be necessary in an emergency. However, even in the foothills of the Alps, the Ore Mountains and the secondary mountains in Hesse



**Regional distribution of the population saldo per 100,000 inhabitants in 2017 for the spa towns**

age group	⊕	age group	■	■	■	■	—
50 - 65 years	⊖	> 65 years	> 1000	1 - 500	-1 - -500	< -1000	state border
			501 - 1000	0	-501 - -1000		federal state border

**Fig. 3: Regional distribution of the population saldo per 100,000 inhabitants in 2017 for the spa towns.** Source: Own illustration based on SANA VITA 2022 & BUNDESAMT FÜR STATISTIK 2008-2017

and Baden-Württemberg, some spa towns are experiencing declines even in these generally high-growth older age groups. In addition, it can be seen that spa resorts in central locations are growing particularly strongly in both age groups. The strongest growth is in seaside resorts. The reason for this observation could be that in addition to the positive landscape aspects of a coastal resort in central regions, there is often also a sufficient range of cultural offerings and a well-developed infrastructure.

Generally, the assumption that spa towns are particularly attractive for older people could not be confirmed across the board. However, the findings supported the results of the study by WEIDINGER & KORDEL (2015) that at least some spas, especially on the Baltic Sea, are particularly attractive for senior citizens. The situation is more differentiated for the spas on the North Sea and in the foothills of the Alps, as well as in the low mountain range region, where there are also spas with population losses in the higher age groups, which are in part even higher than in comparable non-spa resorts in terms of location and size.

In terms of further research into the causes of senior internal migration, this means that the spa town status variable has only a low explanatory contribution to senior internal migration. For area-wide secondary statistical evaluations to identify explanatory variables, which could supplement the primary surveys already available for some regions and contribute to more generalized statements, it is necessary to gather and process more detailed information, especially on housing supply and senior-oriented infrastructure.

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