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Explaining the Dynamics of Small Towns in Western France by Testing Three Possible Factors

Abstract: In international literature, small cities are often presented as the weak link within the urban system due to their lower growth rate and the threat of shrinking in the context of metropolisation. However their population dynamics are highly variable between places, determined by a number of factors, such as the national and regional demographic trends or the local economic base.

This article proposes a regional case study on Western France, examining their demographic changes from 1990 to 2015. Three possible factors based on underlying assumptions are tested: 1. the proximity of larger cities as a possible revitalisation factor due to urban sprawl; 2. The vicinity of the coast attributed to the growing role of residential attractiveness; 3. In a more original way, the distance to a railway station as a potential factor, boosted by the recent passenger railway service strengthening.

The results are counter-intuitive and the assumptions only partially validated, which invites us to reassess the relevance of the analysis of urban dynamics by size class.

Key words: small towns, Western France, population dynamics, growth factors, railway service, coast, metropolitan areas

Introduction

This article aims to evaluate three specific explanatory factors of the population change of towns within their regional context based on a case study.

International geographical literature generally presents small cities in developed countries as the most fragile level of the urban network. The most alarmist works consider them threatened or even doomed by metropolisation.

This very common pessimistic discourse is curious because their population dynamics actually vary greatly between countries and even more so between regions or within the same region. This empirical finding indicates the need to move beyond hasty conclusions over the inevitability of metropolisation and the

consequent decline of towns. The state of the art shows that population change varies considerably from place to place.

The unexpected variation in population trends makes it relevant for a regional case study in order to help identify possible factors that can shed light on this heterogeneity through a more refined analysis.

The study area is Western France, namely Brittany and Pays-de-la-Loire, neighbouring regions with more than 7 million people. These are attractive regions with a growing but ageing population. According to the official definition of the National Statistical Office, there are more than 300 small towns, making it a very significant sample. It is an interesting area as it presents substantial variations between its different towns.

Taking into account the state of knowledge, the existing theories and our empirical knowledge of the area, we tested three possible factors over a 25-year period (1990–2015) that could explain the observed variations. Each pertains to the proximity of a resource that is likely to favour the expansion of small localities, namely: 1. the proximity of the largest cities (metropolises and medium-sized cities) given the increasing urban sprawl; 2. the proximity of the coast attributing to its residential and tourist attractiveness, with direct and indirect impacts on population growth; 3. the proximity of a railway station destined to facilitate access to other towns, particularly at peak times.

The conclusions on the validity of these three hypotheses in the regional context lead to general questions of a theoretical nature.

The theoretical state of the art of the (divergent) population dynamics of small cities

In the literature, small cities in developed countries are generally presented as weak links, both at European level (Mayfield et al. 2005, Bailleul et al. 2019) and in various national contexts in countries such as Germany (Steinführer 2015, Swiaczny 2015, Wirth et al. 2016), Russia (Batunova, Gunko 2018) or the United States (Krugman 2017).

Their growth rates would be so low that these cities face the threat of decline in the context of metropolisation (Baron et al. 2010). Shrinking has thus become an important field, which however, is not exclusive to small cities (Pallagst 2009, Korobar et al. 2012, Haase et al. 2013, 2017, Hollander, Justin 2018, Simeonova, Milkova 2019).

France is no exception to this prevailing pessimism. Many French essayists insist on the decline of small cities and their lack of a future (Roques 2009, Chauvier 2017, Bailleul et al. 2019). Towns in decline are thus the most scrutinised, although they are far from being the dominant case.

Actually, metropolisation does not necessarily spell doom for small cities, the relationship between large metro areas and small urban centres is more complex (Gorzelaek 2010, Levratto 2016, Depraz 2017, Gourdon et al. 2019).

The population change of towns is in fact highly variable between places, including within the same regional area (Burdack 2013, Fertner et al. 2015, Servillo, Russo 2017, Wolff, Wiechmann 2017, Wolff 2018, Desjardins, Estèbe 2019, Guérois et al. 2019, URBACT 2019, Gareis, Milbert 2020, Volkmann, Rusche 2020). Even studies highlighting their fragility call for caution in reviewing the data (Gourdon et al. 2019). Wise authors criticize myths and erroneous conclusions about small towns due to a lack of thorough research (Porsche, Milbert 2018).

Many examples of differentiated dynamics within small cities can be seen in Europe on different scales, for example in the Nordic countries (Hanell, Bauer 2005, Gløersen 2012, Smas 2018, Syssner 2020) or, at national level, Poland (Kamińska, Mularczyk 2014, Kwiatek-Soltys 2015, Konecka-Szydłowska, Matykowski 2018), Hungary (Gábor et al. 2015) or Switzerland (Meili, Mayer 2017, Kaufmann, Wittwer 2019), which contradicts their alleged generalised devitalisation (Delmas, Royoux 2020). The proportion of shrinking European cities increases more in relation to their size. It is 17% among cities of less than 10,000 inhab. versus 25% for cities of 200,000 to 300,000 people (Wolff, Wiechmann 2017). Their slowdown in growth is more gradual than for other cities (Guérois et al. 2019).

Such diverse dynamics can be explained by the variety of determinants guiding their population change, identified in the literature (Porsche et al. 2019). Numerous works primarily highlight the decisive role of national demographic trends (Burdack, Kriszan 2013, Juan, Kunzmann 2013, Servillo 2014, Smith 2017, Atkinson 2019, Desjardins, Estèbe 2019, Guérois et al. 2019).

Others show the dependancy of towns on regional demographic trends (Taullelle 2010, Servillo et al. 2017, Smith 2017, Baudelle et al. 2019, Gourdon et al. 2019, Desjardins, Estèbe 2019).

A prevailing economic base effect often makes towns path-dependent on cyclical variations in their dominant industries, particularly in manufacturing (ÖIR 2006, Servillo 2014, Cauchy-Duval et al. 2017, Gauduchon 2018).

Despite the globalisation supposed to threaten them, a number of studies highlight their ongoing traditional role as central places (Jousseume 1998, ÖIR 2006, Powe, Hart 2008, Faguet et al. 2013, Margétic et al. 2014, Twardzik, Hefner 2019). Urban sprawl has even reactivated their retailing function (Brombach, Jensen 2005, Baudet-Michel, Lebrun 2016) to such an extent that the “supermarket town” was the most dynamic urban type in the 2000s (Jousseume, Talandier 2016). This Christallerian function of a central place also continues in most rural areas (Edouard 2008, Chaze 2017), explaining their tertiarization (Konecka-Szydłowska, Zuzńska-Żyśko, Szmytkie 2010). Less common are the studies showing how their traditional basic functions in servicing the surrounding countryside are weakened by their growing integration to the global economy (Czarnecki 2015).

An increasing number of studies, however, distinguish declining small cities in the peripheral countryside from those revitalised by the neighbourhood effect, especially in the shadow of larger cities (Hilal et al. 1995, Jousseume 1998, Kühn

2015), such as in Central and Eastern Europe (Heffner, Solga 2006, Simeonova, Milkova 2019, Bole et al. 2020). Thus in the French case, “the closer a small town is to a large one, the more likely it is to have significant population growth” (Desjardins, Estèbe 2019, p. 38). This spill-over effect has been described as a “borrowed size” effect by Alonso (1973) because of possible indirect agglomeration economies (Malý 2016, Meijers et al. 2016, Volgmann, Rusche 2020).

Conversely, studies increasingly point to the crucial role of sprawling cities whose spill-over effect diminishes with distance (Copus 2001, Servillo 2014, Atkinson 2019). On a European scale, the case of towns in the orbit of expanding agglomerations now predominates, which Hall (2012) has described as small “satellite towns”. The exurbanisation process can be explained by lower land prices and the attractiveness of the rural quality of life, making the distance to metro areas and amenities factors particularly relevant (Oueslati et al. 2015, Bonnin-Oliveira 2016, Delebarre, Pfirsch 2016, Hennig et al. 2016, Cuberes, Ram-sawak 2020).

Finally, the amenities offered by small cities are playing an increasing role in the context of the so-called “residential economy” (Montès 2012, Fertner et al. 2015, Edouard 2019), where the focus is on attracting pensioners, commuters and tourists, according to studies still relatively unknown outside France (Davezies 2009, Talandier, Jousseume 2013). The term “amenity migrations” (Hall, Williams 2002) mainly applies to the French regions reputed to be the most pleasant, i.e. in the South. This also includes the West by virtue of its extensive coastline, which is very attractive for populations sensitive to residential amenities (retired people, senior citizens, self-employed workers, liberal professions and footloose executives and professionals) (Vye 2011, Desrivierre 2019).

According to the so-called “differential urbanisation model” (Geyer 1996), a greater vitality of small cities can even be stated, due to the expanding counter-urbanisation process. This model, originally designed for Anglo-Saxon countries (Fielding 1989), nevertheless appears quite robust to explain certain current dynamics on a European scale, but is unable to account for all the observed trends. Contradictory cyclical models have been proposed for small cities (Powe et al. 2007).

In the absence of a general explanatory model, little is known about the general factors of their population changes as research has more or less neglected towns (Slavík 2002, Bell, Jayne 2009, Edouard 2012, Manfred 2015, Steinführer et al. 2016, Demazière 2017) in spite of extensive European comparative projects that have pointed out common theoretical challenges (Mayfield et al. 2005, ÖIR 2006, Servillo et al. 2017). Some therefore prefer proposing a typology based on regional growth together with the distance from the largest cities (Dijkstra, Poelman 2012, Atkinson 2019).

Given the discrepancy between, on the one hand, certain alarmist discourses and the statistical reality, and the lack of a synthetic model on the other, it is worth exploring certain assumptions, particularly at regional level, given the disparity observed in the trajectories.

A regional study guided by three assumptions

This regional case-study focuses on two neighbouring regions located in Western France: Brittany and Pays-de-la-Loire where the population exceeds 7 million people. Within these regions, small towns account for almost 2,250,000 inhabitants, almost a third of the total population (32.3%) (Table 1).

Table 1. City population dynamics in Western France: comparison of small cities and other agglomerations

Area	Population		Population change rate (1990–2016)
	1990	2016	
Western small cities (2,000–20,000 inhab.)	1,807,720	2,247,830	24.3%
Western other agglomerations (> 20 000 inhab.)	2,398,750	2,711,100	13.0%
Brittany and Pays de la Loire as a whole	5,854,750	7,043,261	20.3%

Source: INSEE (2019).

Western France is experiencing high population growth on a European scale (BBSR, ESPON 2020). Within the French context, these two regions are also experiencing rapid growth, as demonstrated in the typology of population change by catchment area from 1999 to 2013 (Floury, Kaldi 2017) (Fig. 1). Most of the Western areas exhibit both positive natural and migratory balances except in

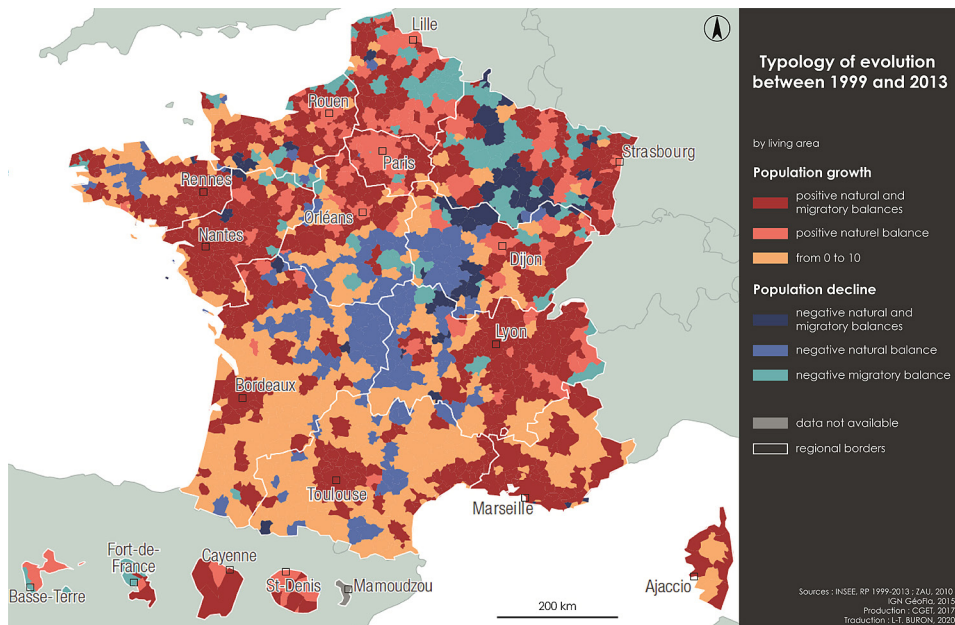


Fig. 1. Typology of population change by catchment area (1999–2013)

inner Western Brittany where there is a population decline due to a negative natural balance, but this is an exception.

This overly positive population dynamic is driven by the behaviour of “urban areas” (see part 4). There was a population increase for most Western urban areas between 1999 and 2013 (Fig. 2) (Floury, Kaldi 2017). This generalised city growth is quite specific on a European scale, which makes this case study all the more interesting. It is even observed that small cities are growing faster, almost twice as fast as the other agglomerations of Western France (Table 1).

The research is based on three hypotheses that will be tested successively regarding the proximity of resources and their potential impact on the population

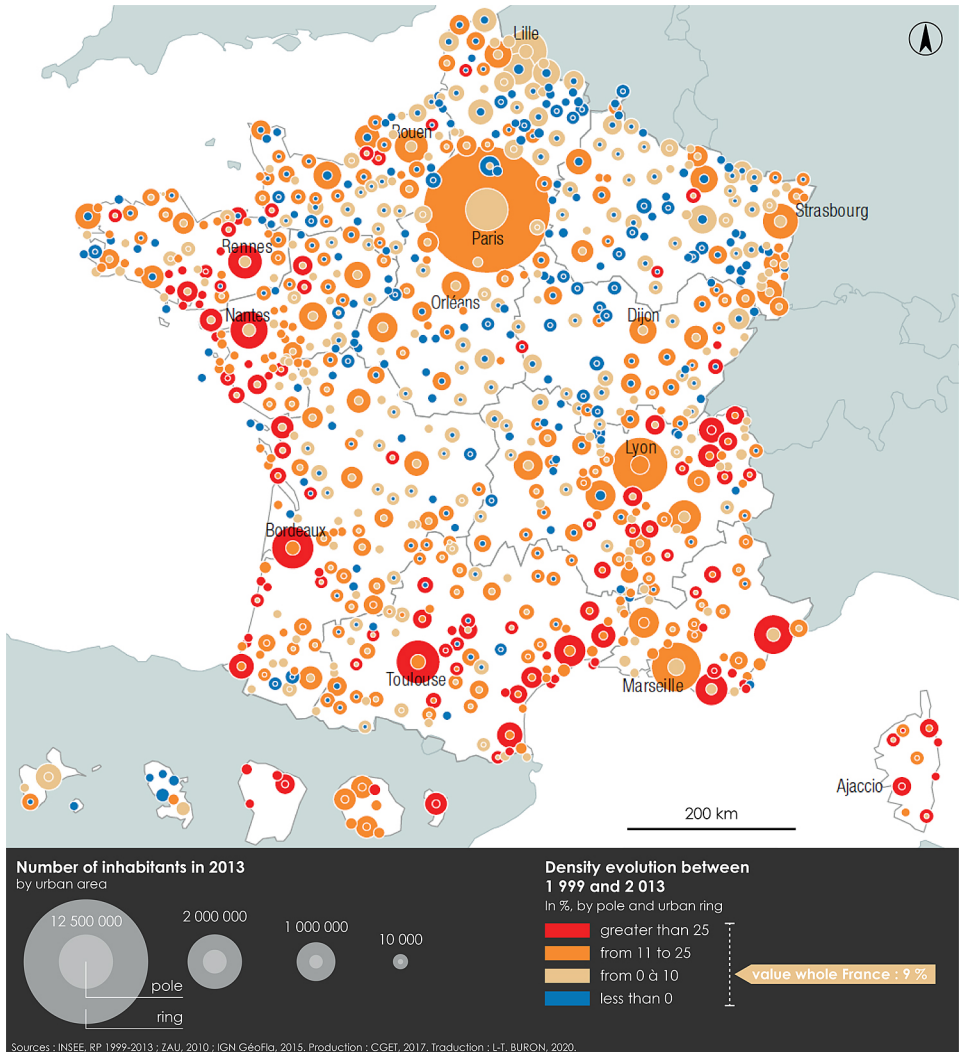


Fig. 2. Trends in population density in urban areas (1999–2013)

change of the cities studied: the proximity of a so-called structuring city, of the coast and of a railway station.

The first indicator is economic mainly because of the labour market along with the supply of services and facilities in large and medium-sized cities, qualified as “structuring”. They can be considered legitimate revitalisation factors of surrounding smaller cities due to urban sprawl, generated by lower land and property prices, their influence determined by distance (Alonso 1964, Oueslati et al. 2015, Hennig et al. 2016, OECD 2018). This analysis is especially true for small poles that suffer from being generally incorporated into metro areas (Jousseume, Talandier 2016).

The second factor being assessed relates more specifically to the regional context: the proximity of the coastline. The hypothesis is that seaside resorts and residential attractiveness induce coastal tropism (Buhot 2009, Vye 2011, Bovi, Rouxel 2019). The tourist dimension of the study area, which has the longest coastline in the country, should not be overlooked, given the growing role of the tourism industry in economic development.

The third variable examined is, in a more original way, the distance from the small city to a railway station. Indeed, although this is still far from being the general rule, land planning is starting to take stations into account when deciding on the location of new housing programmes (Desjardins, Leroux 2007, Leysens 2011, CEREMA 2014, Maulat 2014, 2016, Maulat, Krauss 2014). At the same time, it is assumed that the proximity of a railway station has a greater influence on households in their residential choices, above all to commute to larger neighbouring cities where the labour market is increasingly polarising (Bentayou, Caron 2014, Bentayou et al. 2015). This hypothesis is all the more plausible since there is a growing attractiveness of small cities with a railway station as a result of the recent strengthening of their railway services to reduce rush-hour road congestion to and from metro areas (Lechat 2019). Conversely poor transport connections are often seen as barriers to growth for small towns especially within metropolitan areas (Dej, Trzepacz 2008).

Sources and methodology

We have used the official definition of small cities by the French National Statistical Office (Institut National de Statistique et des Etudes Economiques – INSEE), namely the *unités urbaines* with a population of 2,000 to 20,000. A “unité urbaine” (“urban unit”, in other words an agglomeration) is a municipality (or a group of municipalities) with at least 2,000 inhabitants, known as “agglomerated”, i.e. less than 200 metres apart. Accordingly, the concept is based both on a demographic threshold and on a morphological rule, the continuity of the built up area.

This study uses the INSEE data repositories of municipalities classified into urban units, the 2010 travel to work areas (source INSEE), the list of geolocalised passenger railway stations (source: National society of French railways – SNCF) as well as two statistical databases: the municipal populations of 1990 and 2016

within the municipal division of 2019 (in the knowledge that France has been merging municipalities since 2015). The urban units selected are those whose population was between 2,000 and 20,000 inhab. in 1990. In Western France this amounts to almost 2,500 communes distributed into 334 urban units.

To carry out the study, the large and medium-sized metropolitan areas had to be defined in order to determine their distance to towns. This was based on the *aires urbaines* (“urban areas” – UAs) which are travel-to-work areas where at least 40% of commuters go to work in the neighbouring (urban) “pole”. Three levels of UAs are officially distinguished according to the number of jobs present in the pole. Their number is above 10,000 for larger areas, between 5,000 and 10,000 for medium-sized UAs and between 1,500 and 5,000 for the smaller (Fig. 3)¹.

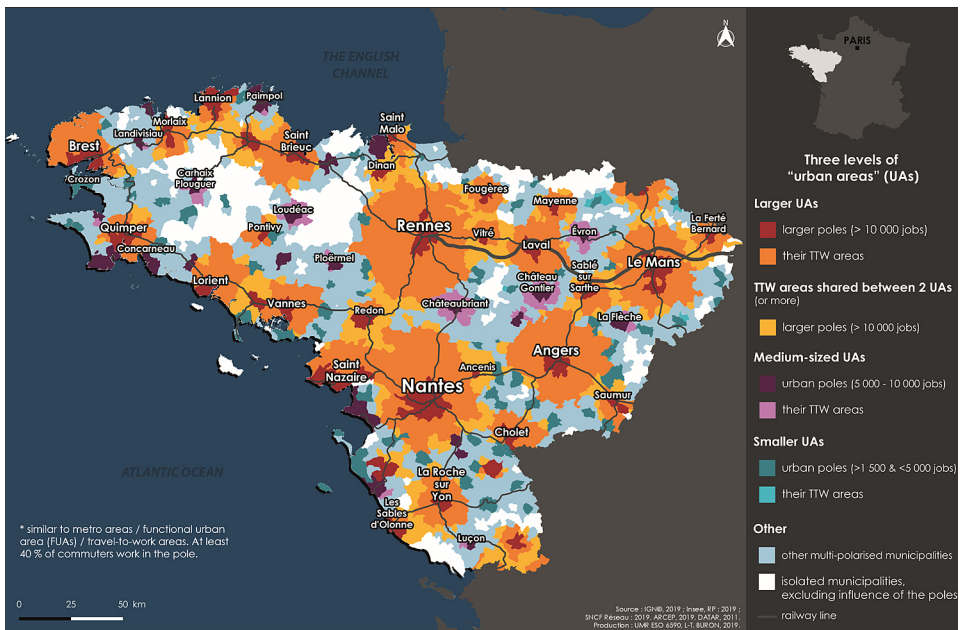


Fig. 3. The INSEE official delineation in “aires urbaines” (*urban areas*) in Western France

To determine whether distance to the upper poles is a variable influencing the growth rate of towns, the 40 cities with a population of over 20,000 inhab. in 1990 have been selected and described as “structuring” poles due to their high offer of jobs, services and facilities (Fig. 3). We then determined the structuring pole closest to each of our urban units.

We then calculated the three selected indicators by using the “distance matrix” tool of QGIS GIS software. These indicators are as follows: the distance of

¹ Very recently the INSEE has adopted the European standards to define Functional Urban Areas (FUAs) where at least 15% of the working people living in the area go to work to the pole (Bellefon et al. 2020).

towns from the nearest structuring pole; their distance from the nearest coast; their distance from the nearest passenger railway station.

To calculate the distance to the shoreline, we transformed the GIS layer of the coastline into points to obtain the distance from the nearest coastal point to the polygon centroid of each urban unit. Indeed, the distance calculation tool used in QGIS requires point layers as input in order to calculate the distance between two points (origin, destination). We asked the software to calculate the distance from an urban unit point to the nearest coastal point. In this way, we were able to obtain the distance between each urban unit and their reciprocal distance to the coast.

The other indicators calculated are the population change and the average annual growth rate of small urban units between 1990 and 2016.

The correlation rates between the three indicators and the population growth rate of urban units were calculated. We then isolated the weight of each of the indicators from the growth rate.

Main results

Since the impact of sprawl on population change is a common explanation in the literature, the relationship between population growth and distance to the nearest pole was first tested (Fig. 4).

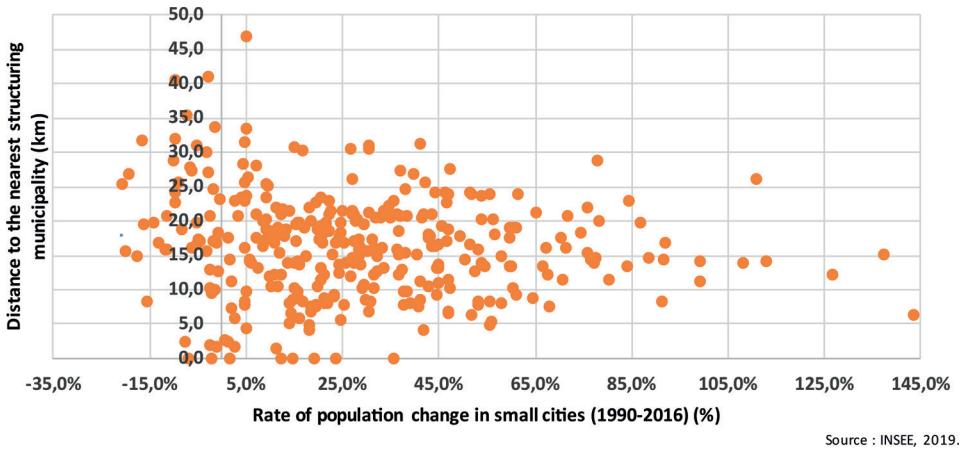


Fig. 4. Relationship between population growth and distance to the nearest urban pole among small cities in Western France (1990–2016)
Source: INSEE (2020).

Unexpectedly, the correlation is positive but very weak ($R = 0.12$). This disappointing and counter-intuitive result seems to be contrary to what most of the scientific literature states. The statistical dispersion appears to be particularly high within a radius of 10 to 20 km around the upper urban centres. It can be

assumed that the explanation partly lies in the unequal economic vitality of the structuring poles. Their population growth rates are indeed divergent, lower in particular for medium-sized cities, therefore limiting their driving role in the growth of towns. The gap between land and property prices and the quality of life in medium-sized cities compared to towns is insufficient to boost the latter, given that the job opportunities and the supply of services are not to their advantage.

This interpretation is all the more plausible as the results are much better when only the larger cities (built-up areas of over 200,000 inhab.) are considered, namely Angers, Brest, Le Mans, Nantes and Rennes. The correlation rate is this time very significant ($R = 0.48$) (Fig. 5).

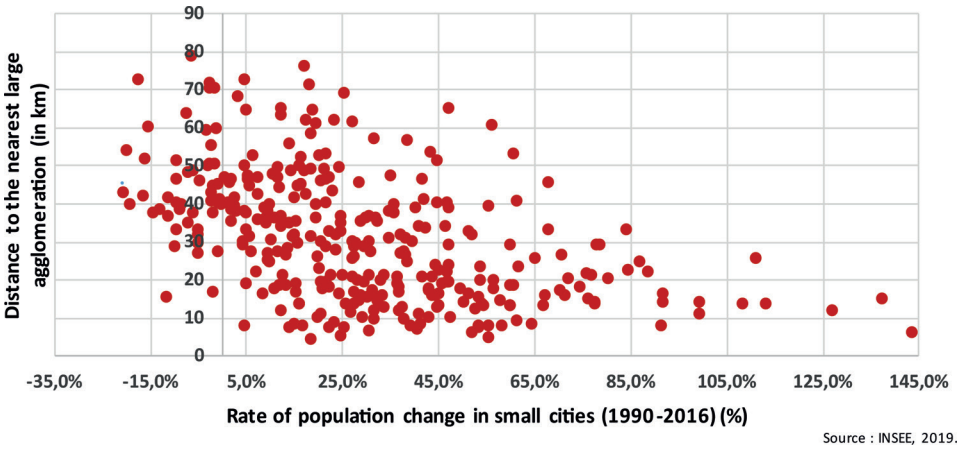


Fig. 5. Relationship between the population growth rate (%) and the distance to the nearest larger city (km) among small cities in Western France (1990–2016)

While, high growth rates can be observed at up to 60 km from major cities, demonstrating the spill-over effect of expanding metropolises on the growth of towns located in surrounding areas. This is generally not established for medium-sized cities. In the case of larger cities, not only *pull factors* specific to towns come into play (attractiveness of the countryside) but also *push factors*, firstly higher land and property prices, which can be dissuasive, as shown by the Ille-et-Vilaine département case (Fig. 6), and secondly, all the well-known negative externalities (pollution, noise, lack of open spaces, urban congestion, insecurity, etc.) in the larger metro areas. These attraction and repulsion factors fuel even more powerful centrifugal residential flows as the dynamic of the metro area intensifies, in accordance with the “volcano theorem” (Lacour, Puissant 1999). The map clearly shows the impact of the larger metro areas on the surrounding towns (Fig. 7).

The second assumption involving the residential attraction of the coast as a driving force, measured by the relationship between population growth and the distance from the coast (in km) is true (positive correlation) but almost as weak as for the first hypothesis ($R = 0.14$) (Fig. 8).

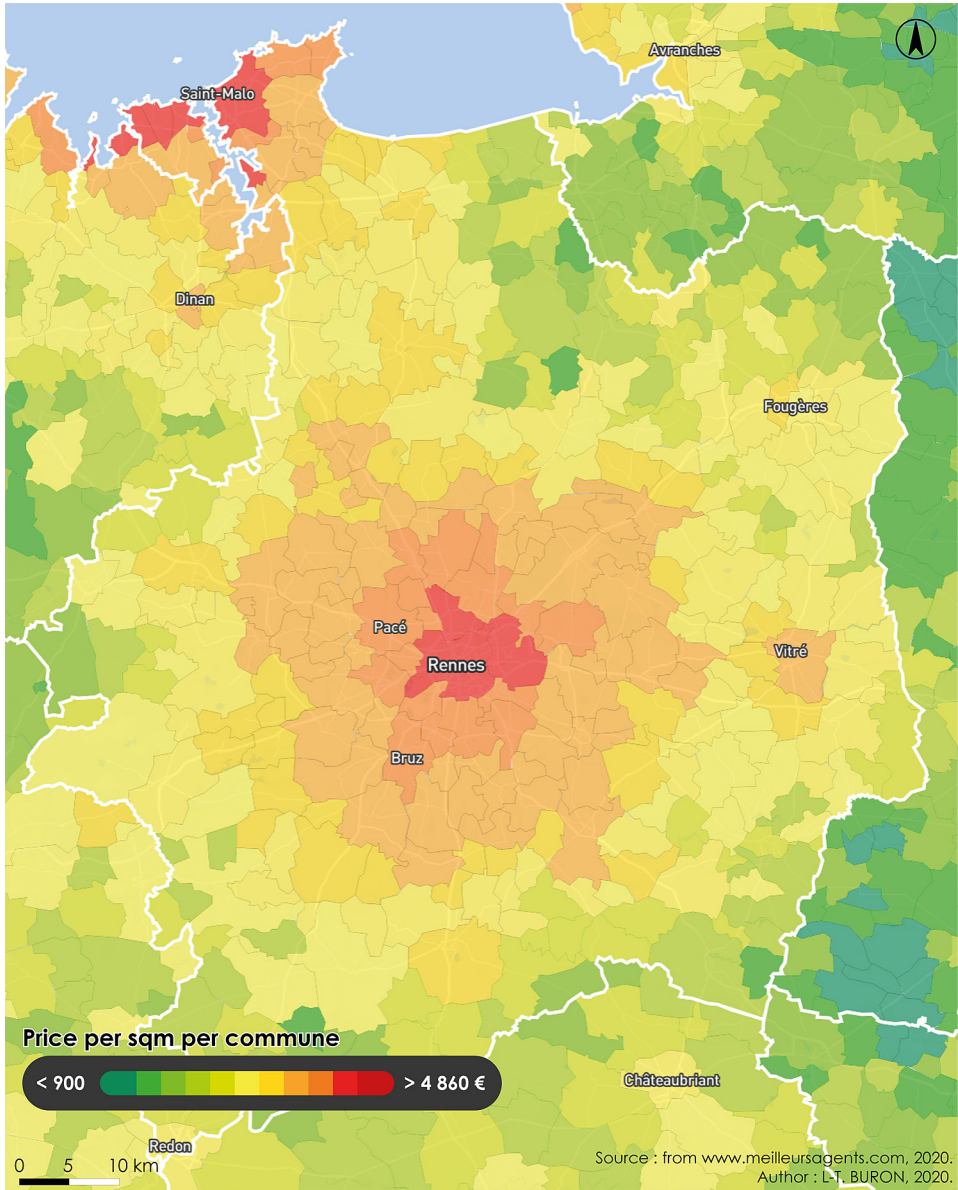


Fig. 6. Real estate prices per sqm per commune in the department of Ille-et-Vilaine (2020)
Source: from <https://www.meilleursagents.com>.

Several reasons may explain this mixed result, which is also counter-intuitive. First of all, there is a climatic reason (a “Southern effect”) since it is clear that dynamic seaside towns are mainly located on the coast from Southern Brittany to Vendée with fewer on the remaining coastline (Western Brittany except around Brest, the Channel coast). A second reason is the unaffordable housing

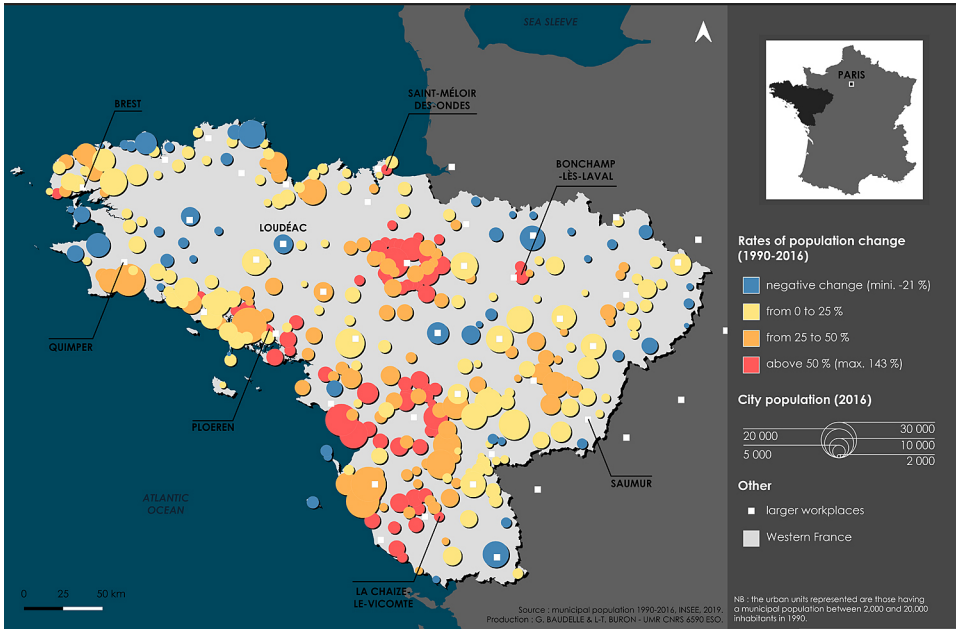


Fig. 7. Population change in small cities in Western France (1990–2016). (The urban units represented are those having a municipal population between 2,000 and 20,000 inhabitants in 1990)
Source: INSEE (2020).

and land prices for a large part of the population excluded from the coast (Dupont 2014). The contrast between the high real estate values of the coastline, populated by elderly owners benefiting from a location rent, and the hinterland,

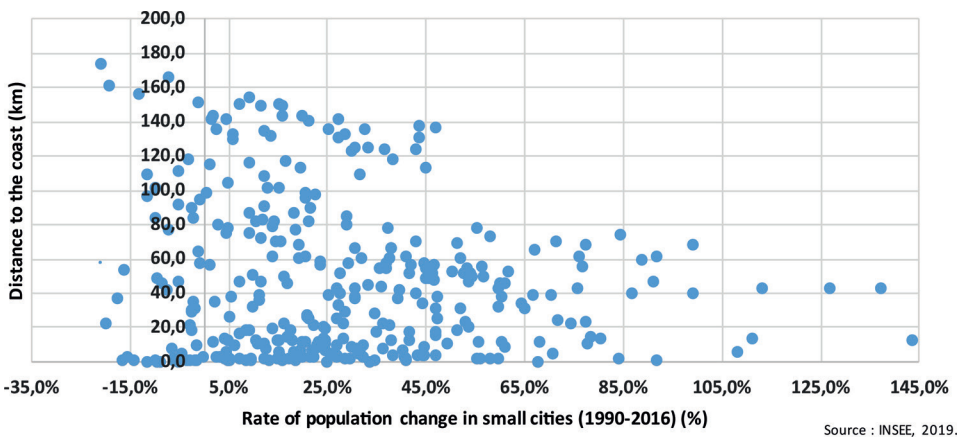


Fig. 8. Relationship between population growth and the distance to the coast (km) among small cities in Western France (1990–2016)
Source: INSEE (2020).

whose housing stock is occupied by younger households, particularly families, is flagrant (Agences... 2013, Bovi, Rouxel 2019). The resident homeowners of the resorts are mostly senior citizens and wealthy pensioners from Western France or from other regions, in particular Ile-de-France. In addition, a large fraction of the housing stock in coastal cities consists of second homes, driving up property prices. The stock of rental housing, especially social housing, is vastly insufficient due to land costs and restrictive policies of municipalities anxious not to displease their wealthy voters. Coastal protection laws also limit the constructability of the coastal line, which raises the price of new housing. The combination of these factors leads to the marked ageing of coastal cities (Fig. 9). Paradoxically, the strong attraction of senior couples or the wealthiest pensioners to the coast leads to quite weak growth rates due to the lock-in effect in property ownership access for other households and the ageing population (Buhot 2009, Bovi, Rouxel 2019). These resorts have a positive migratory balance but a negative natural balance since their population is declining in a number of them. The coastal municipalities in Brittany thus experienced weaker growth (+0.4% per year) than inland communes (+1.1%) over the period. These *retirement cities* with poor demographic dynamics are quintessential to Finistère for climatic reasons along with their remoteness. Pont-Aven (−6.9%), which is world renowned for the Impressionist School, is one of them. The traditional coastal industries now under threat (fishing, early vegetables) may have made the situation worse (Plouhinec-Audierne: −15.9%; Douarnenez: −13.7%; Saint-Pol-de-Léon: −6.8%) (Baudelle et al. 2019).

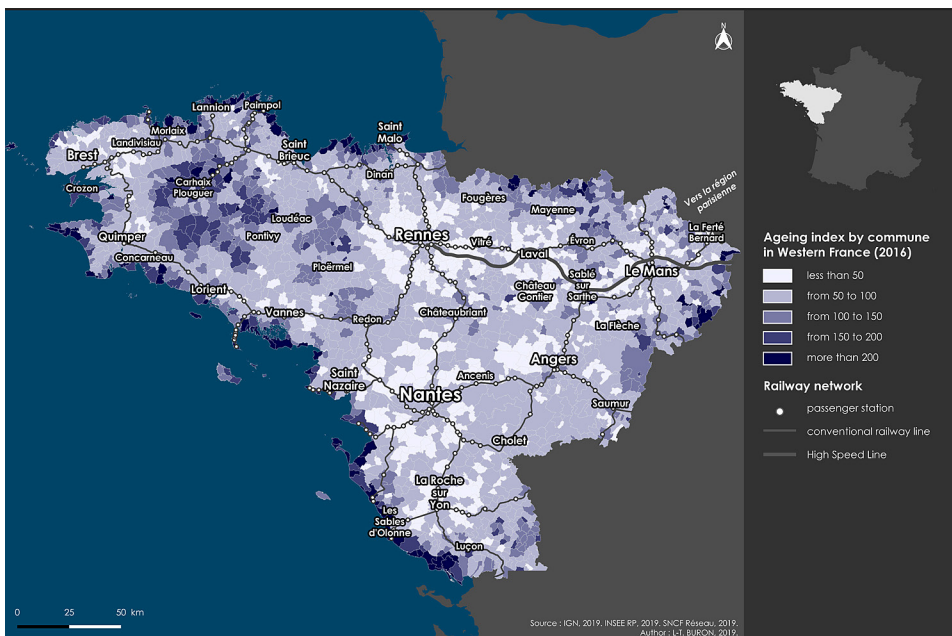


Fig. 9. Ageing index by commune in Western France (2016)

Our third hypothesis is more original with regard to the literature, since it involved testing the possible statistical relationship between population growth and proximity to a passenger railway station. This intuition proved to be relevant to the study, since in this case the correlation is quite good ($R = 0.27$) (Fig. 10).

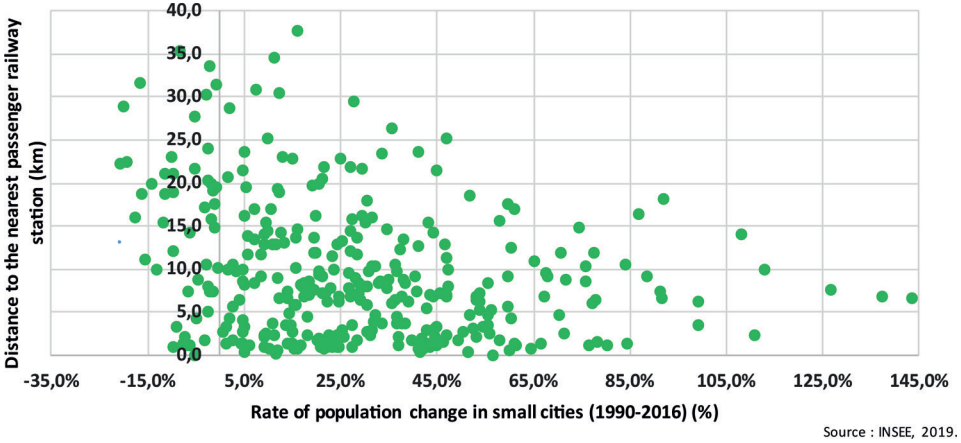


Fig. 10. Relationship between demographic growth (%) and the nearest passenger railway station (km) among small cities in Western France (1990–2016). Source: INSEE (2020).

Indeed the provision of daily trains has improved over the last thirty years with decentralisation, under the jurisdiction of the Regional Councils. Western France regional authorities are among the most active in this improvement in the supply of regional trains (Buron 2021).

Four iconic examples of the relationship between population growth and rail connection can be given. La-Chaize-le-Vicomte (3800 inhab.), 9 km from La-Roche-sur-Yon (Vendée), located less than one kilometre from a railway station, recorded the 4th highest population growth rate in our sample (+ 64%). Similarly, Ploeren, close to both an urban centre (Vannes, 6.4 km) and a railway station (6.8 km), has experienced the highest growth rate of all the towns in Western France (+ 143.4%, from 2,700 to 6,600 inhab.). Better still, results can be obtained by combining the three criteria with the case of Saint-Méloir-des-Ondes, which is also a booming town (+ 55.8%, from 2,600 to 4,000 inhab.) located 5.5 km from the medium-sized city Saint-Malo, 2.6 km from the coast and close to a station (2.7 km), even though the station is rarely used to get to Saint-Malo, confirming the relative under-utilization of the potential offered by rail corridors, particularly around Rennes (Desjardins et al. 2011).

This correct correlation suggests that households’ residential trade-offs take greater account of the railway service, especially in the vicinity of the larger metro areas (Nantes and Rennes) (Fig. 11).

However, this trend seems recent (Bentayou, Caron 2014, Lechat 2019) (Map 4), which undermines the result. Indeed around 85% still commuting by

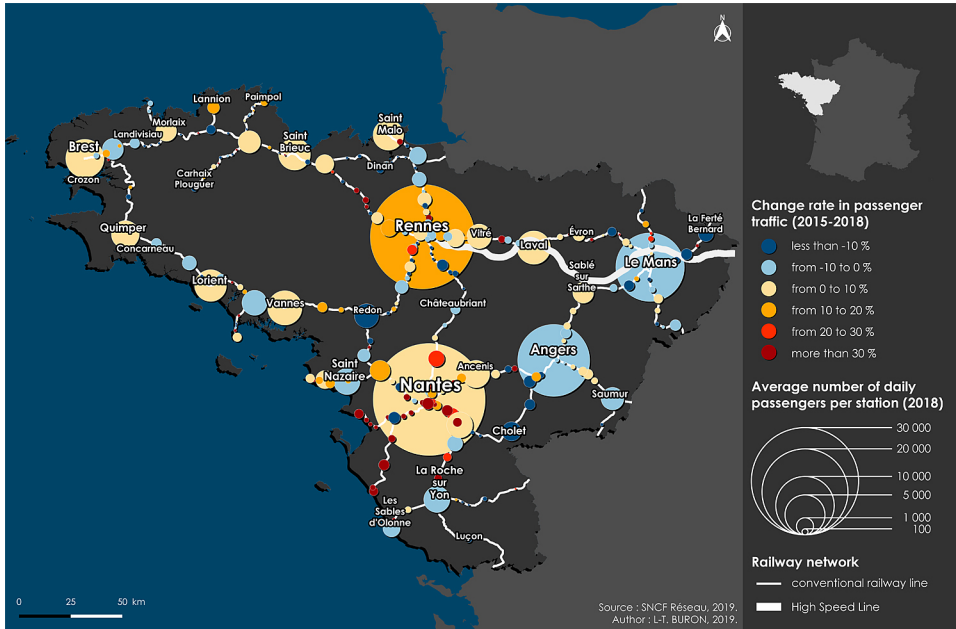


Fig. 11. Average number of daily passengers per station and change from 2015 to 2018

car in Western France. Except around Rennes Nantes and Rennes metro areas, the rate of workers commuting by public transports is less than 10% (Burton 2021). Moreover the trend remains uncertain: in Western France, the rate of commuters using transport services has increased in 19% of communes but decreased in 25% of them between 2011 and 2016 (Burton 2021).

This can be explained by the late integration of railway accessibility in spatial planning (CEREMA 2014). It was not until the introduction of the Solidarity and Urban Renewal Act (2000) that the objectives of “territorial coherence” and “sustainable development” were set out, contrasting with integrated planning of railway services and housing programmes in Germany (L’Hostis 2009), at any event the obstacles are not specific to France (Gallez et al. 2015). Despite declared ambitions for transit-oriented urban planning (Leysens 2011), the behaviour of politicians and developers is still directed towards the car-friendly model (Demazière, Hernandez 2012). Regional railway transport is nevertheless increasingly identified in France as a planning tool, while regional stations are seen as privileged places for city compaction conducive to encouraging a modal shift of commuters to the train.

Research states that coordinating railway transport services and urban planning is not just an economic or technical issue (Deraëve, Poinot 2020) but is often political, contingent on cognitive legacies (Kaufmann et al. 2003, Pflieger et al. 2007, Gallez et al. 2013). Maulat (2014) thus demonstrated, using the examples of Nantes (Pays-de-la-Loire) and Toulouse, how the new planning standards that have emerged over the last decade are testing practices in terms of

institutional, territorial, political, cultural and material constraints. Public action is evolving positively (Desjardins, Leroux 2007), from the ground up, in order to respond to concrete accessibility issues. However, the apparent consensus around train-friendly urban planning has come up against a series of negotiations between local elected officials due to divergent interests in terms of location choices for future housing programmes (Gallez et al. 2015, Maulat 2016).

However, other research on Western France confirms the potential for coordinated development of local railway services and compact housing around the stations in suburban towns. Accordingly, Guezgouz (2016) shows the expected mutual boosting of railway services and population growth in the Nantes region and assesses the potential for commuting by railway around small cities, based on the transport service provided as well as the location of housing, employment and services. The conclusions are optimistic regarding the (latent) demand for railway transport despite the current deficiency in compact urban planning around well-served railway stations.

While Desjardins et al. (2011) showed the relative under-utilization of the opportunities offered by rail corridors, particularly around Rennes, Buron’s thesis shows in a fine way, through multimodal accessibility measures, the quite surprising very high potential for capturing commuters around most stations in Western France (Buron 2021).

The study carried out by Lechat (2019) on two peri-urban lines serving Nantes shows that the link between transport and development is gradually being in-

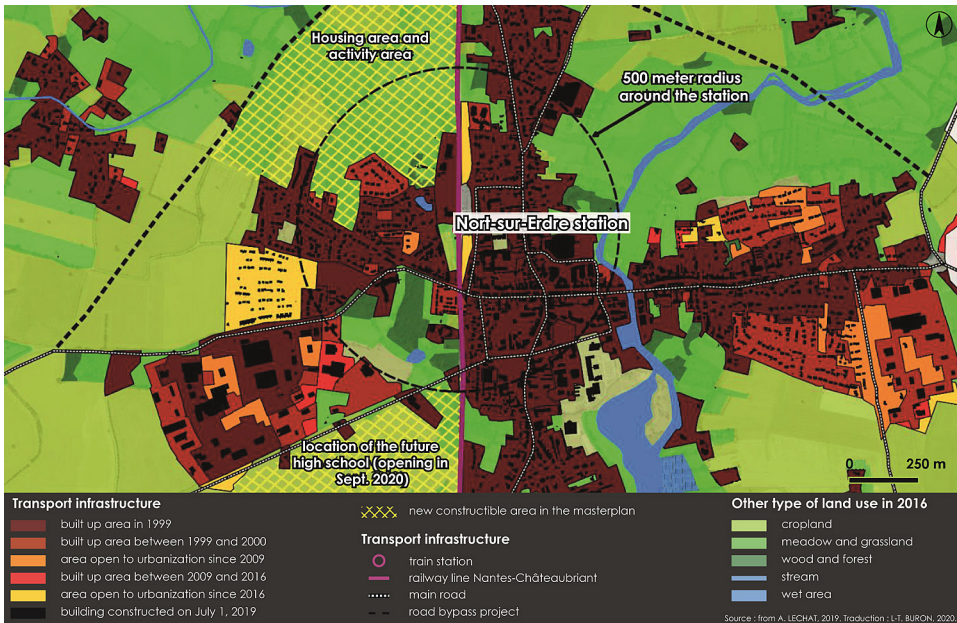


Fig. 12. New housing projects, facilities and business parks in the immediate vicinity of the Nort-sur-Erdre Station (near Nantes)
Source: based on Lechat (2019).

corporated into master plans anticipating the expected residential development around the stations. Lechat shows the close systemic relationship between the strengthening of railway transport and the appropriation of development issues by local political staff. This results in a heightened awareness and in faster evolving planning behaviours in the best-served towns, closest to Nantes, while the more remote poorly connected municipalities take longer to integrate the new railway situation in their spatial planning.

The way in which new projects are planned around the newly reinforced Nort-sur-Erdre Station (8,600 inhab.) 24 kilometres from the centre of Nantes is a good illustration of the progress made in the coordinated management of railway services, along with the supply of housing, and facilities (Fig. 12).

The projects are not just about the provision for housing around train stations to enable commuting by train to and from metro areas. More frequently, services (such as high school in Fig. 12) and offices are located near the station to facilitate commuting by railway. An excellent example of this is the new regional headquarters of Intermarché, a large retail group, on a former wasteland, facing the Vitré Station (16,800 inhab.).

Conclusion: new issues

The analysis of the relationship between the three explanatory variables, two of which are frequently mentioned in the literature (proximity to a larger city or the coast) and one less frequently (railway service), proved to be uneven and counter-intuitive. Thus, the proximity of a larger urban centre does not appear to be overly dynamic, with the exception of large metro areas (over 200,000 inhab.) where the impact is apparent in the pull factors or rather push factors resulting in urban sprawl.

The weak correlation with the vicinity of the coast can be explained by the climatic effects (the northwestern coast is less sunny, cooler and further from the principal metro areas than the southwestern coast) and by the cumulative combination of economic (high threshold for home ownership), social (importance of second homes) and demographic factors (ageing and consequent deterioration of the natural balance). As a result the residential and migratory attractiveness of the coast is geographically differentiated with an insufficient migratory balance to compensate for an increasingly negative natural balance.

Surprisingly, the correlation with the proximity of a railway passenger connection was more conclusive. This fact is surprising in the French context given the delayed consideration for the provision of railway in spatial planning, conducive to better integration between railway services, the programming of housing and facilities in towns.

More generally, these quite disappointing results raise questions about the relevance of a size-based approach. Reasoning by urban size (towns versus medium-sized cities and larger metro areas) is uncertain because of the variation in the observed rates of change. However, this type of analysis is challenged more

fundamentally in theoretical studies stressing co-evolution processes within the system of cities (Paulus 2004). The urban network is a system (Berry 1964) whereby the evolution of each city should involve other interrelated cities, which is confirmed in more recent work conducted by the Paris School of Theoretical Geography (Rozenblat 2004, Pumain 2014, Berroir et al. 2017, Raimbault 2020).

This School has been contracted by the former DATAR to identify the regional city systems (Berroir et al. 2012, 2017). These urban proximity systems of subregional, regional and interregional scope emerge when several types of flows are considered simultaneously (movement of labour, circulation of income, links between head office and company divisions, local movement of population and goods). These various relationships lead to interdependencies between cities forming “composite networks”, delimiting systems that question purely hierarchical interpretations.

The rather weak correlations show the limits of exclusively size-based studies due to the interactions between cities within subregional systems. The statistically unconvincing relationship between size and demographic trends (Servillo 2014, Gourdon 2019) can be explained by the systemic relationships between hierarchy levels and neighbouring cities. This could explain both the good result obtained by the vicinity of metro areas given their weight in the system – at least in terms of gravity – and the relative weakness of the correlations allowing for only one variable at a time. Servillo and Russo (2017) therefore highlight the need for a multiscale approach since the embeddedness of smaller settlements within urban systems is attributed to a combination of national trends, local dynamics and regional path dependency. It is an invitation to explore in a more complex and integrative manner how the combination of spatialised variables functions within these quasi-regional urban systems, so as to account for differentiated population changes.

References

- Alonso W. 1964. *Location and Land Use*. Harvard University Press, Cambridge, MA.
- Alonso W. 1973. Urban zero population growth. *Daedalus*, 102(4): 191–206.
- Agences d’urbanisme et de développement de Bretagne Sud. 2013. *Atlas de la Bretagne Sud*. Lorient.
- Atkinson R. 2019. The small owns conundrum: What do we do about them? *Regional Statistics*, 9(2): 1–17. <https://doi.org/10.15196/RS090201>
- Baron B., Cunningham-Sabot E., Grasland C., Rivière D., van Hamme G. (eds) 2010. *Villes et régions européennes en décroissance: maintenir la cohésion territoriale*. Lavoisier, Paris.
- Bailleul H., Baudelle G., Josselin J.-P. 2019. Editorial: Les petites villes européennes comme enjeu d’équité territoriale. *Belgeo*, 3. <https://doi.org/10.4000/belgeo.35110>
- Batunova E., Gunko M. 2018. Urban shrinkage: an unspoken challenge of spatial planning in Russian small and medium-sized cities. *European Spatial Planning*, 26(8): 1580–1597. <https://doi.org/10.1080/09654313.2018.1484891>
- Baudelle G., Burdack J., Buron L.-T. 2019. Quelles dynamiques pour les petites villes en Europe? Une étude comparée Saxe-Bretagne (1990–2015). *Belgeo*, 3. <https://doi.org/10.4000/belgeo.34305>
- Baudet-Michel S., Lebrun N. 2016. La France des petites villes: des espaces en marge des dynamiques fonctionnelles? Le cas du commerce de détail. [In:] E. Grésillon, F. Alexandre, Sajaloli B. (eds), *La France des Marges*. A. Colin, Paris, p. 312–318.

- BBSR, ESPON 2020. Average annual population development from 2001 to 2017 in local authorities (LAU) (<https://www.atlasta2030.de/en/index.php#c1-1-1> accessed: 19.03.2020).
- Bell D., Jayne M. 2009. Small cities? Towards a research agenda. *International Journal of Urban and Regional Research*, 33(3): 683–699. <https://doi.org/10.1111/j.1468-2427.2009.00886.x>
- Bellefon M.-P. de, Eusebio P., Forest J., Pégaz-Blanc O., Warnod R. 2020. En France, neuf personnes sur dix vivent dans l'aire d'attraction d'une ville. *INSEE Focus*, 211 (<https://www.insee.fr/fr/statistiques/4806694>).
- Bentayou G., Caron S. 2014. Densification à côté d'une petite gare: retour d'expérience. *La Revue Foncière*, 2: 16–20.
- Bentayou G., Cauhopé M., Hasiak S., Perrin E., Richer C. 2015. La densification autour des gares régionales: des enjeux aux projets. [In:] A. Touati, J. Crozy (eds), *La densification résidentielle au service du renouvellement urbain: filières, stratégies et outils*. La documentation française, Paris, pp. 147–160 (<https://halshs.archives-ouvertes.fr/halshs-01386608/document>).
- Berroir S., Cattan, N. Dobruszkes F., Guérois M., Paulus F., Vacchiani-Marcuzzo C. 2017. Les systèmes urbains français: une approche relationnelle. *Cybergeo: European Journal of Geography*, 807. <https://doi.org/10.4000/cybergeo.27945>.
- Berroir S., Cattan N., Guérois M., Paulus F., Vacchiani-Marcuzzo C. 2012. Les systèmes urbains français et leur métropolisation. *DATAR Travaux en Ligne* 10, Paris (https://www.academia.edu/7254235/Les_syst%C3%A8mes_urbains_fran%C3%A7ais).
- Berry B.J.L. 1964. Cities as systems within systems of cities. *Papers and Proceedings of the Regional Science Association*, 13: 147–163. <https://doi.org/10.1007/BF01942566>
- Bole D., Goluža M., Tiran J., Kumer P., Topole M., Nared J. 2020. The settlement system in Slovenia. [In:] D. Perko, R. Ciglič, M. Zorn (eds), *The geography of Slovenia*. Springer, Basel, p. 171–180.
- Bonnin-Oliveira S. 2016. Les petites villes dans la périurbanisation. *Territoire en Mouvement Revue de Géographie et Aménagement*, 32. <https://doi.org/10.4000/tem.3899>
- Bovi H., Rouxel M. 2019. Plus de 400 000 habitants supplémentaires en Bretagne d'ici 2040. *Insee Analyses Bretagne*, 89: 1–4 (<https://www.insee.fr/fr/statistiques/4250821>).
- Brombach K., Jensen J. 2005. Kleinstädte in Großstadregionen. *Funktionsräumliche Spezialisierung und Zentrumsfunktion am Beispiel Region Stuttgart*. Informationen zur Raumentwicklung, 8: 477–490 (https://www.researchgate.net/publication/303923162_Kleinstadte_in_Grossstadregionen_Funktionsraumliche_Spezialisierung_und_Zentrumsfunktion_am_Beispiel_Region_Stuttgart).
- Buhot C. 2009. Embourgeoisement et effet littoral. *Recompositions socio-spatiales à La Rochelle et à l'Île de Ré*. *Articulo – Journal of Urban Research, Special Issue*, 1. <https://doi.org/10.4000/articulo.1034>
- Burdack J. 2013. Lokal basierte Kleinstadtentwicklung im östlichen Europa: Potenziale, Probleme und Praktiken – eine Einführung. [In:] J. Burdack, A. Kriszan (eds), *Kleinstädte in Mittel- und Osteuropa*. Leibniz-Institut für Länderkunde, Leipzig, p. 5–12.
- Burdack J., Kriszan A. (eds) 2013. *Kleinstädte in Mittel- und Osteuropa: Perspektiven und Strategien lokaler Entwicklung*. Leibniz Institut für Länderkunde Forum IfL, 19, Leipzig.
- Buron L.-T. 2021. Les déterminants des choix modaux et les facteurs d'un éventuel report vers le transport ferroviaire à partir d'une analyse du Grand Ouest français. PhD in Geography and Planning. Rennes 2 University, Rennes.
- Caselli B., Ventura P., Zazzi M. 2020. Performance-based spatial monitoring. An interpretative model for long term shrinking medium-small Italian towns. *Sustainable Cities and Society*, 53. <https://doi.org/10.1016/j.scs.2019.101924>.
- Cauchy-Duval N., Cornuau F., Rudolph M. 2017. La décroissance urbaine en France: les effets cumulatifs du déclin. *Métropolitiques* (<https://www.metropolitiques.eu/La-decroissance-urbaine-en-France,1093.html>).
- CEREMA 2014. *Stratégies foncières aux abords des gares TER*. Bron.
- Chauvier E. 2017. *La petite ville*. Editions Amsterdam, Paris.
- Chaze M. 2017. Les petites villes: pôles commerciaux en déclin ou centralités d'avenir? *Territoire en Mouvement. Revue de Géographie et Aménagement*, 33. <https://doi.org/10.4000/tem.4026>
- Copus A.K. 2001. From core-periphery to polycentric development: concepts of spatial and aspatial peripherality. *European Planning Studies*, 9(4): 539–552. <https://doi.org/10.1080/9654310120049899>

- Cuberes D., Ramsawak R. 2020. Understanding recent growth dynamics in small urban places: The case of New England. *City and Community*, 19(1): 44–75 (<https://doi.org/10.1111/cico.12455>).
- Czarnecki A. 2015. The changing role of small towns as sales and supply markets for rural hinterland. [In:] K. Zajda, S. Michalska (eds), *Young research and the problems of Polish rural areas*. Łódź University Press, Łódź, p. 147–168.
- Davezies L. 2009. L'économie locale "résidentielle". *Géographie, Économie, Société*, 11(1): 47–53.
- Dej M., Trzepacz P. 2008. Small towns in transport systems of metropolitan areas in Poland. *European Spatial Research and Policy*, 15(1): 65–77.
- Delebarre A., Pfirsch T. 2016. À la recherche d'une urbanité périphérique? *Territoire en Mouvement. Revue de Géographie et Aménagement*, 32. <https://doi.org/10.4000/tem.3919>
- Delmas A., Royoux D. 2020. Les petites villes, un rôle clé dans la structuration urbaine de la Nouvelle-Aquitaine. [In:] P. Chauchefoin (ed.), *Nouvelles régions et métropoles. La grande transformation?* Presses Universitaires de Rennes, Rennes, p. 107–122.
- Demazière C. 2017. Le traitement des petites et moyennes villes par les études urbaines. *Espaces et Sociétés*, 168–169: 17–32. <https://doi.org/10.3917/esp.168.0017>
- Demazière C., Hernandez F. 2012. Opérations d'habitat, projets communaux et SCOT: une cohérence variable selon les échelles. *Résultats d'enquêtes en Val de Loire. Géocarrefour*, 87(2): 101–113. <https://doi.org/10.4000/geocarrefour.8700>
- Depraz S. 2017. Marges industrielles et petites villes dans l'ombre de la métropolisation. [In:] S. Depraz, *La France des marges*. Armand Colin, Paris, p. 193–222.
- Deraëve S., Poinso P. 2020. Quelles formes de valorisation des nœuds de transport? Une analyse des liens entre programmation urbaine et valeur économique créée dans le cas des quartiers de gare. *Revue d'Économie Régionale & Urbaine*, 1: 39–62. <https://doi.org/10.3917/reru.201.0039>
- Desjardins X., Estèbe P. 2019. Villes petites et moyennes et aménagement territorial. PUCA, Paris.
- Desjardins X., Leroux B. 2007. Les Schémas de cohérence territoriale: des recettes du développement durable au bricolage territorial. *Flux*, 69: 6–20. <https://doi.org/10.3917/flux.069.0006>
- Desjardins X., Seguret S., Beaucire F. 2011. Urbanisation et corridors ferroviaires: quel degré de relation? [In:] D. Pumain, M.-F. Mattei (eds), *Données urbaines*, n° 6. Economica, Paris, p. 75–80.
- Desrivierre 2019. Les façades atlantique et méditerranéenne conjuguent dynamisme de la population et de l'emploi. *INSEE Première*, 1752: 1–4 (<https://www.insee.fr/fr/statistiques/4132761>).
- Dijkstra L., Poelman H. 2012. Cities in Europe. The new OECD-EC definition. Directorate General for Regional and Urban Policy, Brussels.
- Dupont J. 2014. L'émergence d'une politique foncière régionale en Bretagne: de l'identification des enjeux à la création d'un Etablissement public foncier d'Etat. PhD in Geography and Planning. Rennes 2 and Liège Universities, Rennes-Liège.
- Édouard J.-C. 2008. La petite ville: contexte scientifique et enjeux de développement, aménagement. *Bulletin de l'Association de Géographes Français*, 85(1): 3–43. <https://doi.org/10.3406/bagf.2008.2592>
- Édouard J.-C. 2012. La place de la petite ville dans la recherche géographique en France: de la simple monographie au territoire témoin. *Annales de Géographie*, 683: 25–42. <https://doi.org/10.3917/ag.683.0025>
- Édouard J.-C. 2019. L'attrait des petites villes, une chance pour redynamiser leur centralité? *Belgeo*, 3, doi: <https://doi.org/10.4000/belgeo.34295>
- Faguet L., Ferrandon B., Jousseau V. 2013. L'armature urbaine de la Loire-Atlantique. *Les Cahiers Nantais*, 1: 25–37. <halshs-00858700>
- Fertner C., Groth N.B., Herslund L., Carstense T.A. 2015. Small towns resisting urban decay through residential attractiveness. Findings from Denmark. *Geografisk Tidsskrift – Danish Journal of Geography*, 115(2): 119–132. <https://doi.org/10.1080/00167223.2015.1060863>
- Fielding A.J. 1989. Migration and urbanization in Western Europe. *The Geographical Journal*, 155: 60–69. <https://doi.org/10.2307/635381>
- Floury A., Khaldi M. 2017. Les dynamiques de population. Fiche d'analyse de l'Observatoire des territoires, Paris (<https://www.observatoire-des-territoires.gouv.fr/kiosque/2017-fiche-dyn-pop-les-dynamiques-de-population>).
- Gábor P., Trócsányi A., Makkai B. 2015. Between shrinking and blooming: the crossroad of small towns' urbanisation in Hungary. *Annales Universitatis Paedagogicae Cracoviensis, Studia Geographica*, 8: 12–28.

- Gallez C., Kaufmann V., Maksim H.-N., Thébert M., Guerrinha C. 2013. Coordonner transport et urbanisme. Visions et pratiques locales en Suisse et en France. *Revue d'Economie Régionale & Urbaine*, 13(2): 317–338. <https://doi.org/10.3917/reru.132.0317>
- Gallez C., Maulat J., Roy-Baillargeon O., Thébert M. 2015. Le rôle des outils de coordination urbanisme-transports collectifs dans la fabrique politique urbaine. *Flux*, 101–102: 5–15. <https://doi.org/10.3917/flux.101.0005>
- Gareis P., Milbert A. 2020. Funktionale Klassifizierung von Kleinstädten in Deutschland. Ein methodischer Vergleich Raumborschung und Raumordnung, 78(6): 1–21. <https://doi.org/10.2478/rara-2020-0032>
- Gauduchon L. 2018. Fragilité urbaine des petites villes-mines: le cas d'Épinac, Saône-et-Loire. *Revue Géographique de l'Est*, 58(3–4). <https://doi.org/10.4000/rge.9243>
- Geyer H. 1996. Expanding the theoretical foundation of differential urbanization. *Tijdschrift voor Economische en Sociale Geografie*, 87(1): 44–59. <https://doi.org/10.1111/j.1467-9663.1998.tb01536.x>
- Gløersen E. 2012. La Finlande, la Norvège, la Suède face au projet d'une Europe polycentrique: la centralité à la marge de l'Europe. Presses Universitaires de Rennes, Rennes.
- Gorzalak G. (ed.) 2010. Metropolitan macroregions in Europe: from economic landscapes to metropolitan networks (Cities and their Hinterlands). [In:] ESPON, Université Libre de Bruxelles: FOCI: Future Orientations for Cities, Luxembourg, Brussel, 221–525.
- Gourdon P., Bretagnolle A., Guérois M., Pavard A. 2019. Des petites villes davantage touchées par la décroissance? Comparaison des trajectoires démographiques à l'échelle européenne (1961–2011). *Belgeo*, 3. <https://doi.org/10.4000/belgeo.34876>
- Guérois M., Bretagnolle A., Pavard A., Gourdon P., Zdanowska N. 2019. Following the population of European urban areas in the last half century (1961–2011): the TRADEVE database. *Cybergeo: European Journal of Geography*, 891. <https://doi.org/10.4000/cybergeo.32034>
- Guezgouz B. 2016. Croissance périurbaine et offre ferroviaire, quelles interactions? Application à des aires urbaines de l'Ouest français. PhD in Geography. Nantes University, Nantes.
- Haase A., Bernt M., Großmann K., Mykhnenko V., Rink D. 2013. Varieties of shrinkage in European cities. *European Urban and Regional Studies*, 23(1): 86–102. <https://doi.org/10.1177/0969776413481985>
- Haase A., Rink D., Grossmann K. 2017. Shrinking cities in post-socialist Europe: What can we learn from their analysis for theory building today? *Geografiska Annaler: Series B, Human Geography*, 98(4): 305–319. <https://doi.org/10.1111/geob.12106>
- Hall C.M., Williams A. 2000. Tourism and migration: New relationships between production and consumption. *Tourism Geographies*, 2(1): 5–27. <https://doi.org/10.1080/146166800363420>
- Hanell T., Neubauer J. 2005. Cities of the Baltic Sea Region. *Nordregio Report*, 1, Stockholm.
- Heffner K., Solga B. 2006. Small towns as local economic centres in rural areas. *Bulletin of Geography, Socio-Economic Series*, 6: 77–87.
- Hennig E., Soukup T., Orlitova E., Schwick C., Kienast F., Jaeger J.A.G. 2016. Urban sprawl in Europe. Joint EEA–FOEN report, 11/2016. Technical Report. Publications Office of the European Union, Luxembourg.
- Hilal M., Piguat V., Schmitt B. 1995. Communes rurales et petites villes dans la hiérarchie urbaine. *Économie et Statistiques*, 282: 21–36. <https://doi.org/10.3406/estat.1995.5949>
- Hollander J.B. 2018. A research agenda for shrinking cities. Edward Elgar, Cheltenham.
- Jousseume V. 1998. L'ombre d'une métropole: Les bourgs-centres de la Loire-Atlantique. Presses Universitaires de Rennes, Rennes.
- Jousseume V., Talandier M. 2016. Bourgs-centres et petites villes en France. *Territoire en mouvement. Revue de géographie et aménagement*, 32. <https://doi.org/10.4000/tem.3887>
- Juan L., Kunzmann K.R. (eds) 2013. Small and medium-sized cities: approaches to balanced development in Europe. *Urban Planning International (国际城市规划)*, 28(5): 1–44.
- Kamińska W., Mularczyk M. 2014. Demographic types of small cities in Poland. *Miscellanea Geographica: Regional Studies on Development*, 18(4): 24–33. <https://doi.org/10.2478/mgrsd-2014-0031>
- Kaufmann D., Wittwer S. 2019. Business centre or bedroom community? The development of employment in small and medium-sized towns. *Regional Studies*, 53(10): 1483–1493. <https://doi.org/10.1080/00343404.2019.1585529>

- Kaufmann V., Sager F., Ferrari Y., Joye D. 2003. *Coordonner transport et urbanisme*. Presses polytechniques et universitaires romandes, Lausanne.
- Konecka-Szydłowska B., Matykowski R. 2018. Quelles trajectoires pour les petites villes polonaises dans leur système régional? Une approche par le concept de *résilience urbaine* (Trajektorie rozwoju małych miast regionalnego systemu osadniczego w ujęciu koncepcji *urban resilience*). Conference “Quelles centralités hors des métropoles? La trajectoire des petites villes européennes comme enjeu d’équité territoriale”, Lamballe (France), 22–23 March.
- Konecka-Szydłowska B., Zuzanska-Żyśko E., Szmytkie R. 2010. Role of services in the economies of small towns of Silesia region and wielkopolskie voivodship. *Bulletin of Geography. Socio-Economic Series*, 14(14): 51–61. <https://doi.org/10.2478/v10089-010-0014-1>
- Korobar J., Vlatko V., Stefanovska J. 2012. Causes, consequences and challenges of shrinkage: The case of small cities in a transition society. *Built Environment*, 38(2): 244–258.
- Krugman P. 2017. The gambler’s ruin of small cities (Wonkish). *The New York Times*, 30.12.2017 (<https://www.nytimes.com/2017/12/30/opinion/the-gamblers-ruin-of-small-cities-wonkish.html>).
- Kühn M. 2015. Small towns in peripheral regions of Germany. *Annales Universitatis Paedagogicae Cracoviensis, Studia Geographica*, 8: 29–38.
- Kwiatkiewicz S. 2015. Population changes as litmus paper of the socio-economic development level of small towns in Poland. *Annales Universitatis Paedagogicae Cracoviensis, Studia Geographica*, 8: 39–53.
- Lacour C., Puissant S. (eds) 1999. *La métropolisation: croissance, disparité, fractures*. Anthropos-Economica, Paris.
- Lechat A. 2019. *L’articulation entre transport ferroviaire et politiques d’aménagement sur la ligne Nantes-Châteaubriant*. Master Essay in Geography and Planning. Rennes 2 University, Rennes.
- Levratto N. (ed.) 2016. *Analyse du lien entre les métropoles et les territoires avoisinants*. Report to CGET. Nanterre (https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/2017-01-23-rapport_complet-metropoles-final.pdf; accessed: 19.03.2020).
- Leysens T. 2011. *Reconfiguration des réseaux de transport et nouveau urbain*. L’enjeu d’un urbanisme orienté vers le rail. PhD in Geography and Planning, Lille 1 University, Villeneuve d’Ascq.
- L’Hostis A. (ed.) 2009. *Concevoir la ville à partir des gares*. Deufrako Bahn-Ville Project final report. Predit, Paris.
- Malý J. 2016. Small towns in the context of “borrowed size” and “agglomeration shadow” debates: the case of the South Moravian region (Czech Republic). *European Countryside*, 8(4): 333–350. <https://doi.org/10.1515/euco-2016-0024>
- Margetic C., Bermond M., Jousseume V., Marie M. (eds) 2014. *Atlas des campagnes de l’Ouest*. Presses Universitaires de Rennes, Rennes.
- Maulat J. 2014. *Coordonner urbanisme et transport ferroviaire régional: le modèle à l’épreuve des pratiques*. Etude croisée des métropoles de Toulouse et Nantes. PhD in Architecture and Planning. Paris 1 Panthéon Sorbonne University, Paris.
- Maulat J. 2016. *Le rôle de la planification territoriale dans la coordination des politiques d’urbanisme et de transport ferroviaire régional à l’échelle métropolitaine. L’exemple toulousain*. *Riurba, Revue internationale d’urbanisme* (<http://www.riurba.review/Revue/le-role-de-la-planification-territoriale-dans-la-coordination-des-politiques-durbanisme-et-de-transport-ferroviaire-region-al-a-lechelle-metropolitaine-lexemple-toulousain/>).
- Maulat J., Krauss A. 2014. Using *contrats d’axe* to coordinate regional rail transport, stations and urban development: from concept to practice. *Town Planning Review*, 85(2): 287–311. <https://doi.org/10.3828/tpr.2014.18>
- Mayfield L., Courtney P., Tranter R., Jones P. et al. (eds) 2005. *The role of small and medium-sized towns in rural development*. Final Report, Marketowns Project. University of Reading. (<http://eprints.glos.ac.uk/2636/>).
- Meijers E., Burger M.J., Hoogerbrugge M. 2016. Borrowing size in networks of cities: city size, network connectivity and metropolitan functions in Europe. *Papers in Regional Science*, 95(1): 181–198. <https://doi.org/10.1111/pirs.12181>
- Meili R., Mayer H. 2017. Small and medium-sized towns in Switzerland: economic heterogeneity, socioeconomic performance and linkages. *Erdkunde*, 71(4): 313–332. <https://doi.org/10.3112/erdkunde.2017.04.04>

- Montès C. 2012. Les petites villes en Amérique du Nord. *Bulletin de l'Association de géographes français*, 89(4): 571–583. <https://doi.org/10.3406/bagf.2012.8296>
- OECD 2018. *Rethinking Urban Sprawl. Moving Towards Sustainable Cities*. Paris. <https://doi.org/10.1787/9789264189881-en>
- ÖIR (Österreichisches Institut für Raumplanung) (ed.) 2006. *The role of small and medium-sized towns (SMESTO)*. ESPON Final Report. Vienna (https://fr-1.4.1_revised-full.pdf).
- Oueslati W., Albanides S., Garrod G. 2015. Determinants of urban sprawl in European cities. *Urban Studies*, 52(9): 1594–1614.
- Pallagst K. et al. (eds) 2009. *The Future of Shrinking Cities: Problems, Patterns and Strategies of Urban Transformation in a Global Context*. IURD Monograph Series, Berkeley.
- Paulus F. 2004. *Coévolution dans les systèmes de villes: croissance et spécialisation des aires urbaines françaises de 1950 à 2000*. PhD in Geography, Paris 1 Panthéon Sorbonne University, Paris.
- Pflieger G., Kaufmann V., Jemelin C., Pattaroni L. 2007. Entre reproduction, innovation et contingence: infléchir une trajectoire urbaine. L'exemple des politiques locales de transports et d'urbanisme. *Revue Suisse de Sociologie*, 33(3): 369–386.
- Porsche L., Milbert 2018. *Kleinstädte in Deutschland. Ein Überblick*. Informationen zur Raumentwicklung, 6: 4–21.
- Porsche L., Steinführer A., Beetz S., Dehne P., Fina S., Großmann K., Sondermann M. 2019. *Kleinstadtforschung. Positionspapier aus der ARL*, 113. ARL, Hanover (<https://nbn-resolving.org/urn:nbn:de:0168-ssoar-64366-8>).
- Powe N.A., Hart T. 2008. Market towns: Understanding and maintaining functionality. *Town Planning Review*, 79(4): 347–370. <https://doi.org/10.3828, tpr.79.4.2>
- Powe N.A., Hart T., Shaw T. 2007. *Market Towns: Roles, Challenges and Prospects*. Routledge, London.
- Pumain D. 2014. *City system*. Hypergeo (<http://www.hypergeo.eu/spip.php?article676#>).
- Raimbault J. 2020. Indirect evidence of network effects in a system of cities. *Environment and Planning B: Urban Analytics and City Science*, 47(1): 138–155. <https://doi.org/10.1177/2399808318774335>
- Roques J.-L. 2009. *La fin des petites villes. Une modernité envahissante*. L'Harmattan, Paris.
- Rozenblat C. 2004. *Tissus de villes. Réseaux et systèmes urbains en Europe*. Hab. Dissertation. Montpellier III University, Montpellier.
- Servillo L. (ed.) 2014. *TOWN: Small and medium sized towns in their functional territorial context*. ESPON applied research 2013, 1, 23 final report, Luxembourg & Leuven.
- Servillo L., Atkinson R., Hamdouch A. 2017. Small and medium sized towns in Europe: Conceptual, methodological and policy issues. *Tijdschrift voor Economische en Sociale Geografie*, 108(4): 365–379. <https://doi.org/10.1111/tesg.12252>
- Servillo L., Russo A.P. 2017. Spatial trends of towns in Europe: The performance of regions with low degree of urbanization. *Tijdschrift voor Economische en Sociale Geografie*, 108(4): 403–423. <https://doi.org/10.1111/tesg.12250>
- Simeonova V., Milkova K. 2020. “Shrinking cities” in Bulgaria: An attempt for defining the models of “urban shrinkage”. [In:] S. Nedkov, N. Ilieva, M. Nikolova, B. Koulov, K. Naydenov, S. Dimitrov (eds), *Smart geography. Key challenges in geography*. Springer, Basel, p. 143–153.
- Slavík V. 2002. Small towns of the Slovak Republic within the transformation stage. *Acta Facultatis Studiorum Humanitatis et Naturae Universitatis Prešovensis, Folia Geographica*, 5(1): 146–154.
- Smas L., Grunfelder J., Penje O. 2018. Nordic geographies of urbanization. [In:] J. Grunfelder, L. Rispling, G. Norlen (eds), *State of the Nordic Region 2018. Theme 1: Demography*. Copenhagen, p. 36–46 (<https://norden.diva-portal.org/smash/get/diva2:1180256/FULLTEXT01.pdf>).
- Smith I. 2017. Demographic change in European towns 2001–11: A cross-national multi-level analysis. *Tijdschrift voor Economische en Sociale Geografie*, 108(4). <https://doi.org/10.1111/tesg.12255>
- Steinführer A. 2015. Von „Landflucht“ und „sterbenden Städten“. Diskurse über räumliche Schrumpfung in Vergangenheit und Gegenwart. *Geographische Rundschau*, 9: 4–10.
- Steinführer A., Vaishar A., Zapletalová J. 2016. The small town in rural areas as an underresearched type of settlement. *European Countryside*, 8(4): 322–332. <https://doi.org/10.1515/euco-2016-0023>

- Swiaczny F. 2015. Auswirkungen des demographischen Wandels auf die regionale Bevölkerungsdynamik in Deutschland. *Raumforschung und Raumordnung*, 73(6): 407–421. <https://doi.org/10.1007/s13147-015-0370-7>
- Syssner J. 2020. *Pathways to demographic adaptation. Perspectives on policy and planning in depopulating areas in Northern Europe*. Springer, Basel.
- Talandier M., Jousseume V. 2013. Les équipements du quotidien en France: un facteur d'attractivité résidentielle et de développement pour les territoires? *Norois*, 226. <https://doi.org/10.4000/norois.4525>
- Taulelle F. 2010. La France des villes petites et moyennes. [In:] L. Cailly, M. Vanier (eds), *La France, une géographie urbaine*. Armand Colin, Paris, p. 149–168.
- Twardzik M., Heffner K. 2019. Small towns and rural areas – as a prospective place of modern retail trade formats in Poland. *European Countryside*, 11(1): 74–84. <https://doi.org/10.2478/euco-2019-0005>
- Volgmann K., Rusche K. 2020. The geography of borrowing size: Exploring spatial distributions for German urban regions. *Tijdschrift voor Economische en Sociale Geografie*, 111(1): 60–79. <https://doi.org/10.1111/tesg.12362>
- Vye D. 2011. « La Ruée vers l'Ouest? ». Une analyse de l'attraction résidentielle du littoral atlantique à partir du recensement. *Espace Populations Sociétés*, 2011/3. <https://doi.org/10.4000/eps.4753>
- Wirth P., Elis V., Müller B., Yamamoto K. 2016. Peripheralisation of small towns in Germany and Japan – Dealing with economic decline and population loss. *Journal of Rural Studies*, 47: 62–75. <https://doi.org/10.1016/j.jrurstud.2016.07.021>
- Wolff M. 2018. *Uneven urban dynamics: The role of urban shrinkage and regrowth in Europe*. Dissertation in Planning. Technische Universität Dortmund, Dortmund. <https://doi.org/10.17877/DE290R-19066>
- Wolff M., Wiechmann T. 2017. Urban growth and decline: Europe's shrinking cities in a comparative perspective 1990–2010. *European Urban and Regional Studies*, 25(3): 122–139. <https://doi.org/10.1177/0969776417694680>

Wyjaśnianie dynamiki małych miast w zachodniej Francji poprzez testowanie trzech możliwych czynników

Zarys treści: W literaturze międzynarodowej małe miasta są często przedstawiane jako słabe ogniwo w systemie miejskim ze względu na niższą stopę wzrostu i groźbę kurczenia się w kontekście metropolizacji. Jednak ich dynamika zaludnienia jest bardzo zróżnicowana w zależności od miejsca, o czym decyduje szereg czynników, takich jak krajowe i regionalne trendy demograficzne czy lokalna baza ekonomiczna.

W artykule zaproponowano regionalne studium przypadku dotyczące zachodniej Francji, badające zmiany demograficzne w latach 1990–2015. Badane są trzy możliwe czynniki oparte na podstawowych założeniach: 1. bliskość większych miast jako potencjalny czynnik rewitalizacji z powodu rozrastania się miast; 2. bliskość wybrzeża przypisywana rosnącej roli atrakcyjności mieszkaniowej; 3. odległość do dworca kolejowego jako potencjalny czynnik, wzmocniony przez niedawne polepszenie usług kolei pasażerskiej.

Wyniki są niezgodne z intuicją, a założenia tylko częściowo potwierdzone, co skłania do ponownej oceny trafności analizy dynamiki miejskiej według klas wielkości.

Słowa kluczowe: małe miasta, zachodnia Francja, dynamika populacji, czynniki wzrostu, usługi kolejowe, wybrzeże, obszary metropolitalne