



WHAT DOES GEOGRAPHY TEACH US ABOUT THE FUTURE OF BELGIUM'S INSTITUTIONS?

Contributions by
Jacques-François Thisse and Isabelle Thomas
Patrick Deboosere
Paul C. Cheshire
Bea Cantillon, Seppe De Blust and Aaron Van den Heede

The Re-Bel initiative aims to rethink in depth, in an open, rigorous, non-partisan way, what the institutions of the Belgian federal state - or of whatever else this part of the world needs to become - can and must look like in the longer term, taking full account of the evolving European context.

The Re-Bel initiative does not aim to produce one programme or manifesto to which everyone involved could subscribe. Its ambition is rather to provide a fertile intellectual environment in which new ideas and promising initiatives of all sorts can germinate and develop, with a concern for their relevance to a thorough reform of Belgium's institutions, but also to the institutional design of other complex polities, most obviously the European Union.

The Re-Bel initiative involves scholars from all Belgian universities, runs a web site, publishes e-books and organizes workshops and public events. It intends to associate to its activities both foreign colleagues and the Brussels-based international community. The working language will usually be English.

The Re-Bel initiative is supported by the University Foundation, which will host all its activities. The University Foundation was founded in Brussels in 1920 at the initiative of Herbert Hoover and Emile Francqui. One of its missions, also central in the Re-Bel initiative, is to foster fruitful contacts and collaboration between academics of all Belgian universities.

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Re-Bel initiative

www.rethinkingbelgium.eu

contact@rethinkingbelgium.eu

Coordination:

Paul De Grauwe

Philippe Van Parijs

In partnership with
the University Foundation

rue d'Egmontstraat 11, 1000 Brussels, Belgium

www.universityfoundation.be

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Foreword

By way of background for the whole of the Re-Bel initiative, its inaugural public event started off by asking two questions: What does history teach us about the future of Belgium's institutions? What does geography teach us about the future of Belgium's institutions? Answers to the former questions were collected in Re-Bel e-book n°6, edited by Bruno De Wever. Answers to the latter are collected in the present one.

One lesson that quickly emerged was that thinking about the shaping of Belgium's institutions from a geographical standpoint forced us — not very surprisingly — to focus straight away on the "Brussels problem". When looking at the very instructive maps our colleagues made us discover, it does not take long to be struck by the strength of economic and demographic interdependencies between the Brussels Region and the other two nor to understand, under our colleagues' expert guidance, the nature of the specific issues that arise unavoidably when administrative and political borders divide a metropolitan area into three distinct pieces.

The first two components of this e-book consist of written versions of presentations made at Re-Bel's inaugural event: one by economist **Jacques-François Thisse** and geographer **Isabelle Thomas** from the Université catholique de Louvain, the other one by demographer **Patrick Deboosere** from the Vrije Universiteit Brussel. After the event, economic geographer **Paul C. Cheshire** from the London School of Economics was invited to provide an outsider's perspective on the "Brussels problem".

One unexpected and particularly fruitful effect of this part of the inaugural event was that it persuaded many of us of how illuminating the cartographic representation of statistical data can be. This led our colleague **Bea Cantillon**, director of Antwerp University's Centre for Social Policy, to work, with her team, on a "cartography of Belgium's social security", which offers some unprecedented insights into the spatial structure of both social needs and the implementation of social policies. We are pleased to include a first product of this path-breaking approach.

Paul De Grauwe
Philippe Van Parijs
Coordinators of the Re-Bel initiative

Brussels within the Belgian Economy: a geo-economic approach

Jacques-François Thisse and Isabelle Thomas (UCLouvain)

Introduction

Economic activities are not concentrated on the head of a pin, nor are they spread evenly over a featureless plane. On the contrary, they have been, still are, distributed unevenly across regions and countries as well as within cities. This has a major implication for the geographical organization of economic activities: some places do better than others. Having this in mind, our purpose is here to highlight the relationship between the urban structure of Belgium and the economic performance of its different areas, with a special emphasis on the role played by Brussels and its catchment area. This will lead to various observations that the public at large and even political circles are not always aware of. To reach our goal, we use two different but complementary disciplines, namely urban economics and economic geography. We want to stress from the outset that our analysis will necessarily be partial and, hence, incomplete. However, it is our contention that the bird-eyed overview proposed here is both relevant and meaningful.

Before tackling our subject matter, let us recall that towns and cities, especially the largest ones, have been, and remain, major players in the economic and social life (see, e.g. Bairoch, 1988; Hohenberg and Lees, 1985). Nowadays, the concentration of human capital and the high-added value of the activities performed in large cities is a marked feature of developed and emerging economies. The fact that proximity still matters in business may strike the reader as odd or surprising at the age of Internet, but is entirely commonplace to urban economists, economic geographers and some others. Somewhat paradoxically, this is largely due to the low transport and communication costs that prevail today. Although they allow for the location of standardized activities in remote, low-wage countries, big cities remain very attractive to those activities where access to information and technology is of prime importance. Firms operating in industries that undergo rapid technological changes must be able to react fast to market signals and to design specialized and sophisticated products, especially when competition intensifies. All of this increases the need for proximity, which involves firms' strategic divisions, such as management, marketing, finance, and R&D, as well as business-to-business services (advertising, legal and accounting services) and divisions of high-tech industries. Urban metropolises typically attract such activities, consisting both of skilled workers and firms producing high-value added goods and services.

At first sight, Belgium does not seem to have cities large enough to be affected by those long-run trends. And yet, Brussels, hosting the main European Union institutions and several other international bodies such as NATO, enjoys a much higher ranking in the European urban hierarchy than it could claim by virtue of its population size. This suggests, therefore, that the Belgian economy and its spatial structure are affected by those on-going urban developments.

Through a series of maps, the first section of this paper provides a simple but suggestive overview of the urban structure of the Belgian economy. By showing a picture of the Belgian economic space different from the standard north-south cliché, our observations will come as a surprise to some

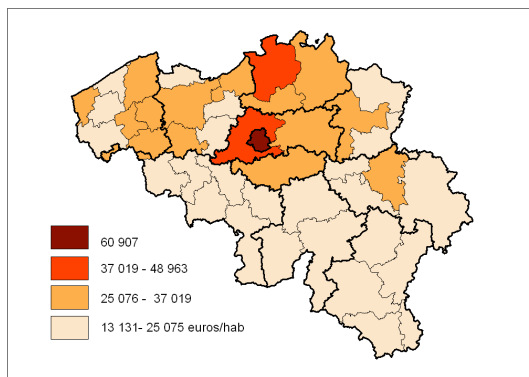
readers. Both in demographic and economic terms, Belgium looks very much like a monocentric economy, with secondary centres of various sizes. This spatial structure is not a historical accident; rather it obeys economic forces that are found in most developed countries. The second section briefly sets out the main results of urban economics that explain the spatial organization of the Belgian economy. We conclude with a short discussion of the main implications of our approach for the future of Belgium.

1. The spatial organisation of the Belgian economy

The Gross Domestic Product (GDP) of an area measures its level of production, as determined by the volume of its ongoing activities. In 2005, 19.0% of the GDP of Belgium was produced in Brussels-19 (B-19), 25.6% in Brussels-Halle-Vilvoorde (BHV), and 32.8% in the former province of Brabant. However, the GDP of an area is strongly correlated with its population size. This is why the GDP per capita appears to be a better measure of the productive efficiency of a given area. Figure 1 shows the spatial distribution of GDP per capita by districts (“arrondissement”) in 2007 just before the crisis: B-19 is the leading district just before those of Antwerpen and Halle-Vilvoorde.

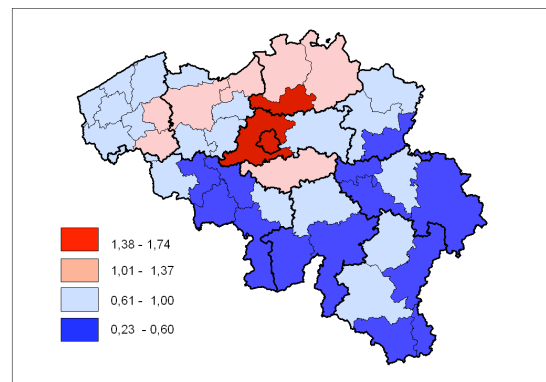
Figure 2 shows how the accumulated value added per capita from 1995 to 2007 has been distributed across districts. A value 1 means that the GDP per capita of a district has grown at the same rate as the GDP per capita in Belgium. The districts coloured in red undergo high growth rates (> 1), whereas those coloured in blue have low growth rates (< 1). This map reveals a fairly similar spatial structure as Figure 1 since the top-3 includes Brussels, Halle-Vilvoorde and Mechelen. This last district benefits from being located between the two major Belgian cities, to which it is especially well connected. Figure 2 also confirms that several Walloon districts have not succeeded yet to get rid of the legacy of their old, negative clusters. Note, however, that the Brabant Wallon does as well as Antwerpen and better than Leuven.

Figure 1: GDP per capita in 2007 (by districts).



Data Source : National Bank or Belgium's website

Figure 2: Evolution of GDP per capita from 1995 to 2007.



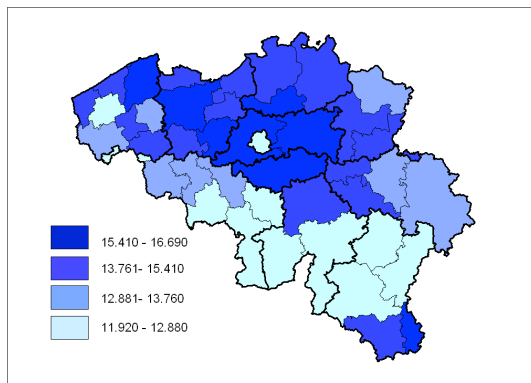
Data Source : National Bank or Belgium's website

The GDP per capita loses its relevance as a measure of individual welfare when a substantial share of workers does not live within the area itself. This is precisely what is going-on in B-19. According to the 2001 Census, the B-19 labour force involves 494,310 workers with 40.2% of them living therein, which means that 60% live outside B-19, 196,663 coming from Flanders and 98,779 from Wallonia. In this case, the Gross Regional Product (GRP), which measures the share of the

national GDP accruing to the residents, provides a useful complement. In B-19, the contrast between the GDP and the GRP is startling. In 2003, 19.2% of the GDP of Belgium was produced in B-19, but the production attributable to residents of Brussels (GRP) was only 11.53% - and 11.37% in 2006 (personal communication from Michel Mignolet). Although this low percentage seems to be the sign of a mediocre economic performance, it is worth stressing that the share of the GDP produced by the residents of B-19 exceeds the share of its population in the total number of workers having a job in the city-capital. To sum-up, B-19 contributes disproportionately to the overall wealth of Belgium, with a substantial share of that wealth not being returned to its inhabitants.

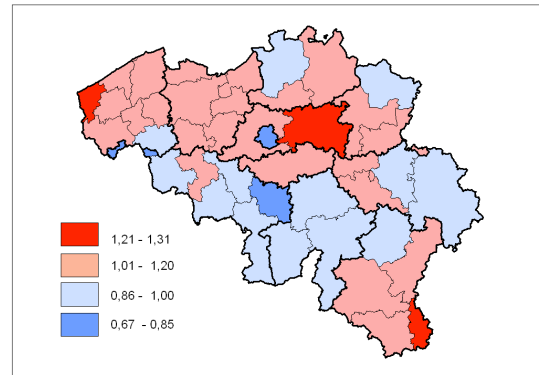
In order to gain some further insights about the spatial distribution of individual welfare, we use in Figures 3 and 4 the households' gross income provided by the fiscal administration. Not surprisingly, the three neighbouring districts of B-19 do extremely well because a large share of high-income commuters lives therein. In contrast, the average income in B-19 is quite low since it belongs to the group of the bottom districts. This is confirmed by its very poor relative growth: B-19 belongs to the bottom-3. Thus, it seems very likely that the poor socio-economic situation of B-19 has been degrading for quite a few years. Note also the high level and relative growth of income per inhabitant in southern Belgium despite a low GDP per capita. This is explained by the large numbers of commuters between Luxembourg and the southern districts where housing costs are much lower than in the Grand Duchy.

Figure 3: Income per capita in 2007 (by districts).



Data Source : Statbel/INS

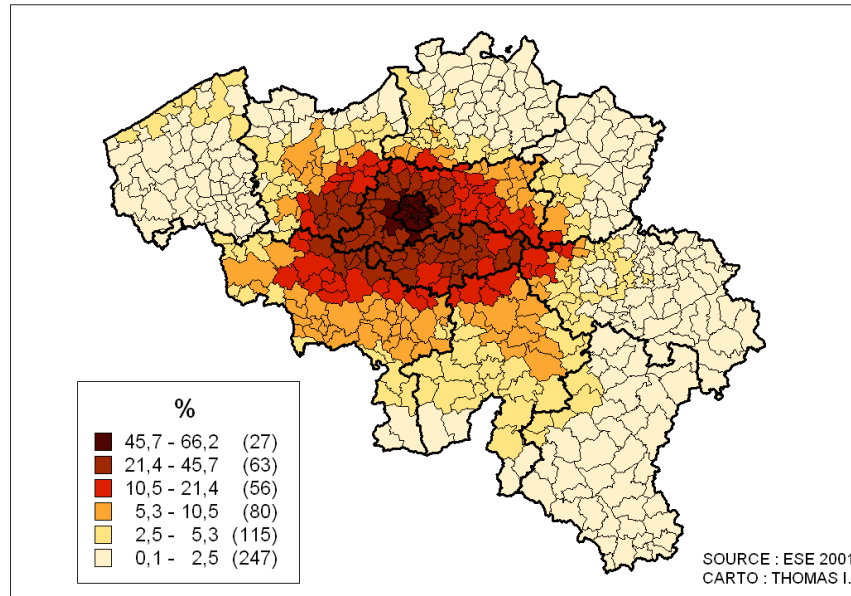
Figure 4 : Evolution of income per capita from 1995 to 2007



Data Source : Statbel/INS

The commuting structure between residence and workplace is a widespread and resilient phenomenon. It is one of the key-criterion that allows one to map the hinterland of an area (Dujardin, Thomas and Tulkens, 2007; Luyten and Van Hecke, 2007). Figure 5 depicts the commuting hinterland of B-19.

Figure 5: Percentage of commuters working in one of the 19 communes of the Brussels Capital Region (B-19) (by municipalities)



In order to have a broader idea of the role played by Brussels, we must also figure out how attractive the neighbouring districts are. Table 1 gives the number of workers living in the four Flemish provinces (without Vlaams Brabant) and the four Walloon provinces (without Brabant Wallon) and working in one of the districts of the former province of Brabant: B-19, BH, Nivelles, and Leuven (note that BHV + Nivelles form the Brussels Metropolitan Region proposed by BAK Basel Economics). This table shows that not only B-19, but the neighbouring districts too, attract a substantial number of workers from the other Belgian provinces. Thus, whatever the definition used to define the metropolitan area of Brussels, we can safely conclude that the economic hinterland of Brussels covers an area that expands well beyond B-19. Note also that, in 2001, there were 2,506,516 workers residing in Flanders and 1,2066,82 in Wallonia. Therefore, the shares of Flemish and Walloon workers holding a job in B-19 are very similar (7.8% and 8.2%, respectively).

Table 1: Commuting flows

Job/Residence	B-19	Brabant - B-19	Flanders*	Wallonia*	Sum
B-19	198868	151781	84966	58695	494310
Halle-Vilvoorde	18099	103369	35499	6897	163864
Nivelles	6796	52438	1662	23866	81438
Leuven	1444	95325	20181	1187	118137

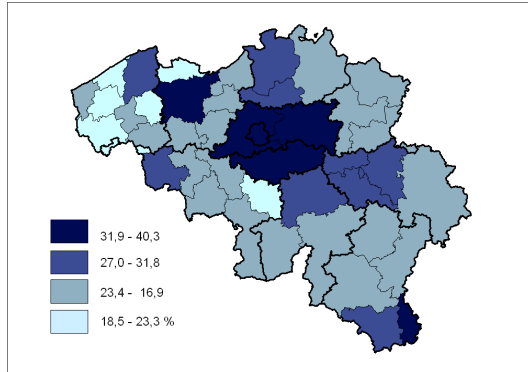
(*Without the former Province of Brabant)

It is well documented that skilled workers tend to agglomerate within a few clusters, typically large cities. To be more specific, spatial income disparities are, to a large extent, explained by the location of human capital.¹ To the best of our knowledge, there is no in-depth study of the spatial distribution of human capital in Belgium. Figures 6 and 7 are built from census data: the former depicts the geographical distribution of workers having a higher education degree in 2001, while the latter gives the relative evolution between 1981 and 2001 (districts that evolve faster than the

¹ See Duranton and Monastiriotis (2002) for the UK, and Combes, Duranton and Gobillon (2008) for France.

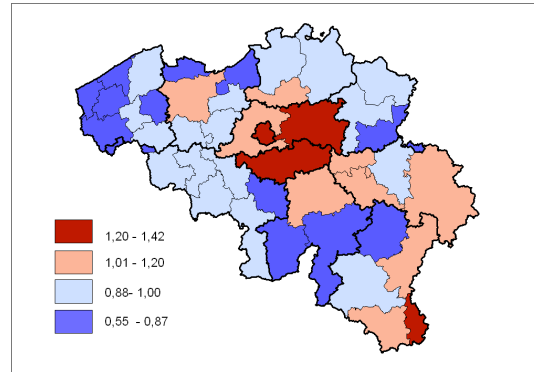
national evolution are coloured in red). Both maps confirm that the former province of Brabant attracts a very large share of high-skilled workers. Admittedly, this is partially driven by the presence of several large universities located therein. However, one should remember that we face here an egg-and-chicken problem: high-skilled workers are attracted by places where they can find suitable jobs, while firms locate their high added-value divisions where such workers are available. In other words, the causality is both reciprocal and cumulative. Going into further details is beyond the scope of this paper.²

Figure 6: Percentage 18-64 Population with Higher Education in 2001 (by districts)



Data Source : ESE2001 and 1981 Census

Figure 7: Percentage 18-64 Population with Higher Education: Relative Evolution 1981-2001



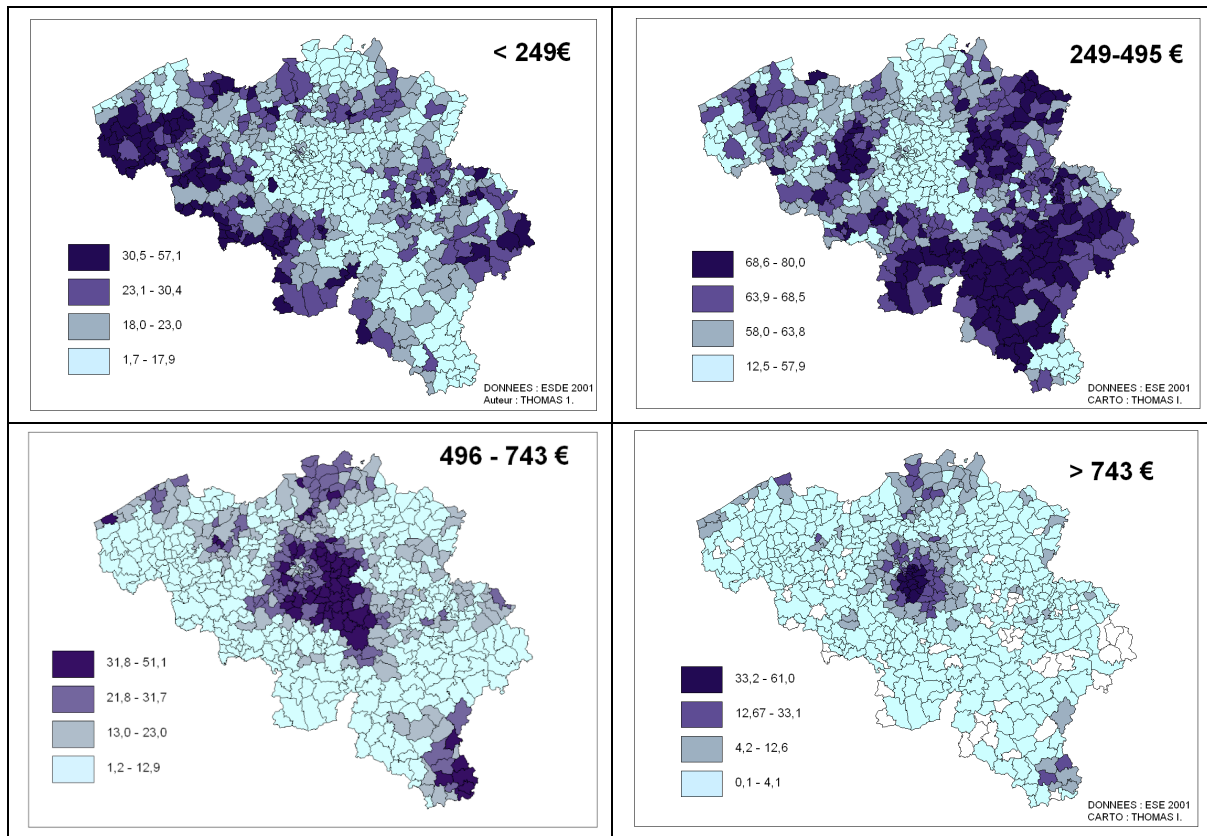
Data Source : ESE2001 and 1981 Census

Last, it is worth looking at the structure of housing prices. It is a well-documented fact that attractive areas are characterized by high rents because competition for land use and housing is tougher. The four maps of Figure 8 shows the spatial structure of housing rents from the lowest (< 249€) to the highest (> 743€) rent. The picture slightly differs from what we have seen so far as it reveals the attractiveness of the south-eastern part of Brussels, which extends up to Namur.³

² See Brakman, Garretsen and van Marrewijk (2009) for a more detailed analysis.

³ A more detailed analysis may be found in Goffette-Nagot, Reginster and Thomas (2010).

Figure 8: Percentage of housing according to their rent in 2001 (by municipalities)



Data Source: ESE2001 and Thomas and Vanneste, 2007

The upshot of all of this for the spatial organization of the Belgian economy is clear: Brussels and its periphery is, to a large extent, the main economic pole of Belgium. This claim seems to clash with the existence of a high unemployment in B-19. There is no contradiction anymore once it is recognized that the definition of the limits of Greater Brussels strongly affects this statistics. In 2006, the participation rate is 48.8 in B-19 but reaches 56.0% within the area formed by BHV and the Brabant Wallon, and 58% for the former province of Brabant. Again, this agrees with the fact that half of the workers operating in B-19 do not live therein.

In what follows, we provide the main theoretical insights that may be used to understand the spatial organization of the Belgian economy and the role played by Greater Brussels. Our hope is to convince the reader that the observations collected in the foregoing agree with spatial patterns prevailing in many countries, which can be given sound and meaningful explanations.

2. Is Brussels an exception?

The increasing availability of high-speed transportation infrastructure and the fast-growing development of new informational technologies might suggest that our economies have entered an age that would culminate in the "death of distance." Things are not that simple, however. Modern economies, whether in Europe, the U.S. or Japan, are increasingly organised around (very) large cities, and this is also the spatial development model that China has adopted. Many reasons explain why this pattern has emerged. Technological progress brings about new types of activities

that greatly benefit from being agglomerated. The wealth of cities and regions seems to be more and more related to the existence of innovative and competitive clusters, which often show a taste for cities, as well as to the presence of metropolitan areas that provide a wide range of goods and skills, while facilitating the circulation of ideas and information. For example, in 2000, the 38 largest metropolises in the European Union covered less than 1% of its territory but accounted for 27% of jobs and generated 29.5% of its gross domestic product (OECD, 2006).

In what follows, we briefly present the main ideas that have been recently developed in urban economics and economic geography. They help provide a sound theoretical background to the descriptive analysis of Section 1. It is worth stressing here that the cities' features discussed below are well documented from the empirical point of view. For example, a doubling of employment density increases productivity by between 3 and 8 percent for different types of cities. Within the limits of this e-book, we cannot provide a detailed survey of what has been accomplished in the fast-growing field.⁴ Despite the conciseness of our overview, we hope to provide enough insights to explain the general pattern uncovered by the cartographic analysis of Section 1.

The supply of jobs, goods and services

Firms located in big cities have a good and direct access to a large pool of skilled workers, whom they need for their most strategic activities. In parallel, skilled workers find more and better job opportunities in large cities, which allow them to use their knowledge and training. Eventually, this leads to a better matching between jobs and workers on specialized and fragmented local labour markets. This in turn promotes higher investments in human capital because workers may expect higher and/or faster returns. Several recent studies have highlighted the correlation between city size, workers' skills and wages, as well as firms' productivity.⁵ Figure 5 shows how important the search for a good match and a high income is important to a large number of Flemish and Walloon workers. In addition, Figure 7 confirms the idea that human capital is increasingly attracted by Greater Brussels.

Large cities also provide a wide range of specialized intermediate goods and services, which allow for a higher productivity of firms. This is all the more important as firms are now able to break their value chain by relying on outside suppliers to perform some activities. The outsourcing strategy has occurred primarily because firms want to focus on their core competencies due to the increasingly competitive environment in which they operate. In other words, the vertical disintegration of firms makes the proximity of suppliers an increasingly important location factor (Ellison, Glaeser and Kerr, 2010). Again, this may come as a surprise since shipping goods has never been so cheap. This argument disregards an important fact: a growing number of inputs get more and more sophisticated and even specific to the customers, thus requiring frequent contacts between the supplier and the customer.⁶ In sum, the division of labour is finer in large and dense urban environments.

The broader range of opportunities faced by consumers is another facet of the same process. While the steadily decline in transport costs and the progressive dismantling of tariff barriers has vastly improved the access to foreign goods, the concomitant increase in competition has encouraged firms to restore their profit margins by supplying new and more differentiated products and services. This allows households living in large cities to enjoy a wider range of goods and services,

⁴ See Polèse (2009) for a rigorous but free-jargon overview of the literature. A more detailed and analytical presentation of the literature can be found in Brakman, Garretsen and van Marrewijk (2009). Rosenthal and Strange (2004) provide ample evidence of the impact and magnitude of agglomeration economies, while Puga (2010) surveys the most recent empirical contributions.

⁵ See Brakman, Garretsen and van Marrewijk (2009) for more details.

⁶ To illustrate our point, it is worth mentioning a business survey conducted by the INSEE (France) in the Région Nord-Pas de Calais about firms' most-preferred environment. It shows that the presence of local suppliers is the characteristic that firms rank first (Benard, Jayet and Rajaonarison, 1999). What makes this example especially interesting are the similarities Wallonia and the Nord-Pas de Calais.

which improves their standards of living. This effect becomes more pronounced once it is recognized that the hierarchy of public services is often the mirror image of the urban hierarchy. In other words, big cities allow for a better match, not only between jobs and workers, but also between products and consumers' needs.

To sum up, large cities can rely on broader ranges of business-to-consumer (b2c) and business-to-business (b2b) services to attract high-tech and specialized suppliers as well as skilled workers who are themselves looking for high-quality services, which are typically available in large cities. Likewise, firms producing consumer services, which are often less mobile than goods, are also incited to set up in big cities because they find a wider market there. In a nutshell, a large city may be viewed as a magnet attracting various types of firms, workers and households.

Spatial externalities

As mentioned above, the spectacular fall in transport and communication costs has led many observers to predict the decline, or at best the stagnation, of cities - some had done so just after the spreading of the telephone. However, large cities are still the preferred location of service activities for which the circulation of information and the emergence of new ideas remain critical (Jacobs, 1969; Saxenian, 1994). To understand why it is so, we must keep in mind the distinction between tacit information and codified information. If information is to be transferred using modern communication devices, it must first be structured according to schemas and codes that are clearly defined and known to all. Once this has been accomplished, information can be distributed worldwide at no cost. In this case, the entire world does, at least in theory, have access to a mass of information that exceeds by far what used to be available in even the best university libraries.

In contrast, information that is difficult to codify can very often be transmitted only through face-to-face contacts. In particular, the preliminary stages in the development of a new technology or new product require repeated contacts among those involved and such contacts are still much easier under conditions of physical proximity. Even at the age of Internet, knowledge and information cross corridors and streets more easily than continents and oceans. In addition, such informal exchanges of information generate a number of externalities. When firms possess different types and pieces of information, pooling them, even in part, through informal communication may benefit everybody. Such communication externalities may be encountered in fields as diverse as management, research and development, administration, and finance. Their fast circulation is more important than earlier because firms' reactivity is crucial in a globalizing world in which competition gets harsher. Those benefits also increase with the number of players. Hence, large cities remain the favoured locations for information-consuming activities, especially when firms operate in a context of rapid technological change and intense competition (Van Puymbroeck and Reynard, 2010). To become concrete, communication externalities need a socio-economic environment permeated with skill and knowledge that large cities typically provide.⁷

In brief, the pool of workers and firms available in a big city blends with the information spillover effects to turn the city into a location-specific public good, which acts as a powerful production factor for the local firms. One should emphasise that this public good is rarely the outcome of public initiative alone. It is often the outcome of countless decisions made by private agents that local government and public bodies can encourage or discourage by their actions. When the social climate is bad and/or political governance inefficient, information exchange - if any - will at best consist of mitigating these different kinds of inefficiency. In this case, the city deters the dissemination of ideas and information useful to firms and workers. Quite the opposite: it generates

⁷ See Glaeser and Gottlieb (2009) for an overview of the evidence collected in the United States, and Boufaden and Plunket (2008) for a detailed analysis of a high-tech sector in the metropolitan area of Paris.

high transaction costs and time-consuming discussions that prevent it from facilitating the dissemination of information useful to economic agents and building the factors that strengthen the city's competitive advantage. It is, therefore, not surprising that the economic performances of seemingly similar cities are in fact very different.

The spatial organisation of firms and markets

Since the beginning of the Industrial Revolution, there has been a tendency to view firms and production plants as being the same objects. Bringing all firm's workers "under the same roof" corresponded to a level of technological and scientific development that is very different from ours. Today, a growing number of firms are footloose and choose to break down their production process into various stages spread across different places, together with a strong decline of the share of in-home production, Dell being probably the case best known to the general public. Specifically, the modern firm organizes and performs its activities in distinct locations, which altogether form the value chain starting at the conception of the product and ending at its delivery. Because transport and communication costs are very low, this spatial fragmentation of the value chain allows firms to take advantage of differences in technologies, factor endowments, or factor prices across places (Spulber, 2007). The most commonly observed pattern is such that firms relocate their production activities in low-wage regions or countries, while keeping their strategic divisions concentrated in a few urban regions where the high-skilled workers they need are available. To a large extent, this explains why manufacturing plants have left cities (Audi-Forest being one of the few exceptions) to set up in less densely populated areas where land prices are lower or in low-wage and lax-environment countries, whereas headquarters and research centres are still located in a few affluent cities.

At the urban scale, a similar phenomenon is observed: front-offices are located in the centre-city, while back-offices are moved to the urban periphery where land rents are much lower. Such locations also make workers' commuting shorter. As both transport and communication costs have tremendously decreased, the spatial extent of agglomeration economies has grown, which in turn facilitates the decentralization of some jobs and activities within expanding metropolitan areas (Glaeser and Kahn, 2004).

Simultaneously, firms have developed the policy of customising products to optimise economies of scope through the use of flexible manufacturing. In some instances, they can supply an enormous number of variants of the same basic product (up to 32,000 in some Japanese car factories). Such a sales policy, in conjunction with intense input-output relationships and just-in-time strategies, goes hand in hand with faster delivery to customers and more frequent calls on suppliers. Such changes in firms' management and in the functioning of markets necessitate a significant growth in logistic services (think of the growth of Brussels airport as a logistic centre). The costs of logistic services are lower within integrated production systems that can fit well into large urban areas.

Although the new communication technologies have undoubtedly had, and will have, a considerable impact on business life, one must not exaggerate their importance, as the invention of the telegraph and telephone had already drastically reduced the amount of time needed to transmit information. During the Renaissance, for example, it took an average of 15 to 16 days for a letter to travel between Avignon and Paris, 25 to 30 days between Florence and London, and 20 to 22 days between Florence and Paris. For example, it took 358 hours in 1650 to go from Paris to Marseille but only 38 hours in 1854 and only 3 hours in 2002. Therefore, the on-going changes observed in transport and communication costs are not as new as it is thought in the public at large.

Urban sprawl, a universal phenomenon

Where to draw the economic borders of a city is a tricky question to answer.⁸ However, whatever the definition, there is a remarkable consensus among economists and geographers to consider that the relevant economic unit is the metropolitan area, which is much broader than the centre-city. Households typically have a preference for large plots against small ones. Due to high land prices within the city and the increasing adoption of individual cars, which has given people far greater freedom of choice in where to live, consumers choose longer work-trips in order to benefit from larger housing in neighbouring areas where land prices are lower. In addition, very much as agglomeration economies, the spatial extent of social interactions has grown thanks to faster and more efficient transport and communication devices. This is the well-known phenomenon of “urban sprawl”, which characterizes most cities (Brueckner, 2000). Thus, the so-called “*tâche d’huile*” (“*oliveleak*”) associated with the geographical expansion of Brussels is definitely not an exception. Urban sprawl has even been described in very extreme forms: several years ago, the United States House of Representatives observed that American cities looked very much like Swiss gruyere, with more holes than cheese.

In Greater Brussels, unemployed and low-income people are predominantly located in the city-centre, whereas medium- and high-income consumers set up in the urban periphery where they also enjoy various natural amenities (Dujardin, Selod and Thomas, 2008; Willaert and De Boosere, 2005; Verhetsel et al., 2009). This pattern is very similar to the one displayed by U.S. cities, where the unemployment rate is much higher in the centre-city than in the suburbs. In contrast, quite a few European cities show the opposite pattern with the high-income people located by the centre-city, such as London, Paris, Barcelona or Milano. This difference in the social stratification of cities seems to be due to the fact that those European cities provide historical amenities that are appealing to high-income consumers (Brueckner, Thisse and Zenou, 1999). That Greater Brussels follows the same pattern as the U.S. cities might well be explained by the fact that a substantial part of the historical centre has been demolished and replaced by office buildings, especially in the 1960s and 1970s, a phenomenon that has been dubbed “Brusselization” by disapproving Europeans.

We find the same phenomenon of decentralisation as regards to jobs, although the general trend is not as pronounced as it is for housing.⁹ A growing number of firms choose to get rid of their city land holdings to move to neighbouring, less congested and cheaper areas, especially when they are big land-users, thereby benefiting from the conversion of their old sites into offices or apartments. These firms often regroup to form secondary business centres located at or close to the city outskirts. This location strategy allows them to keep benefiting from the above-mentioned agglomeration economies thanks to low communication costs, while being able to operate in cheaper and/or nicer and less polluted areas. The Brabant Wallon and the district of Leuven provide neat examples of such an evolution. However, relocations are often limited to some specific firms or activities.

Thus, cities tend to become polycentric. Although such an urban structure is typical of the largest cities (of several million of people), the same trend is at work almost everywhere (MacMillen and Smith, 2003). Even when they remain predominantly monocentric, cities expand beyond their historical and administrative boundaries to include their peripheries, where firms and households move and settle down. Therefore, the modern city must be seen in this broader context, otherwise the analysis will be distorted. More important, when workers have a low spatial mobility, the

⁸ The problems raised by the delineation of “Greater Brussels” are further discussed in the appendix.

⁹ See Riguelle, Thomas and Verhetsel (2007) for a detailed study of the spatial distribution of jobs in Greater Brussels as well as Aguilera (2003) for the case of Lyon.

economic performance of a metropolitan area is negatively affected by a strong difference between its political and economic boundaries. This is because workers do little arbitrage across places and lobby to get the best living standards where they reside (Cheshire and Magrini, 2009).

Concluding remarks

Tough still very preliminary, our analysis highlights a geographical distribution of production and income that differs from the standard North-South cliché: to a large extent, the Belgian economy exhibits a monocentric structure dominated by Brussels, as shown by the attractiveness and economic dynamism of the neighbouring districts of B-19. Thus, it seems fair to conclude that both Flanders and Wallonia greatly benefit from B-19 as well as from Greater Brussels (whatever its definition). This has a major implication for the Belgian economy as a whole since, as observed by Lucas (1988), the agglomeration forces discussed in Section 2 are often the sources of the increasing returns that lead to growth. Yet, this fact runs against general beliefs prevailing on both sides of the linguistic border. In this respect, it is worth citing here Cheshire and Gornostaeva (2002) for whom “Most Belgians have great difficulty with the idea that Brussels extends beyond the confines of its administrative boundaries which define the limits of the national bilingual zone and contains less than one million inhabitants.”

Having this in mind, it should be clear that a better governance of Greater Brussels (e.g. mobility, environment, fiscal policy, land use) would be beneficial to the whole country and its regions. In contrast, a deeper political fragmentation of the metropolitan area is likely to be detrimental to all. Free-riding on the centre-city is commonplace all over the world, and Brussels is not an exception. As noted by Bruce Katz of the Brookings Institution, “metro governance is almost uniformly characterized by fragmentation and balkanisation, by culture of competition rather than one of collaboration.” Therefore, finding a smart and cooperative strategy for boosting the economic growth of Greater Brussels is a “must” for the most globalised economy in the world.

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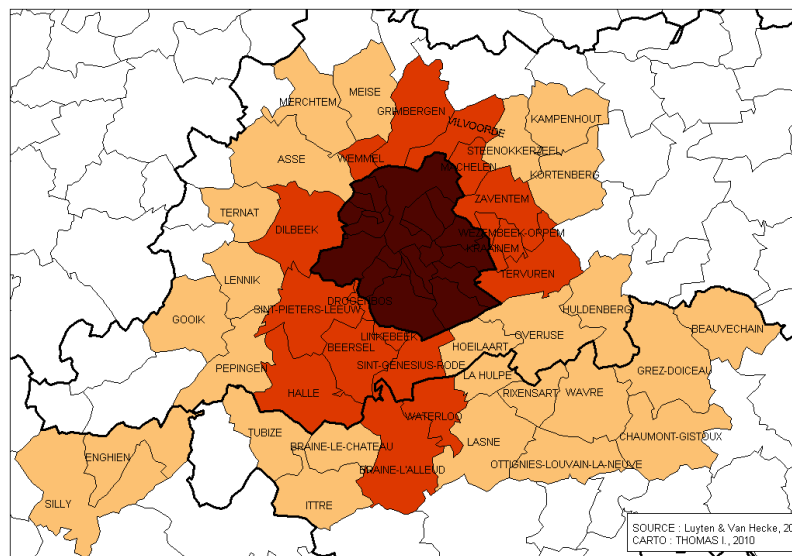
Appendix: What are the limits of Greater Brussels?

Defining the limits of an urban agglomeration is a well-known conceptual problem in geography (see, e.g. Le Gléau, Pumain and Saint-Julien, 1996; Cheshire and Gornostaeva, 2002). No consensus is reached about the methods to be used for defining the border of a city, simply because the objectives often differ: are the borders defined for transport planning, tax raising or electoral purposes? This has led geographers to put forward the need for a multi-criterion approach, which accounts for morphological as well as functional variables such as population and/or employment densities, commuting directions and their respective intensities.

The problem in defining the limits of Greater Brussels is, therefore, different from a geopolitical discussion about the political problem of enlarging B-19. For many years (see, e.g. Mols, 1969; Van der Haegen and Pattyn, 1979), scholars have agreed that Brussels is a radio-concentric city, which sprawls far beyond the limits of B-19. What makes the problem of Brussels so tricky is that Brussels sprawls into two different linguistic and political regions. As a result, the administrative limits of Brussels do not represent morphological borders, employment areas or socio-economic realities.

Van Hecke et al. (2007) have recently proposed to distinguish between what they call the “urban region” (also called hinterland, catchment area, tributary area) with 62 communes and the “urban agglomeration” with 36 communes (19 + 17). The 17 additional communes describe the suburbs of Brussels, while the other 26 (62 – 17 – 19) define its hinterland, which extends into the districts of Halle-Vilvoorde, Leuven and Nivelles (as well as Enghien and Silly). In Map A, B-19 in dark brown, the urban agglomeration in orange (B-19 + 17 other suburban communes) and the urban region in pale orange (total of 62 communes). It is worth noting that the spatial penetration of Brussels is stronger in Wallonia than in Flanders. This is due to the existence of other urban regions in Northern Belgium (Mechelen/Antwerpen, Leuven, and Aalst/Gent).

Map A: Definition of Greater Brussels



- Brown = Brussels Capital Region (also noted here B-19)
Brown + Orange = “Urban agglomeration”
Brown + Orange + Beige = “Urban region”

Brussels: a city, a region, a place to live

Patrick Deboosere (Vrije Universiteit Brussel)

Brussels is a small town compared to such megacities as Tokyo, Shanghai or Mexico city. Even in European terms, it is a relatively small urban area, much more important by virtue of international and European political functions than by the sheer size of its population. Brussels has many different capital functions. It is the capital of Belgium, the capital of Flanders, the capital of the French speaking community in Belgium and for the world, it is the capital of the European Union. But Brussels is first of all a place where people live and home to a population of 1,1 million residents.

Brussels is both a city and a region. The Brussels Region is composed of 19 municipalities and is often identified with the city of Brussels. The city is in fact only one of the 19 municipal administrations, located in the centre of the region. It is, both in terms of population and of surface, the biggest municipality, counting 160.000 residents and covering 32,6 square kilometres. Usually the term 'Brussels' is used to refer to the region as a whole.

The Brussels region is the smallest of the three Belgian regions. It only covers 161 square kilometres or half a per cent of Belgium's territory. The population on the other hand is equivalent to more than ten per cent of the Belgian population. The population density of the Brussels region is 6.850 persons per square kilometre, compared to slightly more than 350 for the whole of Belgium.

Brussels is currently the fastest growing region of Belgium. Its population increased from 948.122 to 1.104.346 inhabitants between 1996 and 2010. This growth results from a natural increase, births exceeding deaths, and from international migration. To fully assess the actual population development, in terms of growth as well as in terms of composition, it is necessary to draw a broad picture of the most important factors shaping the city today.

This paper is structured as follows. First, we consider the Belgian urban space. Then we give a brief overview how urban sprawl has developed in the Brussels region and how this articulates with population growth. This first part is not specific for Brussels. It is very common to what happens into some other metropolitan areas in North-Western Europe. From there we describe two typical characteristics of the Brussels Capital Region: the Belgian linguistic setting with the bilingual character of Brussels and the presence of European and international institutions. Finally we turn to the importance of the expansion of the EU as main factor in the recent population growth. Building on that basis, we discuss the central role of Brussels in the Belgian economic system and in the Belgian internal migration system. This brings us to a concluding chapter about the necessity of innovative thinking to cope with these developments and to create institutions adapted to the new environment.

1. The Belgian urban space

The equilibrium between the expansion of the population and the available resources has always been a topic of major concern in demography. One of the best known demographic essays, by the hand of Malthus, concerns positive and preventive checks as to hold the population within the limits of the available resources (*An Essay on the Principle of Population*, 1798-1826). And space is probably one of the most basic resources of a population.

The most striking feature of the 20th century is the tremendous population growth with 1,6 billion at the start of the century to 6.2 billion persons in 2000. The United Nations Population Division estimates that the 9 billion mark will be hit around 2050 and that the world population will stabilise somewhere around 10 billion. One of the very distinctive demographic developments of the 20th century that went along with population growth was the increase of the proportion of persons living in urban areas. In 1900 about 14% of the world population lived in cities, while in 2003 48% of the world's population is estimated to live in urban areas (United Nations, 2004). Urbanization has been more or less a spontaneous process in the wake of industrialization. Modern economic systems need large cities to make optimal use of productive capacity in capital investment and workforce. Cities also tend to concentrate the intellectual skills of a nation as administrative centres in the public and the private sphere, but also as centres of education and of scientific and artistic production. Urbanization is one of the strategies of mankind to cope with the permanent tension between available resources and population growth and helps to make a more rational use of scarce land.

The high density of the Belgian population combined with a very liberal system of land acquisition, a low proportion of social housing and a long-time absence of spatial planning, led to a quite generalized urbanization of the country. According to the United Nations criteria 94% of the Belgian population is living in an urban area and most of Belgium can be considered part of one urban landscape. It is more common however to limit this assessment to the so-called “Vlaamse ruit”, the highly industrialised and urbanised area between Antwerp, Ghent, Leuven and Brussels, and the urbanized regions around Liège and Charleroi.

There is still a difference between city centres and the more open built surroundings. Belgian geographers use a more fine-tuned classification of the Belgian urban space, making a distinction between gradually less urbanised areas concentrated around urban centres (kernstad, banlieu, forensenwoonzone). The analysis of the Belgian space according to morphological and functional criteria results in a subdivision in 18 city centers surrounded by 17 “stadsgewesten” (11 in Flanders, 6 in Wallonia and the Brussels metropolitan area). Together they form the life string of the economic and social life of the nation covering 56% of the Belgian population and 67% of the employment, concentrated on only 26% of the territorial surface (Luyten & Van Hecke 2007).

2. The Brussels urban sprawl

Among Belgian cities, the Brussels region has currently the fastest growing population. This has not been the case for a long period. Between 1970 and 1995, the region was losing inhabitants and the Brussels population dwindled from 1.079.181 in 1968 to a historical low of 948.122 inhabitants in 1996.

Population change is the result of natural change (births minus deaths) and net migration. The prime component of population change in Brussels is migration. This has been the case for the last two centuries. Migration flows towards Brussels have progressively been accompanied by emigration to the surrounding municipalities. In the Brussels capital region suburbanization has a long history. Initially it was largely confined to the current 19 municipalities. The development of the Brussels urban region has been very similar to many other European cities and different from the north-American cities, by maintaining a dense historical centre. But it has also been strongly influenced by the post WWII urban sprawl, expanding the morphological urbanization over an increasingly large area.

The growth of a city can easily be expressed in numbers of inhabitants. Growth is however a much more complex process of alternating densification or intensive growth and urban sprawl or extensive growth that does not take into account the administrative borders of the city. Looking at the demographic development of the Brussels metropolitan area since the Second World War, we

can distinguish three fundamental periods: a long period of population growth (1947-1969), followed by a quarter of a century of population decline (1970-1995) and finally, since the end of the 20th Century, a renewed rapid increase. The long period of decline reflects the importance of suburbanization in the net migration flows, not a decline in population or in economic activity in the larger metropolitan area. The period between 1970 and 2000 has largely been a period of population dilution heavily straining the scarce open space not only around Brussels, but all over Belgium.

Urban sprawl, the outward spreading of a city and its suburbs to low-density rural land, is a normal process in a city with a steadily growing population. But the territorial expansion of Brussels over the last two centuries has not always been spontaneous. During several historical periods, the expansion has been planned to support the new administrative, recreational or economic functions of the city. Historically, the city of Brussels was limited to the area within the second walls of Brussels, the modern-day small ring. As the city of Brussels grew, the surrounding villages grew as well, eventually merging into a contiguous city, but maintaining their administrative independence. The planned construction of the Leopold quarter (today's European quarter) in 1854 and of the avenue Louise to allow easy access to the recreational area of the Bois de la Cambre represented the first territorial expansion of the city. In 1864 Brussels annexed the narrow band of land needed for the avenue plus the Bois de la Cambre itself (Jacobs 2004). The 1880-1914 period has been very important for the transformation of the city to its present-day look with the demolition of the old neighbourhoods and the construction of the broad boulevards inside the so-called pentagon and the further expansion of the broad avenues towards la Cambre and Tervuren, or in the direction of Schaarbeek and Laken. It was a period of major concentration of wealth and of intense construction activity, which largely determined the typical Brussels outlook of the first crown (the municipalities surrounding the city centre) until today. The expansion of the port of Brussels in 1921 was the occasion for another important territorial expansion for the city of Brussels by merging the municipalities of Laken, Haren and Neder-Over-Heembeek into Brussels. Other municipalities as Sint-Joost-ten-Node, Molenbeek and Sint-Gillis, although belonging morphologically to the urbanised Brussels area, remained independent. This didn't exclude the planning of integrated public infrastructure works and the construction of the tramway service across municipal borders spurring urban sprawl further on. Even more, in the interbellum, several social housing projects have been developed in green neighbourhoods (*tuinwijken* / *cités-jardin*) at the outskirts of today's Brussels region. Further population growth and building activity, especially in the fifties and sixties, gradually started to fill up the remaining open spaces inside the region. The post-World War II period was also marked by a strong intensification of the car-dependent development on rural land, far beyond the borders of the Brussels region. As often argued, population growth is only a secondary factor in the urban sprawl and the extending land-use patterns (Richardson & Chang-Hee 2004). Sprawl reflects a growing preference for suburban amenities as a result of income rising over time (Gordon and Richardson 2001).

Because of the non-existence of a coherent spatial planning policy in Flanders before 1996 and the increasing spread of new individual mobility opportunities after World War II, rising household incomes fuelled urban sprawl even in the absence of population growth in Brussels. The long time lack of spatial planning in and around Brussels and a physical environment without barriers, with the only exception of the Zoniënwood in the South East, were factors favourable to residential sprawl far behind the borders of the region. As a consequence a very high proportion of the countryside is used for residential functions. In 1997 the Flemish region has developed the "Ruimtelijk Structuurplan Vlaanderen" with a clear policy on land allocation for residential, industrial, agricultural or recreational purposes, but its impact on the existing distribution is rather limited. One of the main negative aspects of urban sprawl is the higher per-capita use of land and the high cost of energy for mobility. Hence, strong criticism against sprawl started early, but it was not until the 1990s before Belgian authorities started to develop policies to limit urban sprawl and to promote living in the city centres.

Analyzing the demographic, social and economic fabric of Brussels makes clear that the Brussels' urbanized area stretches now far beyond the current administrative borders. Depending on the approach and the criteria used, different areas can be considered to be part of or linked to the Brussels metropolitan area. Taking into account only the morphological urban area, not less than 35 municipalities with a population of more than 1.5 million can be considered as part of the Brussels metropolitan area (Luyten & Van Hecke 2007). The morphologically urban region is mainly south-north oriented following the axis of the Brussels industrial or canal area and includes the two small historical regional towns of Halle in the South and Vilvoorde in the North. Other definitions, and most of the international criteria to define metropolitan areas, encompass a much larger region. If we add the "banlieu", composed of the municipalities that are functionally and structurally related to the Brussels region, the Brussels metropolitan area ("stadsgewest") covers 61 municipalities with almost 2 million inhabitants (Luyten & Van Hecke 2007).

3. *Crossing linguistic borders*

The specificity of Brussels is its bilingual status and the fact that, although in the centre of the country, it is surrounded by the Flemish region. Urban sprawl around Brussels has not only been part of the "struggle for space" and the classic antagonism between urban and rural environments, but moved very early on to the central stage of the Belgian linguistic question.

The history of Brussels is intrinsically linked to the history of Belgium, not at least because of the fact that the growth of the city was closely associated to the rapid industrialization of Belgium in the 19th Century. Brussels was the first industrial city of the country in number of workplaces in the secondary sector till the second half of the 20th Century (Jacobs, 2004). Above all, as the political, administrative and financial centre of the country, the city was able to concentrate a considerable amount of wealth, clearly visible in the housing stock until today. During this rapid ascent of the city, the dominant language spoken in Brussels shifted from Flemish to French. Ever since, the linguistic relations in and around the city have been at the centre of the political turmoil associated with the gradual transformation of the unitary state into a federal state.

The linguistic agreements of Hertoginnedal in 1963 were a major victory for the Flemish cause fixing the borders of monolingual regions, leaving the Brussels Capital Region as the only really bilingual region in the country. The fear of the Flemish movement was indeed that the bilingual status of the country was an open door for a continuous and gradual shift from Flemish to French. The current region of Brussels is the result of the fixing of the linguistic boarder and has more specifically been introduced in a famous amendment (107 quater) of the Constitution.

It was only in 1977-1978, with the Egmont pact and the Stuyvenberg agreements, that real federal entities were set up with the Flemish and Walloon regions and the Flemish, French and German communities. For Brussels, it took more time before an agreement was possible. In a first period the coordination of the policy for the 19 municipalities was organized in the Agglomeratieraad. It was only in 1989 (bijzondere wet van 12 januari 1989) that a more definitive solution was reached for Brussels with the creation of the Brussels Capital Region alongside the Flemish and Walloon regions and a Brussels legislative and executive power was created. The Brussels parliament and the Brussels executive received a fixed Flemish overrepresentation to guarantee the rights of the Dutch-speaking minority in Brussels. The municipalities surrounding Brussels are situated on the territory of the Flemish region and have a linguistically mixed population. Some of these municipalities, with large French-speaking populations, received so-called "facilities" with a bilingual administration.

This pacification model worked quite well. For a majority even inside the Flemish movement, the agreements were considered as a final point in the emancipatory process. The realization of the major demands of the Flemish movement brought other discussion points to the foreground and

resulted in the splitting up of the Flemish nationalist party (the "Volksunie"). However the pacification has never been accepted by the more radical wing of the Flemish movement, pleading openly for the secession of Flanders from the Belgian state and considering Brussels as an integral part of Flanders.

4. The European capital

Due to the role of Brussels as capital of the European institutions, the EU soon had an impact on the development of the Brussels population and on the structure and development of the city.

A period of intense growth and transformation started in the fifties with the preparation of the 1958 world expo followed by the decision of the European Economic Community to locate several key European institutions in Brussels. The presence of the European institutions was particularly important in reshaping the quartier Leopold, the current European Quarter. In the first decennia the presence of the European institutions drew an important but still rather limited number of European civil servants to live in Brussels and did not prevent the downward trend in population. The expansion of the EU, both with regard to the political and administrative areas covered and to the number of member states, changed this situation profoundly. Today the EU presence has a significant economic and demographic impact. The EU institutions (the Commission, the Parliament, the Council, the Committee of the Regions and other EU-related organisations) employ about 40.000 persons (Corijn et al. 2009). The multilingual work force in international firms and in the offices and representations of multinationals represents several ten thousands employees more.

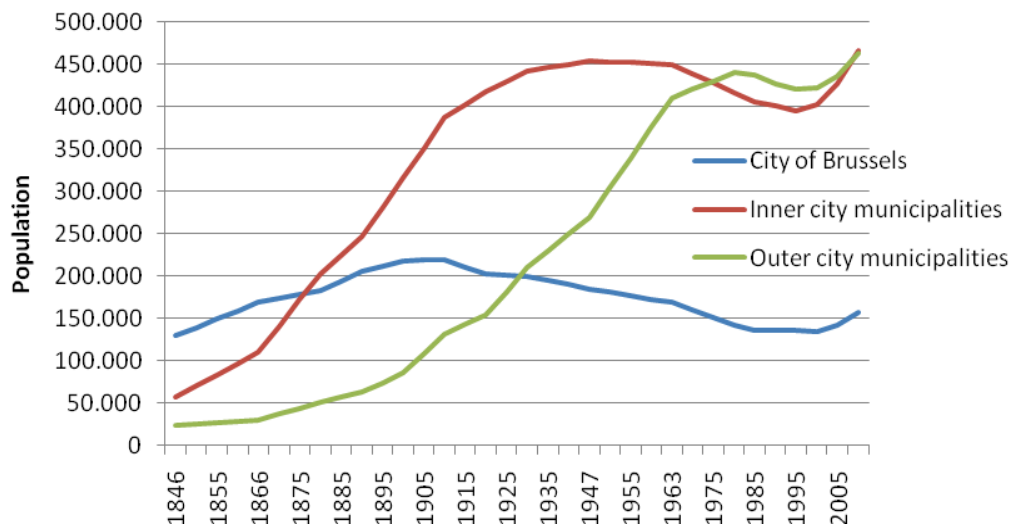
Brussels is considered to be the second most important diplomatic concentration in the world with 159 embassies and about 2500 diplomats. Additional to the EU, it hosts more than 120 other international intergovernmental organizations and more than 1000 international non-governmental organizations.

Even though the jobs are partially filled by Belgians, huge numbers of "expats" and their families are living in Brussels and the municipalities around. Some of them only stay for a short period of time and only integrate in the small circles of the expat community, but others have become long time residents and some have decided to remain in the country after retirement. According to the European Commission, about 65% of the European civil servants live in the Brussels region. Recently Brussels minister Jean-Luc Vanraes concluded that "if one adds up all the employees and their families who have some connection with the international community, you arrive at a figure of 105.000, or 10 percent of the population of the city" (Banks 2010). The importance of the EU and the international community for the city is also underpinned by the presence of no less than thirty international schools with about 15.000 pupils (Demey 2007).

5. *The progressive expansion*

Graph 1 illustrates the interaction over time between the development of Brussels as administrative and economic centre of the country and the population growth of the Brussels municipalities. The successive periods with a gradual extension of the population towards the outward circle of municipalities is clearly visible and illustrates the suburbanisation process. The data are based on census data and for the more recent period on population register data. For the period before World War I see M. De Metsenaere (1979). Brussels includes the surface of the current municipality including Laken, Neder-Overheembeek and Haren since 1921. The inner city municipalities include Anderlecht, Ixelles, Molenbeek-Saint-Jean, Saint-Gilles, Saint-Josse-ten-Noode and Schaerbeek.

Graph 1: The evolution of the Brussels population (1846-2010) by group of municipalities.



Source: ADSEI & De Metsenaere, 1979 (data from census and population register; data are interpolated where missing).

The outer city municipalities are composed of the 12 remaining Brussels municipalities. The growth and decline of the population of Brussels (the city) is strongly related to important public works during the 20th century and reflects the struggle for space between the different functions of the capital city. The installation of the European Community in the former Leopold quarter transformed this part of Brussels into a mono-functional office quarter. The European quarter (the former Leopold quarter) is now the city's most important service district with approximately 3.4 million square metres of office space, more than half of which is occupied by the EU and associated bodies (Commission, 2009). But other important office projects inside the pentagon contributed as well to a negative population growth. The population of the inner city municipalities surpassed the Brussels population from 1875 onwards and reached a maximum on the eve of the Second World War. Meanwhile, the outer city municipalities have been growing at a slower pace and took over the brunt of population increase of the agglomeration after the Second World War. The outer city municipalities continued to grow after 1963, while the inner city municipalities were already losing population. It was only after 1981 that the second crown joined the declining trend. The whole period between the seventies and the middle of the nineties was in fact a period of population decline for the large Brussels metropolitan area, including most municipalities around the Brussels region. The struggle for space and housing calmed down and price-rise in real estate was hardly perceptible. Brussels was losing population and it was only due

to the international labour migration that the depopulation was mitigated. The growing difficulty in a booming economy to find sufficient labour force for the industry at the end of the sixties brought along a fast increase of the number of international immigrants to the city. They easily filled in the void left behind by inhabitants of Belgian origin, but were not able to compensate for the ongoing suburbanization. Emigration from Brussels largely surpassed the combined internal and international immigration.

Since 2000 there is population growth in all components of the Brussels metropolitan region. Inside Brussels the growth is partially driven by the policy of the region to make the city center more attractive for living. Initiatives as "Quartier Latin", "Wonen in Brussel" and the transformation of former industrial buildings in housing, all have contributed to accommodate more people. In addition there are some new building developments outside the pentagon (Neder-Overheembeek i.a.). The growth in the first crown is a mixture of increasing densification in the poorer parts of the city, transformation of old constructions and the building of new premises in the few remaining plots of waste land. In the second crown of outer city municipalities population growth is very unevenly spread with a stagnation of the population in the wealthy southern-east municipalities and strong growth in Jette and Evere (table 1).

Table 1: evolution of the total population in the Brussels Capital Region and in the Brussels municipalities.

Population maximum						
	Year	Population	01/01/1990	01/03/2010	2010/max	2010/1990
Anderlecht	1970	104,157	89,231	106,589	1.02	1.19
Oudergem	1972	34,630	29,143	30,946	0.89	1.06
Sint-Agatha-Berchem	1972	19,108	18,566	22,339	1.17	1.20
Brussel	1923	215,504	136,706	163,008	0.76	1.19
Etterbeek	1963	53,091	39,641	44,844	0.84	1.13
Evere	1985	30,574	29,685	36,099	1.18	1.22
Vorst	1968	55,842	47,178	50,948	0.91	1.08
Ganshoren	1975	22,864	20,581	22,739	0.99	1.10
Elsene	1962	94,211	73,128	81,424	0.86	1.11
Jette	1976	42,184	38,769	47,378	1.12	1.22
Koekelberg	1970	17,655	16,096	19,935	1.13	1.24
St.-Jans-Molenbeek	1977	71,991	68,904	89,893	1.25	1.30
St.-Gillis	1920	69,716	43,579	47,711	0.68	1.09
St.-Joost-ten-Node	1907	33,814	21,511	27,193	0.80	1.26
Schaarbeek	1950	125,484	104,768	124,452	0.99	1.19
Ukkel	1972	79,225	75,402	77,676	0.98	1.03
Watermaal-Bosvoorde	1975	25,719	24,960	24,217	0.94	0.97
St.-Lambrechts-Woluwe	1983	49,250	48,141	50,810	1.03	1.06
St.-Pieters-Woluwe	1974	41,088	38,396	39,135	0.95	1.02
Brussels Capital Region	1968	1,079,181	964,385	1,107,336	1.03	1.15

Source: ADSEI, National Register.

The sharp increase in real estate prices follows the same concentric pattern as the expanding population growth. Data on the evolution of the population in the municipalities around Brussels confirm the renewed expanding growth outside the administrative borders of the Brussels Capital Region.

6. *The new growth of the Brussels population*

In the 1970-2000 period, suburbanization and international migrations largely reflected the cyclical movements in economy (see Lesthaeghe, Deboosere & Willaert, 2001). On the local level, growth in real household income generated more intense building activity and higher suburbanization. Economic growth resulted in a negative interregional migration balance for the Brussels region. International migration is likewise governed by economic cycles with an inverse result for the Brussels region. In the past, periods of economic growth have generated a large positive balance in international migration.

The recent increase in population, starting in the middle of the 1990s, marked the end of this pattern and is the result of fundamental changes in international migration. The link with economic cycles is largely broken and replaced by a much more sustained inflow of international migrants. This is not unique for Belgium and can be observed in all major urban centres in Northern America and Europe. The composition of the migration flows has changed fundamentally too, becoming increasingly heterogeneous. The result is a strong population growth and an acceleration of internationalisation, not only of the Brussels region but also of the large area surrounding Brussels (Willaert, 2010).

The causes of this continuous inflow are manifold, but fundamentally reflect the growth of the world population and the demographic and economic imbalances, with developed countries absorbing most of the increase in the number of international migrants between 1990 and 2005 (UN 2007).

In Brussels, the increase of international migration is generated by different partially parallel, partially successive migrations. There is first the sustained chain migration based on family reunification and family formation that continues to create a steady flow of new migrants. At the end of the 1990s immigration has been reinforced by a high inflow of refugees and by a peak of regularizations of illegal migrants. The refugee migration, although not ended, has drastically fallen since. Economic migration has intensified, partially driven by economic demand in the receiving countries, partially the result of a search for better economic opportunities by a growing number of migrants. A particularly strong factor in the new migrant flows emerged in the context of the enlargement of the EU.

Till the end of the 20th century Brussels has essentially been a Belgian city. The international functions did not really alter this fact. Neither did the fact that several migrations were clearly international in composition. International migrants, except those working for the European community, came to live and work in Belgium. The Maastricht treaty of 1992 changed this fundamentally. Brussels, as many other European cities, became a truly international city. Maastricht introduced the free movement of capital, goods and persons inside the European Union. Maastricht happened to have been preceded by another historical event: the fall of the Berlin wall. Although observers feared for a massive migration towards the West, this only started gradually. Maastricht was followed by a number of other major changes: the EU-15 was enlarged to the EU-27. A number of additional agreements (with Switzerland in 2002 and with some nations from the former Republic of Yugoslavia more recently) opened up the area of free movement of persons to more than 30 nations.

As a consequence, together with other measures intended to improve the mobility of persons inside the European Union, mainly directed towards students, almost all West-European cities saw their populations change at an incredibly fast pace. In fact the urbanization process and the migration towards economic centres was still the same as before, but whereas the attraction pool has essentially been limited to the national borders during the 20th century, the recruitment area was now enlarged to the EU-27 in the 21st century.

The most important source of new migrants to Belgium, and to Brussels in particular, is nowadays composed of residents from the EU member states. The composition of this group in terms of

skills, educational level, socio-economic position and country of origin is extremely heterogeneous. The role of Brussels as capital of the European Union and the successive enlargements of the Union in 2004 and 2007 has attracted a number of highly educated Europeans either for political or administrative functions in the public sector or for the many European private organisations and firms represented in Brussels. The creation of the internal EU market with free movement of capital and persons has recently sharply increased the inflow of citizens from the neighbouring countries. The population of French origin in Brussels more than doubled between 1991 and 2001 and is still increasing. The numerically most important group among newcomers today comes from the Eastern European member states, mainly Poland, Romania, Bulgaria and Hungary.

Details on the composition of the migrant streams to the municipalities of the Brussels region are illustrated in table 2. Although the data only cover the period 1988-2005, they already contain in germ the actual trends. The high immigration from Eastern-European and non-EU countries in the first crown of the Brussels region may no longer be accentuating the ethnic segregation, the classic social segregation persists in some neighbourhoods of the first crown. The steep increase in housing prices and the growing student population have at the same time created pockets of gentrification mainly inside the pentagon and Saint-Gilles. The evolution of the population in the second crown is more mixed, with an apparent stagnation in the expensive south-eastern quarter of the Brussels region. Table 2 shows that the internationalization of the municipalities of the second crown is not less intense.

Additionally, a new phenomenon for Brussels has been the reversal of the natural growth rate from negative to positive. Until 1986 the depopulation of Brussels has resulted from a net negative migration rate, but also from the fact that deaths exceeded births. As a result of the younger age structure and of the higher fertility among some ethnic minority groups, the number of births gradually exceeded the number of deaths. Births start to rise quite sharply in the 21st Century and a high level of natural growth underpins current population growth in Brussels. The increase of the number of young children may partially result from a positive choice of young households for city life, but is undoubtedly mainly due to the high number of births in the poorer neighbourhoods of the city. An increasing number of children is being born to newcomers or within less affluent families for whom suburbanization to better housing is not always possible.

Table 2: Average annual migration balance per 1000 inhabitants according to nationality: 1988-2005

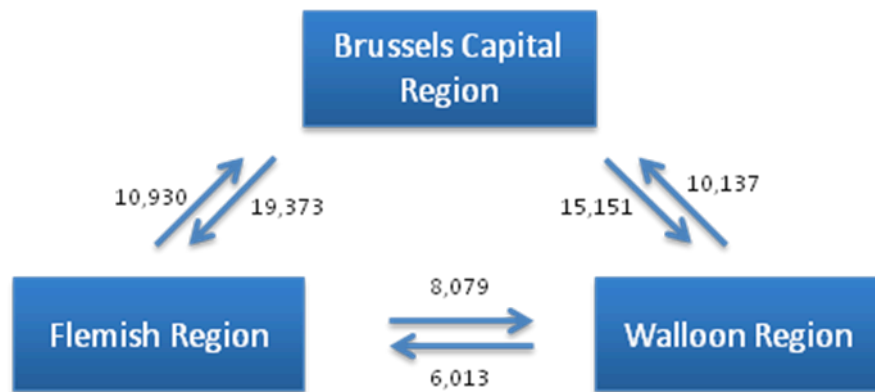
	Belgians			EU-15			Turks/Moroccans			Others		
	88-90	94-96	04-05	88-90	94-96	04-05	88-90	94-96	04-05	88-90	94-96	04-05
BCR	-9,5	-8,2	-11,5	1,6	1,5	0,5	1,0	2,5	3,9	1,7	2,7	6,5
First crown*	-8,7	-10,5	-14,2	1,6	0,9	-0,8	1,4	3,6	5,5	1,1	2,7	7,0
Second crown	-10,5	-5,4	-8,0	1,5	2,2	2,1	0,5	1,2	2,0	2,3	2,7	5,8
Anderlecht*	-8,5	-11,5	-6,7	-0,6	1,1	-0,1	0,9	4,3	6,6	0,3	2,2	7,5
Bruxelles*	-6,6	-10,3	-11,4	0,5	0,4	-0,5	0,6	2,3	5,1	1,5	2,4	6,2
Ixelles*	-14,6	-10,0	-10,3	5,3	4,7	2,3	-0,2	0,2	1,4	1,7	0,2	7,5
Molenbeek-Saint-Jean*	-7,4	-8,4	-14,9	-0,1	-2,2	-1,3	5,0	5,5	6,9	0,4	4,2	4,1
Saint-Gilles*	-7,9	-8,9	-18,5	5,5	0,4	-3,5	-1,1	1,9	3,6	0,7	3,9	9,2
Saint-Josse-ten-Noode*	-10,8	-11,9	-28,0	-0,3	-0,6	-1,1	8,6	7,3	5,1	4,4	1,3	10,9
Schaerbeek*	-8,0	-12,0	-21,8	2,2	1,3	-2,3	1,1	5,9	7,6	0,9	4,0	7,7
Auderghem	-9,6	-5,6	-4,1	1,4	3,6	2,9	0,0	0,6	0,4	3,6	2,8	7,4
Berchem-Saint-Agathe	-4,6	-1,2	0,2	1,3	-0,1	2,1	0,0	1,2	3,1	0,8	3,8	3,8
Etterbeek	-18,8	-12,1	-17,9	1,2	3,8	1,9	1,6	1,4	1,0	4,3	2,1	6,1
Evère	-11,8	1,8	-5,5	1,7	3,2	1,3	0,5	3,0	3,6	2,8	4,1	7,7
Forest	-11,6	-8,2	-15,9	0,0	1,7	-1,2	0,3	1,3	3,3	1,1	1,9	5,8
Ganshoren	-4,7	-7,1	-3,0	0,9	1,2	2,5	1,0	1,9	3,3	1,0	2,6	7,2
Jette	-6,9	-5,0	-4,4	1,6	2,1	0,9	0,8	2,8	3,7	4,5	3,0	5,6
Koekelberg	0,4	-12,4	-8,0	-0,8	1,1	1,2	1,6	1,7	8,6	2,6	1,9	8,5
Uccle	-9,3	-3,3	-5,6	2,3	2,0	3,6	0,5	0,8	0,6	0,6	3,8	4,4
Watermael-Boitsfort	-8,9	1,6	-6,5	2,0	2,8	0,0	0,4	0,3	0,2	2,3	1,6	2,0
Woluwe-Saint-Lambert	-14,4	-6,7	-11,2	2,0	2,3	4,9	0,0	0,2	0,4	3,6	1,4	7,0
Woluwe-Saint-Pierre	-12,5	-6,1	-5,5	2,3	1,7	2,4	0,1	0,3	0,4	1,2	2,7	6,2

Source: ADSEI, National Register. Calculations: D. Willaert.

7. The central place of Brussels in the Belgian economy and living space

The prominent place and weight of the Brussels “leefcomplex” inside Belgium helps to understand why Brussels is so crucial in any discussion on political reforms. Although the administrative boundaries of the Brussels region are clearly delimited, the influence on the daily life of people stretches far behind these borders. Most central is the relationship to work and education taking form in commuting between place of residence and the Brussels metropolitan area, resulting in a huge daily mobility problem. The Brussels metropolitan area covers 25% of the Belgian employment and 17% of the Belgian population concentrated on less than 5% of the Belgian territory (Devogelaer, 2004). If we take into account all municipalities where at least 15% of the active population living in the municipality is working in the Brussels agglomeration (the forenzenwoonzone), an even more extensive area is linked to Brussels. It is called the Brussels “leefcomplex” and includes one fourth of the Belgian population and about 14,5% of the Belgian territory (Mérenne-Schoumaker, Van der Haegen and Van Hecke, 1998).

Graph 2: Migration flows between the three Belgian regions in 2006



Source: ADSEI, National Register.

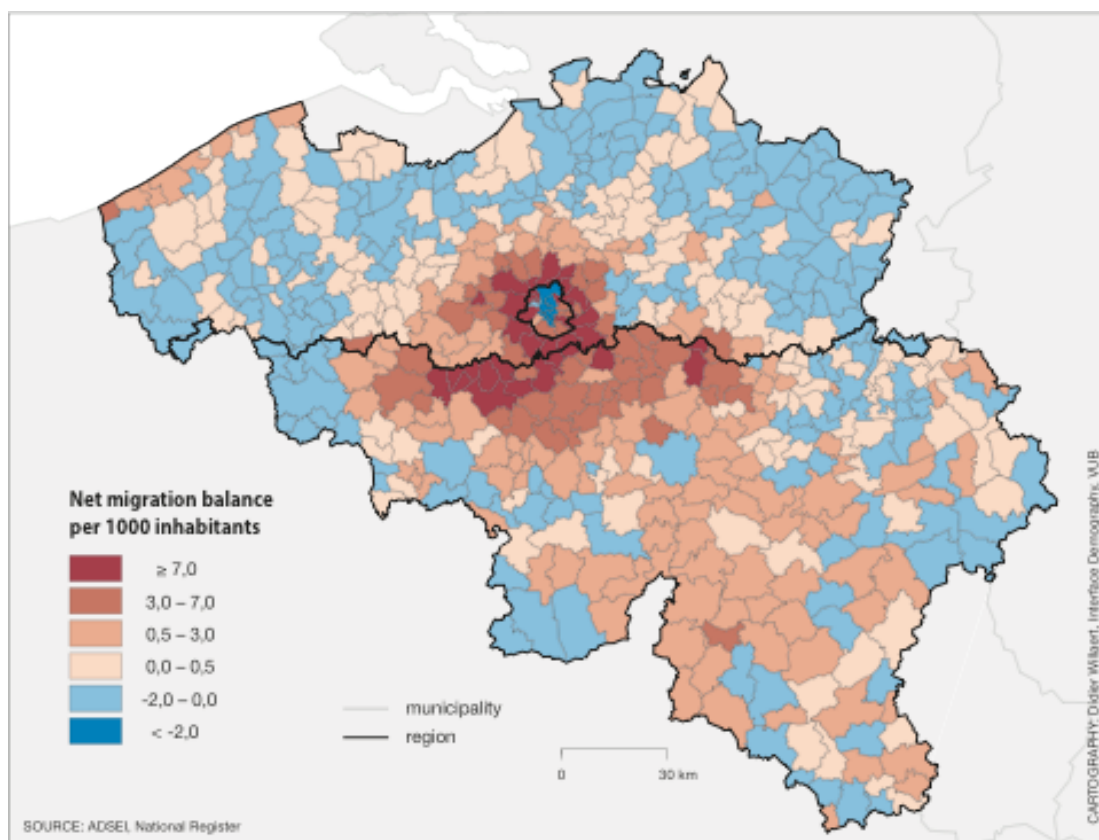
Daily commuting is only one aspect. The position of Brussels as an administrative and economic centre and as a bilingual region gives the capital region a central place in the Belgian internal migration system. Brussels has a negative migration balance with the two other regions. But this balance hides much more important total migration flows. Graph 2 illustrates the importance of the interregional migration flows for the year 2006. The negative internal migration balance is compensated by a positive international migration balance.

The internal migration flows towards Brussels are mainly fed by young people moving to the capital city attending higher education, starting a professional career and being attracted by the city life. They are a major engine of rejuvenation of the city. Map 1 shows the migration balance between the Brussels municipalities and all other Belgian municipalities. The concentric pattern with people of all municipalities moving towards Brussels resulting in a negative migration balance for the municipalities in the outer circle is clearly visible.

Migration from Brussels towards Flanders and the Walloon region on the other hand is mainly the typical outcome of urban sprawl. The first motivation for urban sprawl is identical in all countries: (young) households looking for inexpensive property, according to a set of parameters (ownership, single-family house, green environment) and related to their household composition (children). Population growth of Brussels (2% a year compared with 0,7% for the country) is inevitably pushing real estate prices upwards and intensifies the competition for living space between households with other urban functions. An important building activity has significantly increased the offer of middle and upper class apartments on the private sale and rental market. This has not been the case in the cheaper sections of the housing market, where the share of expenses for housing has considerably increased in the household budget. The weak presence of social housing (for rent and for sale) in the Brussels region is reinforcing this situation. The Brussels urban sprawl inevitably transgresses the borders of the region and results in internal migration towards the Flemish or the Walloon region. However, the migration from Brussels to the Flemish and Walloon region cannot be reduced to the "return" of young families with children. The ongoing positive balance of international migration strongly contributes to the migration towards the two other regions. Brussels functions as the main gateway to the country. New migrants often start to settle for a few months or a few years in rented housing in Brussels, exploring their new home country. Some of them start to move to surrounding regions or to the rest of the country. New migrants, and Belgians alike, look for affordable housing and, depending on the income distribution, end up to rent or to buy in the more affluent municipalities around Brussels, in the few less expensive

regions north and south along the Brussels canal or in municipalities further away. The Brussels' "Rand" is more than ever part of the internationalization of the Brussels metropolitan region.

Map 1: Average annual net migration balance with the Brussels Capital Region (2003-2005)



8. *Money, money, money...*

The sixties and the seventies were a dramatic period for Brussels. The population rapidly dwindled due to the massive suburbanization of higher income households. At the start of the seventies, the income tax per inhabitant in the Brussels region exceeded the country mean (index 100) largely (table 3). The lowest income per inhabitant, in Sint-Gillis, was equal to the Belgian mean. For several Brussels municipalities this was a period of real impoverishment in absolute terms too. Higher income households leaving the city were not replaced, real estate was sharply dropping in price in the centre and in the municipalities of the first crown. New inhabitants arriving in the city were generally younger, making less money and often were poor migrants as part of the labor migration. Since then, the relative position of Brussels in terms of income tax per inhabitant has continued to downgrade. At the start of the nineties, the Brussels mean taxable income was equal to the Belgian mean with increasing internal differences between neighborhoods and Sint-Joost evolving to the poorest municipality of the country. However, the downward trend up till today has slowed down and is hiding new developments and extremely heterogeneous situations. Evidently lower income taxes per inhabitant are hurting the budget of the Brussels municipalities. It is less clear if the evolution of the relative position of income tax during the last decade still reflects an ongoing impoverishment of the Brussels population. The gentrification has slowed down or even started to inverse the downward trend, at least in some municipalities. This is the case for Brussels and Sint-Gillis and to a lesser extend also for Ixelles, Etterbeek and even Sint-Joost and

Schaarbeek. Moreover, the evolution of the prices of real estates reflects the influence of higher incomes. The student population has more than doubled in the period under consideration. Typically, students have no taxable income or are still registered with their parents, but are not necessarily poor. More important is the increase in international diplomatic personnel and in European civil servants in recent years, most of them being submitted to other tax systems and not to the Belgian income tax. Taking this into account, one can argue that the real mean income of the population in the central and the south-eastern part of Brussels is nowadays increasing, even in relative terms. This is less clear for municipalities as Jette or Evere where the decrease in mean taxable income has been among the strongest during the last decade.

In the poorer neighborhoods of the region scattered over the municipalities of Vorst, Anderlecht, Molenbeek, Koekelberg, Brussels, Schaarbeek and Sint-Joost there is no increase in mean real income. The downward trend slowed down in these municipalities, but many inhabitants often live in real poverty and are not included in the statistics on taxable income. The Brussels region accommodates a disproportional high share of asylum seekers who are not included in the population statistics but in the so called "waiting register". Many immigrants from the poorer EU-countries and especially from Romania and Bulgaria, for whom there are restrictions to access the labor market in Belgium, have a tourist visa and are not included in the population register. The number of persons without papers is evidently unknown, but most of them are living in the poorest neighborhoods. The appalling statistics on poverty in the Brussels region (Observatorium, 2010) are probably still underestimating the real poverty in those neighborhoods.

Table 3: Evolution of income tax by municipality in the Brussels Capital Region (1971-2008) relative to the Belgian income tax (index=100)

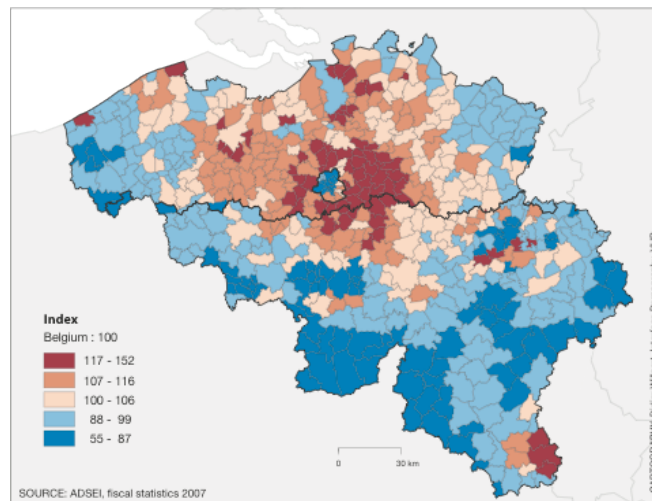
	1971	1980	1990	2000	2001	2003	2005	2006	2007
Anderlecht	113	101	94	81	79	75	77	75	75
Oudergem	159	135	129	120	118	113	108	107	107
Sint-Agatha-Berchem	137	126	122	108	104	99	102	101	99
Brussel	133	101	87	78	79	74	76	77	76
Etterbeek	139	104	99	90	88	83	82	81	81
Evere	132	126	115	98	97	92	88	87	86
Vorst	141	113	102	95	91	90	86	87	87
Ganshoren	155	131	123	107	103	100	101	100	97
Elsene	152	116	100	92	91	88	87	87	88
Jette	139	126	115	104	98	96	94	93	93
Koekelberg	132	112	101	90	87	84	83	82	82
Sint-Jans-Molenbeek	109	94	82	72	69	66	65	66	65
Sint-Gillis	100	79	72	67	71	66	67	68	69
Sint-Joost-ten-Node	106	72	57	49	53	52	52	54	55
Schaarbeek	118	94	84	76	76	72	70	71	72
Ukkel	197	158	133	120	120	113	110	109	110
Watermaal-Bosvoorde	165	144	131	118	115	116	114	113	113
Sint-Lambrechts-Woluwe	170	147	127	114	111	105	102	103	102
Sint-Pieters-Woluwe	206	170	136	122	120	117	112	114	114
Brussels Capital Region	139	114	101	91	90	86	85	85	84

Source: ADSEI

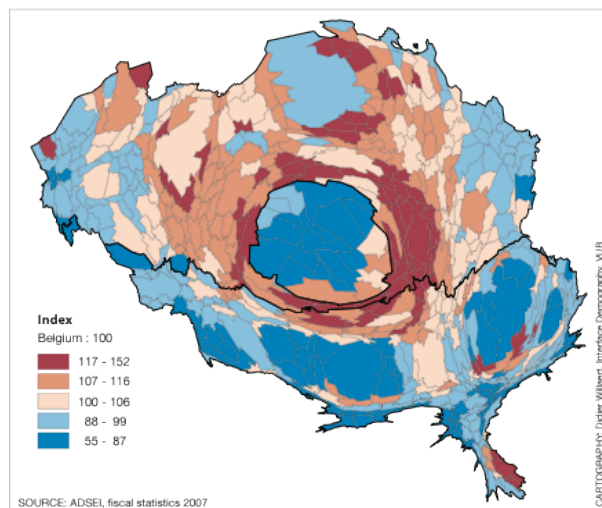
It is clear that policies aimed at making life in urban centers more attractive have reversed past trends. More middle and higher incomes remain in the Brussels region and the recent strong population growth largely exceeds the downward trend in relative income. There are however other factors that contribute to the growth of the city population. The presence of a large rental housing market in the city is attractive for singles and small households in a transition phase of their life. The city thus attracts smaller families more often with a low income or during a phase of their live that their financial capacity is restricted (students, unemployed, divorced, single parents,

...). As there is a trend towards more singles, more single parent households and smaller households in general, the attraction and the retention of the city with a large rental housing market becomes stronger. In the mean time, income disparities have continued to grow and the gap between the general level of wealth and the living situation of the poorest population groups has increased considerably. Most troubling in this regard is the extremely high unemployment among young adults, reaching 40% in some areas, and the fact that a disproportional part of births are taking place in households without any income from work (Observatorium, 2010). Large investments in the future of these children is a responsibility for all of us, not only for the Brussels region. To come to the conclusion that one of the richest regions of Europe is also the living place of so many poor people is more than a disgrace. It is simply a terrible waste of human lives. In the long run, not putting this question on the forefront of our concerns, will become a terrible burden for the dynamic development of the Brussels economy. Map 2 illustrates the distribution of income along the Belgian municipalities. Municipalities with a higher taxable income per inhabitant than the country mean are tinted in red, blue indicating incomes lower than the mean.

Map 2: Wealth index based on the mean income tax per inhabitant.



Map 3: Wealth index based on the mean income tax per inhabitant (areas of the municipalities weighted for population size).



A major problem of this kind of cartographic presentations is the misleading relative importance of the colored surfaces. Map 3 is presenting the same data, taking into account the population of each municipality instead of the geographical surface.

9. *The institutional quandary*

The current political situation is quite paradoxical. The political and economic power of the Flemish elite has never been stronger and became dominant since the Société Générale has been broken up and major jewels of the Belgian financial and industrial patrimony have been sold to foreign, mainly French and Dutch, multinationals. Not only the political and financial power has shifted to the North. A growing part of the higher educated francophone population in and around Brussels starts to accept functional bilingualism and an increasing number of francophone children are sent to Flemish schools to receive part of their education in Dutch. Strictly speaking little is to be won and the old fashioned nationalist dream of an independent Flanders was only supported by a small fringe of the Flemish public opinion. The larger Flemish nationalist movement has currently re-emerged based on two arguments that are a long way from romantic nationalism and apparently based on rationalistic motives: efficient management and very earth to earth arguments about the "financial transfers".

The crucial point is that the political agenda of the radical part of the Flemish movement is exactly resulting in the opposite: less efficiency and doubling of many governmental tasks. The administrative future looming for Brussels looks even worse as separate citizenship according to language and a kind of condominium are among the propositions of the radical Flemish movement to "solve the Brussels problem".

Brussels needs to be supported to tackle the challenges characteristic for a capital city; challenges that are strongly reinforced by the international functions of Brussels. This can be done by financial transfers. This is urgent, not only for Brussels (i.e. inside the existing institutions), but also for the Flemish and the Walloon region.

This aspect is however independent of the socio-demographic and economic evolution of the region. The actual administrative borders are not well designed to tackle the challenges of the Brussels metropolitan area and creative solutions have to be found. Demography only describes how the population is changing. It is wrong to believe that demography is a solution and it is as silly to think that demographic evolutions can be ignored. Indeed, we have to consider the demographic facts and look how they fit into the current and future political solutions we are developing.

Among the most crucial questions inside the region is the struggle for living space, not only between Brussels households (Vanderhaeghen 1992), but also between the wide range of functions of Brussels as an economic, administrative, educational and political centre. The discussion concerning the Brussels airport (situated in Zaventem, inside the Flemish region) is illustrative in this regard. The question how to manage the opportunities and the nuisances, typically concerns both the population living in and around the Brussels region. Looking for manageable solutions involves all the Belgian governmental levels. It is of crucial importance for Brussels and Belgium as a business centre, for Europe as political and administrative centre and even for the world at large as diplomatic centre. But whatever we can think of: from mobility to industrial activities, from preserving farming areas around Brussels to the cultural attractiveness of Brussels for the region at large, from maintaining green areas inside the urban fabric to the protection of beautiful richness of the Brussels estate, many, many questions are of uttermost importance for the people living in Brussels and around the city, and finally for Belgium as a whole. In this same regard, problems of poverty, unemployment and ethnic segregation, are not only of concern for Brussels. Creating better living opportunities in our urban centers for all segments of our population helps to contain the creeping urban sprawl and is an integral part of a policy aimed at maintaining open rural areas

in a dense urbanized region. Efficient and adequate management of all those questions needs a proper governmental level to turn the struggle for living space into solutions as to create a pleasant and sustainable place for people to live (Van Wynsberghe e.a. 2009). This is not unique for Brussels. The need for spatial planning of cities and the broad agglomerations has led many countries to create different kinds of specific governing bodies for the capital region and for important metropolitan regions.

The discussion about the institutional and political future of Brussels is in this regard too much monopolized by a simplified and one-sided approach that only takes the linguistic aspects into consideration. The debate has been enlarged by adding an extra dimension looking for solutions for Brussels' financial problems. Moreover the issue of financial transfers to the Brussels region is often justified on the basis of the capital functions of the region. This can indeed be an argument for extra financial support, but it is from a different order than the socio-demographic suburbanization and the expansion of the economic activity across the regional borders making a sound financial administration extremely difficult.

The unilateral concentration on the linguistic aspects makes a meaningful solution impossible, because it doesn't take into account the essential aspects of the socio-demographic and economic evolution of the region in the centre of our country. The region is the richest and most prosperous part of the country, where a disproportionate part of the prosperity is created, but that also concentrates major problems related to poverty and deprivation.

The proposals of some French speaking parties to add a number of "communes à facilité" to the Brussels region is clearly not an answer to the challenges we will be confronted with. These proposals also add a confrontational dimension solving institutional solutions in terms of "expansion" as a function of linguistic and demographic evolutions and thus contain the germs of future tensions. The fusion of some specific municipalities of Flemish Brabant with the Brussels region from the point of view of creating a "corridor" between Brussels and the Walloon region is also inspired by a unilateral vision in terms of confronting linguistic groups. It is a flight forward towards a splitting up of the country and not an answer to the challenges of the region.

Neither are the proposals of some Flemish political parties a solution. The denial of the socio-demographic evolution of Brussels and the "Rand" leads to increasingly undemocratic measures and creates unnecessary antagonisms between population groups. The long term vision, monopolized by the "linguistic" question contains no future for the people living in Brussels and the broad region around.

A salient remark in this regard is the internal contradiction emerging in the Flemish separatist discourse. At the one hand, the most fervent advocates of a homogeneous linguistic region around Brussels argue that linguistic borders have to be interpreted as state borders between nations (basically they adhere to the concept of "one soil, one population, one language"). On the other hand, this is in complete contradiction with the fact that the same people often consider Brussels as an integral part of a future independent Flemish state and thus a state that will include even more "non Dutch speakers" in Flanders. This is a receipt for a never ending conflict situation for the populations living in this region. It is surely not an approach that is developed as a function of the needs of the people, neither a receipt for good functioning administrations in the future.

The "freezing" of the existing administrative situation is not very helpful neither to find solutions for existing problems, nor to sustain a long term equilibrated development of the central region of Belgium.

10. Looking for institutions for the sake of all inhabitants of the Brussels metropolitan region

How can we find an answer? Basically we have to discuss the principles we wish to put forward. It is clear that a solution cannot be found if it only includes the linguistic aspects or if it is imposed from a linguistic point of view. It is clear as well that linguistics have to be taken into account, including the emergence of new linguistic groups and not at least the articulation between French, Dutch and the new emerging lingua franca, English. However policy should in the first place be intended to develop our social, economic and natural environment as a function of the well-being of the people and the leading principles of our future institutions have to be developed as a function of this political goal. This is not an easy debate because population groups and/or interest groups may have conflicting interests. Some principles have a well established and large public support. These can be agreed upon to draw the outlines of future institutional arrangements.

Efficiency is among those principles. Much of the actual debate has been introduced to the public by using the argument of efficient management. But how can we develop efficient institutional arrangements if we do not have a global vision on the development of the region? How can we cope with the challenges ahead if we do not have an administrative level that is in charge of the development of the region at large in terms of mobility, spatial and regional planning, development or containment of urban sprawl, preservation of green areas, etc..? The relationship between the municipal competences and the competences of the region have often been put forward in this regard, including by Flemish politicians, as subject to improvement. But almost all arguments for a better coordination and adequate decision-making level inside the Brussels Capital Region, can as well be extended to many of the surrounding municipalities. The investments in the Brussels harbor and canal are not without consequences for Vilvoorde, the enlargement of the Brussels ring has not only repercussions for Jette, but also for Meise,...

The democratic character of new institutional arrangements is another important principle. Whatever the proposed solutions may be, they have to take into account the involvement of the populations concerned, by putting up democratically elected and controlled institutions. The development of difficult constructions with some competences split up by region and others by community inside the Brussels region is not an ideal model in this regard. Other arrangements can even be worse. This is surely the case with fundamentally undemocratic solutions as a "condominium" over Brussels, or divisive solutions containing the antagonisms of the future as the creation of separate "nationalities" inside the Brussels region. Democratic also means looking for strategies to involve the population living around Brussels into the discussion of the future of their region.

A good solution surely has to be future-oriented. It has to take into account the future developments of urban areas from a socio-demographic, economic and cultural point of view. Urban centers all over the world have evolved to centers of creativity and explosive intellectual and economic development. Pulling the good strings will not only enhance the future of Brussels, it will also be beneficial for the Flemish and the Walloon region. Precisely because of the inadequacy between the existing political and administrative institutions on the one hand and the socio-demographic and economic reality on the other hand, business groups have formulated several proposals for new institutional arrangements (Euroregion). But new institutional arrangements are probably even more relevant for the population living in the region.

Thinking out of the box to find win-win solutions, not only for the Brussels population, but also for Flanders and Wallonia is in this regard extremely important. We have to think in terms of reinforcing the attractiveness and the dynamics of the capital of Europe, reinforcing the economic engine of Brussels, and doing it in a way that is favorable for the population living in Brussels and working in Brussels. Improving our capital city and the capital city region will only have positive outcomes for all the regions of our country We have from time to time to reassess our institutions

and to adapt institutional arrangements to the continuously changing environment. It only has to be clear for all populations involved that coping with new challenges may not lead to arrangements that have to be feared by population groups being a minority group or becoming it in the future.

It is more than clear that the problems and opportunities the Brussels metropolitan region is confronted with, beg for adapted institutional arrangements. The filling in can take many forms and several have already been suggested (Van Wynsberghe e.a. 2009). They can be very radical as the one proposed by Dirk Volckaerts, editor in chief of *Brussel Deze Week*. His proposal was to abolish the Brussels Capital Region and to create a bilingual third region covering the old province of Brabant, solving some aspects of interregional financial transfers and creating an equilibrium between linguistic groups inside the new region (Volckaerts, 2005). The strength of this proposal is that it creates a region not limited to a city and that it is not longer focused on the moving city boundaries. The weakness is that it opens up the discussion on linguistic borders. But proposals don't need to be so radical. Clearly, they also don't need to include changes in the boundaries of the Brussels Capital Region. Many solutions are possible as long as they respect basic principles of efficiency and democracy and as long as they are conceived in function of the current and future needs of the populations living in and around Brussels and of all the regions of our country.

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Why Brussels needs a City-Region for the City

Paul C. Cheshire (London School of Economics)

1. Introduction

Brussels is not unique but it is an outlier amongst European cities in that its jurisdictional centre is so small yet so politically significant relative to its functioning whole. Brussels is imprisoned in the barbed wire encampment erected by Belgium's linguistic differences. This is a particular handicap to its economic success. The almost federal structure of Belgium means that more public functions depend on local fiscal resources than is the case of more centralised countries such as Britain or France. Brussels, for example, has to pay for its own urban transport network yet more than half its workers live beyond its jurisdictional borders (IAURIF, 1996). But the jurisdictional fragmentation of the Brussels metro-region additionally impedes its economic success since there is quite strong evidence from the analysis of the factors favouring the economic growth of European cities that having a city government approximating to the economic reality of the metro-region is a significant advantage (Cheshire and Magrini, 2009). Such a government – as with Madrid – helps to align the interests of those who benefit from growth and those who contribute to the policy efforts that help to deliver growth. The purpose of this chapter is to examine the particular circumstances of Brussels in the more general context of how we can meaningfully and consistently define cities and why this apparently rather academic question has significant policy implications.

2. If cities compete, what are cities? What is Brussels?

Although they may dispute the detail an increasing majority of observers agree that it makes sense to think of cities as competing with each other and that this competition has intensified as a result of the integration of Europe. Indeed the integration of Europe is in some sense only a strongly policy-assisted boost to the wider process of internationalisation of economic and social systems: globalisation. Competition between cities is intensifying throughout the world but particularly within Europe. Cities, unlike firms, have no 'exit strategy' – well not in the short or medium term although historically it happens¹⁰. So measuring how competitive they are or are not is not so straightforward as it is with firms. Various suggestions have been made – penetration of contested markets by a city's exports, growth in productivity and economic growth itself. These are all useful measures in principle but most are difficult to estimate in practice. A forceful and theoretically coherent argument has been made that in a competitive economy in which all factors are completely mobile and knowledge or technology are common to all cities then population growth is the best measures of a city's success since it will reflect both productivity growth and also changes in regional prices and quality of life (see Glaeser et al, 1995 who built on the theoretical insights of Roback, 1982). People vote with their feet to reveal a city's relative attractions or competitiveness.

¹⁰St Bertrand de Comminges in south west France, for example, has existed not once but twice in historical times. A substantial city of 60 to 100 000 – Lugdunum Convenarum - in the Roman urban system with more or less the same functions as Toulouse has had in the last millennium was finally destroyed by the Burgundians in 585 by which time it had been displaced by the more conveniently located Toulouse. But St Bertrand was reinvented as a pilgrimage destination in medieval times and flourished as such till the 17th Century: only to decline as that lost its market and it is now only a hill village albeit with an elaborate cathedral.

However people in Europe are still surprisingly immobile, especially when separated by national borders or cultural or linguistic barriers, and growth in real Gross Domestic Product (GDP) per capita seems the best single, practical measure (see Cheshire and Magrini 2009) here.

An important issue remains, however, and that is what is a 'city'? What are these territorial units that compete with each other? Does it make a difference how cities are measured? Can we define cities in ways which are useful for studying them in this internationally comparable sense? The purpose of this chapter is to argue that resolving this definitional issue is an essential first step – indeed that one of the significant gaps in data for Europe is data for comparably and economically usefully defined cities. Nor is this just a data or definitional issue. It is an issue of practical policy. Unless policy, at least for the appropriate functions, is formulated and implemented for the appropriate territory, not only can it not support a city's competitiveness, the evidence suggests it will damage it. This problem is as acute in the case of Brussels as it is in the case of almost any other major European city. Data has to be collected for consistently defined city-regions if we are to be able to make useful comparisons between them or productively analyse the forces that determine their success or failure; and many policies – especially those designed to influence a city's competitiveness and quality of life – have to be implemented for such city-regions. Fundamentally this is because neither people nor firms respect administrative boundaries. How they behave has to do with transport infrastructure and access to jobs or labour: not who the governing party is. What matters for an international firm or agency locating in Belgium is access to the European institutions or Zaventem National Airport: not whether they are in the Flemish-speaking or French-speaking regions or the bi-lingual zone of jurisdictional Brussels.

One of the peculiarities of Europe is that each country has its own idea of what a 'city' is and it is often difficult for even students of urban development to grasp that the definition they have grown used to in their lives and work is not that used in other countries. There is even less recognition of how vital a common definition is if valid comparisons of demographic, economic and social development patterns are to be made. At the risk of over simplification, let us try to characterise some national positions.

Most Belgians have great difficulty with the idea that Brussels extends beyond the confines of its administrative boundaries which define the limits of the national bi-lingual zone and contain less than one million inhabitants. If one examines the metropolitan area of Brussels, however, defined as the sphere of economic influence of the Brussels employment concentration, it covers nearly four million inhabitants and extends over a third of Belgium. It produces 40 percent of Belgian Gross Domestic Product. The French have various administrative definitions of cities, with some extra ones available for Paris. In normal cases they identify cities in terms of their central commune although a handful of large cities have a *Communauté Urbaine*: this is a federation of Communes relating to the city.

Historically in France new urbanisation has largely been in the form of continuous additions attached to existing urban areas. Reflecting this, the French, for comparative purposes, typically rely on the concept of the *agglomération* – a morphological definition based primarily on the density of buildings. Given the historical pattern of French urbanisation such a definition produces broadly comparable definitions (within France) since it embraces whole cities although a few problems arise in the more densely urbanised regions of northern and eastern France which require additional criteria. It has the additional advantage that it can be measured using remote sensing techniques. There are recent signs, however, of a more British-style leapfrogging pattern of urban development emerging 'naturally' in some of the rapidly growing cities of southern France such as Toulouse or Montpellier. This will erode the value of the *agglomération* definition for comparative purposes.

If the French agglomération criteria are applied to Belgium – with its relaxed constraints on urbanisation - the whole country from Antwerpen to Liège turns out to be just one city: not a result with which either Belgians or students of urban development should be satisfied. Equally, the agglomération definition does not produce comparably complete definitions of cities when applied to Britain or to the Netherlands. In the Netherlands land use planning policies have deliberately prevented contiguous urbanisation. Far tighter 'containment' constraints on urbanisation in Britain mean that London has leapt across its Greenbelt, and now functionally covers most of southern England drawing daily commuters from as far as the New Forest in western Hampshire or Norwich in Norfolk. The Germans use a legal definition of cities – the *Kreisfreie Städte* – with which they are generally content, especially if they are politicians or students of political science. Other unofficial definitions exist but are not widely used.

The British seem to be prepared simply to accept current political/administrative definitions although these have been quite remarkably unstable in the past 30 years and especially so in the case of London. Scholars do produce definitions of British cities based on functional criteria (of which those originating with the Centre for Urban and Regional Development Studies at the University of Newcastle are probably the best known). The Census of Population produces data for 'built-up areas' – broadly equivalent to the French agglomeration - but neither of these are in wide use, even by specialists.

Accepting administrative definitions of cities in Britain requires an extraordinary, some might say, excessive degree of pragmatic flexibility. They have changed frequently over the past 30 years or so and their changes have been mainly driven by short term political considerations. In 1963 London was defined as the County of London. This corresponded with what is now known by those interested in the more arcane reaches of urban statistics as Inner London. When the Greater London Council (GLC) was created that became the administrative area of London and took over the popular concept of what London was. Already, of course, the functional reality of London was a good deal bigger. Even Heathrow airport is only partly within the boundary of the GLC and now both the other major London airports are entirely outwith those boundaries. Then, in the mid-1980s, the GLC, together with all the other Metropolitan Counties, was abolished leaving only a ghostly concept of London behind. Even Londoners could not reconcile themselves to what was now the only political unit called London – the medieval City. Although in 1971 this contained 230 000 jobs it had less than 6 000 residents. The most recent twist in the tale of London came in 2000 when the Greater London Authority (GLA) was created using – for political reasons – the old boundaries of the 1964 GLC. The GLA - even within its short existence - seems already to have become the familiar idea of London. But no other British city has had its encompassing regional government re-created.

Thus Europe suffers from a plethora of national definitions of 'cities' and even within single countries definitions can vary widely. From across the Atlantic, or if one is a student of European comparative urban development, this looks silly. In the US two parallel definitions of 'cities' are widely accepted and co-exist in harmony. There are the administrative/political units known as central cities and then for statistical purposes there is an official set of functionally defined metropolitan areas or urban regions. These latter, first defined for the 1940 census of population, have had varying definitional criteria and names over time but have retained a common principal of identifying core cities (on the basis of population density and/or employment structure) and then all the more outlying areas linked to core-cities by commuting flows. Their advantages for comparative and analytical purposes are obvious: they are defined according to consistent criteria and they capture the whole of each individual economic and social system that constitutes a 'city'. This is not to claim that they are perfect nor are we interested here in the details of their definition. Whatever their shortcomings or inconsistencies the data sets based on them are orders of magnitude more useful than anything available for European cities.

The problems associated even with such a simple variable as urban size are obvious. To get valid values it is essential to measure population over areas that bear a consistent relation to the actual urban area. Comparisons based on, for example, the size of administrative units such as 'central cities' will be influenced as much by the accident of boundaries as by the actual size of urban areas. The extreme example is provided by London, where the City of London – a territorial definition of London the reality of London had outgrown even in the early medieval era of its development.

If population or employment decline is to be separated from decentralisation, it is essential to include areas receiving decentralisation within the definition of 'metropolitan areas'. If comparisons are being made for indicators of prosperity or social conditions - such as unemployment or deprivation - it is again critical that inclusive and consistent definitions of cities are used. If they are not then systematic patterns of residential segregation (whether as in Paris or Glasgow, where the more poor and deprived tend to live in peripheral social housing or, as in London or Brussels, where they are more concentrated in central areas) will distort measures. If the definition of 'city' varies in such exercises then the apparent incidence of, say, unemployment will depend as much on whether the specific areas where the unemployed are concentrated were included for particular cities as it will on the actual nature of crucial economic conditions. It is even more important to have comparable and inclusive definitions of cities if the comparison is international since patterns of residential segregation vary more systematically across countries than within them.

As was noted above probably the best single measure of a European city's competitive success is the rate of growth of real Gross Domestic Product per head but here it is more crucial than ever to have inclusive and comparable definitions of cities. GDP or output is calculated at workplaces and population is counted at place of residence so if there is net inward or outward commuting into the area used to delimit a city then the measure of GDP per capita will not give a valid indication of the living standards in that area. Table 1 shows this dramatically for various definitions of London used by Eurostat during the 1990s.

Table 1 GDP per capita for different Londons 1995-98: relative to EU of 15

	N.U.T.S. Status	1998	1997	1996	1995
Greater London	Level 1 & 2	157.4	151.6	126.4	124.4
Inner London	Level 3	250.6	242.1	202.1	200.1
Inner London – West	Level 4	461.9	448.6	377.3	373.1
Inner London – East	Level 4	129.1	124.4	103.4	103.5
Outer London	Level 3	99.4	95.5	79.6	77.6
Outer London – East & North East	Level 4	77.8	74.2	61.5	59.8
Outer London – South	Level 4	95.3	91.5	76.3	76.1
Outer London – West & North West	Level 4	120.9	117.1	98	94.9
South East	Level 1	116	110	91.5	86.8

Source: REGIO

3. Who likes N.U.T.S.?

The second column of Table 1 shows the status of the 'region' within the nested system of N.U.T.S. (Nomenclature des Unités Territoriales Statistiques) regions used for official purposes by the European institutions, including Eurostat. These are a haphazard blend of national systems.

National systems themselves vary immensely. For example in the Federal Republic of Germany the Level 1 N.U.T.S. regions correspond to the individual Länder such as Bremen or Bayern. Each has equal constitutional status yet Bremen is – as is shown by the data reported in Table 2 – substantially smaller than a city-region: Bayern – with a population nearly 20 times as large – contains one of the largest city regions in the EU – München – as well as several other significant city-regions including Nürnberg and Augsburg. The richest city in Europe – Frankfurt – however has no statistical or official existence at all. This seems to reflect in part old Prussian hostility to the free city of Frankfurt. Bremen's officially constituted existence reflects even older events – its role, together with Hamburg, in the medieval trading system of the Hanseatic League. In France (ZEAT) and Britain (Standard Regions) the Level I regions have little but a statistical existence. In Britain the same is even truer of the next level down – Level 2. For EU purposes these are the most important from the point of view of both statistical data and policy implementation but in Britain they exist only as groupings of counties: the same is true in Germany where despite its decentralised federal structure the relevant units are either the uneven but mainly large Level 1 Länder or the small Kreise.

While some politicians represent N.U.T.S. regions, which are formalised in the EU's Committee of Regions, the economy of course is organised quite independently of them. International companies are interested in access to communication and transport infrastructure and labour markets and of course all these are interdependent. One of the elements in the GEMACA II project (see IAURIF, 2002) was a study by JonesLangLaSalle of the property requirements of new Technology, Media and Telecom companies. This was a study of global reach including 4 major European cities (Hamburg, London, Munich and Paris). The consensus was almost complete – even for the US cities. In deciding on their location what mattered was access to infrastructure: high capacity internet connections and public transport nodes. Access to public transport was critical because of their dependence on highly specialised and skilled labour. An earlier study (Cheshire & Gordon, 1995) showed that for multinational companies access to Heathrow airport was the most important common factor in the south of England.

The same is true of property developers. They are interested not in the political jurisdiction but the effective economy. This is the case whether it is offices, industrial space or retail development. What is relevant is the demand for the category of property in the spatially bounded 'property market'. The geographical boundaries of this market will extend to the area influenced by the same economic conditions – that is it will be economically self-contained. There will be a national market but a series of regional or local markets determined by the actual behaviour in space of economic agents. Equally if one is a policy maker interested in economic development one will be interested in geographical areas within which the impact of interventions are (largely) self-contained. That is, one will need to minimise the spatial spillovers of interventions. And finally such policy makers at the national or supra-national level who are interested in spatial redistribution (or reducing 'spatial disparities') will need valid comparative measures of well being. Just as here we need valid comparative measures of 'competitiveness'. As we can see from Tables 1 and 2 if this measure of well being is GDP p.c. then the areas need to be self-contained in the sense that the people who work in the areas also live in the areas. Otherwise the measures of GDP per capita will be distorted.

4. Some N.U.T.S. are Cities...

Table 2 illustrates this point. Some N.U.T.S. regions seem to correspond to cities, at least in name. Data for population and GDP p.c. are shown for a selection of these. As well as for the N.U.T.S. regions the data are also shown for functionally defined urban regions: or FURs. FURs are designed to capture urban economies which are both self-contained and homogeneous. The basic principle is to identify significant employment concentrations – which will be core cities – and the areas from which these economic centres draw their workforce and over which, therefore, they extend their economic influence. These ‘hinterlands’ are intentionally identified in a way which ensures they are inclusive. Working with the smallest practical spatial units for which data are available (Kreise in Germany for example or communes in France or Census Wards in the UK) each of these small units (for convenience ‘municipalities’) was added to a FUR’s hinterland if 10% or more of its economically active population worked in the core city (or in the case of ‘multi-polar’ FURs – core cities) concerned and it was contiguous to a municipality already forming a part of the same FUR’s hinterland. This means that FURs do not exhaust the territory of a country. In the case of the GEMACA II study (IURIF, 2002) this is self-evidently true since we were only interested in the largest metropolitan regions and so only identified FURs with 1 million or more inhabitants.

Table 2 : The Difference Boundaries Make; N.U.T.S. Regions which are Cities

Region (L)/ Functional Urban Region (F)	Population '000s					GDP pc @ PPS			Ratio of Unemployment Rates	
	1991		%Change 1981-91			%Change 1981-91			L	FUR
	F	L	F	L	F-L	F	L	F-L	1983	1991
Bremen	1272	682	2.3	-1.8	4.1	58.2	80.7	-22.5	1.23	1.39
Hamburg	2806	1645	3.4	0.4	3.0	64.2	84.7	-20.5	1.10	1.14
Ile de France/Paris	10624	10740	5.5	6.9	-1.4	102.1	87.1	15.0	1.27	1.29
Brussels	3399	960	0.6	-4.0	4.6	73.4	92.9	-19.5	1.14	1.22
Gt.London/London	8757	6871	-3.2	0.3	-3.5	114.0	95.2	18.8	1.14	1.14

Source: Eurostat and Urban Estimates on 1971 commuting boundaries; L = N.U.T.S. Region; F = FUR

The criteria for identifying a core city was that there were was a municipality or contiguous neighbouring municipalities containing 20,000 or more jobs, with a job density of at least 7 per ha. Since we were interested only in FURs with a million or more inhabitants in fact all cores that were identified had a total of considerably more than 20,000 jobs. There were then additional rules for handling problems such as voids or enclaves in determining both the area of the cores and hinterlands¹¹. Finally an additional criterion was that a municipality to be added to a FUR’s hinterland should have more commuters going to the core in question than to any other core. This rule was applied somewhat variably in that it was never entirely exhaustive (which would have necessitated in principle identifying all possible FUR cores). In practice this variability of application almost certainly made little difference to the results (it would only have been relevant for small numbers of the municipalities most distant from the cores in question) except perhaps in

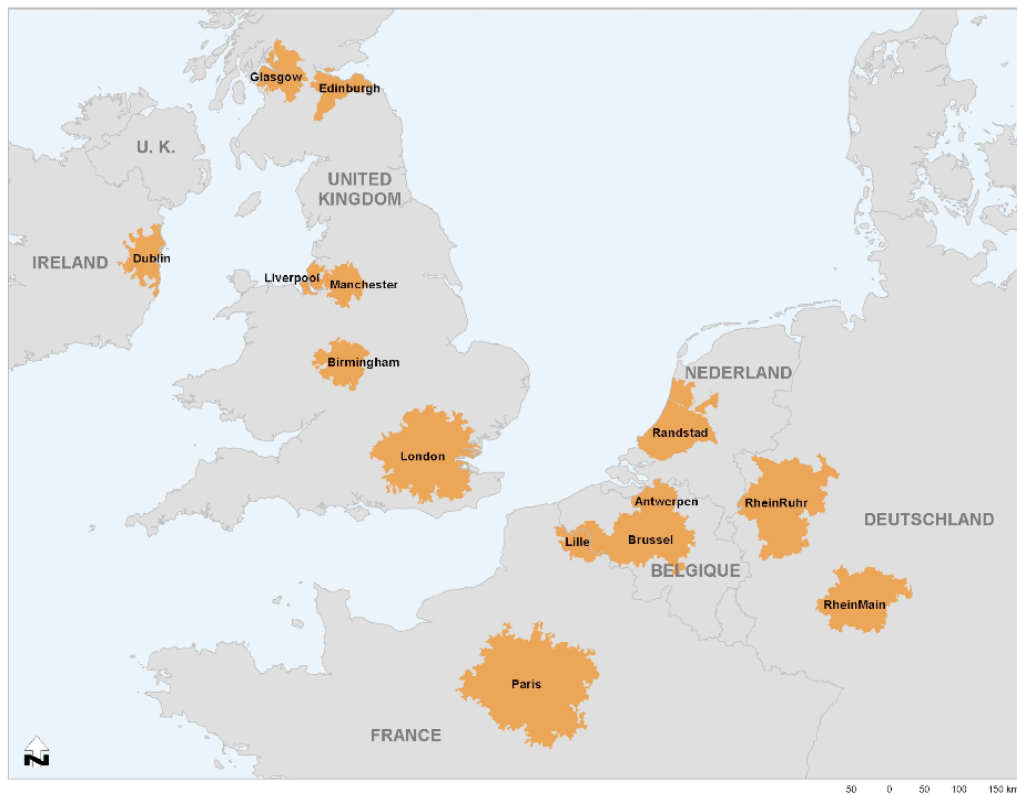
¹¹ By voids we mean single spatial units in which there were say less than 7 jobs per ha but which were separated by more or less empty space with additional units meeting the criterion beyond (as happens for example in the UK with the Green Belt). These voids represented ‘gaps’ between parts of an otherwise continuous core or hinterland. Enclaves are municipalities not meeting the criterion but entirely surrounded by others, which do. For precise details of the methodology employed refer to the GEMACA II Final Report (IAURIF, 2002)

the case of Lille where there might have been significant but not investigated commuting to potential cores such as Valenciennes or Mons from outlying parts of the hinterland.

The resulting FURs are clearly less than perfect but it is doubtful whether perfect definitions exist. What is clear is that they will be largely self-contained in an economic sense and their boundaries follow a logic determined by actual behaviour of economic/social actors. They will correspond both to labour catchment areas and to spatially defined property markets. Furthermore they will contain the full set of groups and places – the rich and the poor, the areas from which population or employment may be decentralising or recentralising – which in combination represent a city and its sphere of influence. The whole set of FURs studied within the project are shown in Map 1.

We can see from Table 2 that data taken directly from Eurostat, even for N.U.T.S. regions which in name correspond to cities can be very misleading in terms of the functional reality of those cities. It is not just that the administrative boundaries of some – Bremen and Brussels most obviously – cover a far smaller area than the economic region but also the relationship varies over time. This means that not just the per capita GDP of the N.U.T.S. version of Bremen is substantially overstated (the output relates to the jobs of large numbers of uncounted non-resident commuting workers as well as to residents) but measured rates of economic growth are misrepresented as well. Since – again to take the case of Bremen – there was decentralisation of population from the core city to the hinterland over the decade of the 1980s – the overstatement of GDP p.c. at the end of the decade was greater than at the start. The growth rate was thus overstated as well as GDP p.c. Nor was this measurement problem trivial. The overstatement was by nearly 40%.

Map 1: GEMACA II F



5. International differences and the role of institutional factors

A further type of problem illuminated by the comparison of data for FURs with those for administrative areas is the important contribution made to their patterns of physical urban development by institutional differences between countries. This is well illustrated by comparing the growth of Brussels, London and Paris in terms of their population. Table 3 shows their population development from 1951-2005 defined on the basis of employment location and commuting patterns recorded in 1971 (FUR71) as defined in Hall and Hay, 1980. Using these constant 1971 boundaries provides a longer time series but also allows the contrast with the results for the 1991 boundaries (FUR91) identified for the GEMACA II project and the built-up areas (agglomération) to be revealed. This comparison shows how commuting patterns in the cities have diverged over time leading to very different conclusions about the size of the cities, their growth over time and their patterns of decentralisation or recentralisation. The results from the GEMACA II project using the more recent data on commuting and employment results are shown for both cities in Table 4.

Data for 2005 are not available for the component core and hinterland of the FUR71 but the long term trend of population loss from the core of London's FUR is obvious as is the almost equally steady loss from the core of Brussels. Hinterland growth was sufficient to offset core loss of population in London only until 1961. From then, on the constant 1971 boundaries, there was net loss of population until the late 1980s. The loss of the 1980s however was almost exactly offset by the gain of the first half of the 1990s with most of that gain being in the core – even the inner part of the core (see Table 5).

Table 3: Brussels, London and Paris – Population 1951-97, FUR71: '000s

		Constant 1971 boundaries					
Functional Urban Region		1951 *	1961 *	1971 *	1981 *	1991 *	2005
BRUSSELS	Core	784.8	779.4	786.0	705.8	664.9	
	% growth		-0.7	0.8	-10.2	-5.8	
	Hinterland	2158.1	2350.0	2509.0	2672.4	2734.1	
	% growth		8.9	6.8	6.5	2.3	
	FUR	2942.9	3129.4	3295.0	3378.2	3399.0	3573.7
	% growth		6.3	5.3	2.5	0.6	5.1
LONDON	Core	6417.0	6134.7	5593.9	4902.6	4639.2	
	% growth		-4.4	-8.8	-12.4	-5.4	...
	Hinterland	3384.1	3840.1	4186.1	4146.9	4117.3	
	% growth		13.5	9.0	-0.9	-0.7	...
	FUR	9801.1	9974.8	9780.0	9049.5	8756.5	9430.5
	% growth		1.8	-2.0	-7.5	-3.2	7.7
PARIS	Core	6076.7	7358.2	8380.5	8332.3	8574.5	
	% growth		21.1	13.9	-0.6	2.9	...
	Hinterland	728.7	843.8	1122.9	1740.7	2049.3	
	% growth		15.8	33.1	55.0	17.7	...
	FUR	6805.5	8202.0	9503.3	10073.1	10623.8	11334.0
	% growth		20.5	15.9	6.0	5.5	6.7

Source: FUR database

*London and Paris adjusted to common dates.

Paris presents an apparently very different picture. Over the whole period, the Paris FUR71 experienced population growth in all its components except for a slight loss from its core during the 1970s. Between 1951 and 2005, the constant boundaries Paris FUR71 increased in size by some 66% while the London FUR71 lost about 4% of its population. Paris appeared to outstrip London as Western Europe's biggest city on this measure during the 1970s. Only during the 1990s

has London's growth exceeded that of Paris. Another feature of the difference between the two cities is the size of their hinterlands relative to their cores. In London, about half the residents are in the hinterland defined by commuting flows: in Paris it is between 10 and 20%. The Brussel's performance was between the two: its total FUR population on constant boundaries reflecting behaviour in 1971 grew by 21%.

The data presented in Table 4, however, present a very different picture. This allows for changes in commuting and employment patterns between 1971 and 1991. The 'size' of London is extremely sensitive to changing commuting patterns whereas that of Paris and Brussels, with their very different policies towards containing urban expansion, is not. The FUR91 of London – defined on the 1991 patterns of employment and commuting flows – in 1991 was 63% larger than its built-up area and 43% larger than when defined on constant 1971 commuting boundaries. Paris FUR91 was only 26% larger than its built-up area at the same date and only 7.5% larger than its FUR71. We also find, if we apply commuting patterns of 1991, that not only was London very substantially larger than it was when defined on its 1971 boundaries but it was apparently larger than Paris: 9.6% larger rather than 21.3% smaller. Brussels FUR91 with the relaxed attitude to urbanisation and resulting low density of development in Belgium was no less that 185% larger than its built-up area.

Table 4: Brussels, London and Paris – Population of FUR71, FUR91 and Built-up Areas

		Population in 1991		FUR91 1999*			
		FUR71 ¹	FUR91 ²	Population Total & Growth	% of Nation	Paris GDP pc = 100	Total as % of Nation
BRUSSELS	Built-up Area ³		1272				
	core	664.9	704.3				
	hinterland	2734.1	2920.8				
	FUR	3399.0	3625.1	3668	35.9	82.3	40.9
Growth 1981-91 or '91-99%		0.6	0.8	1.2			
LONDON	Built-up Area ³		7661.0				
	core	4639.2	6125.5				
	hinterland	4117.3	6393.8				
	FUR	8756.5	12519.3	13231	22.9	86.2	30.2
Growth 1981-91 or '91-99%		-3.2	1.9	5.7			
PARIS	Built-up Area ³		9097.3				
	core	8574.5	7898.0				
	hinterland	2049.3	3520.0				
	FUR	10623.8	11418.0	11754	20.1	100	29.3
Growth 1981-91 or '91-99%		5.5	6.3	2.9			

* 1997 in the case of London

¹ Hall and Hay (1980) and updated FUR data base.

² IAURIF (2002)

³ IAURIF (1996)

This is perhaps only a confirmation of the common view that Brussels and London are particularly subject to long distance commuting. This is a long term historical difference between these two cities and Paris. It probably in part reflects the retention of a concentration of upper socio-economic groups within the centre of Paris compared to the suburbanisation and subsequent ex-urbanisation of such groups from Brussels and London. Such a historic difference has almost certainly been re-inforced by the very different policies of land use planning followed in the three countries, however. As was noted above, in France, urban growth is in general allowed to take place by continuous additions at the existing urban boundary. Moreover there has been national

investment in the strictly urban transport network. In Britain, the land use planning system in place since 1947 requires the maintenance of constant urban boundaries and the protection of unbuilt land, or 'Green Belts', around them. Growth of London has thus been significantly squeezed to leapfrog across green space to satellite communities. The result is more and longer distance commuting and quite possibly greater total energy consumption. These differences in land use planning policies themselves are likely to reflect the historic differences in the spatial distribution of upper, and politically more influential, social groups in the two countries.

Different inheritances and institutional regimes are also influential on physical patterns of urban development in other EU countries. The polycentric nature of the Dutch FUR (the Randstad) similarly reflects both historical inheritance and recent planning policy which has maintained an unbuilt green space between the four component core cities. The extensive hinterland of Brussels reflects planning policies that make little attempt to restrict or contain urban development, a tax regime that allowed commuting costs to be offset against tax until quite recently and significant investment in the motorway infrastructure. These differences are reflected in the proportion of national population and GDP associated with the principle city-region. People think of Britain and France being dominated by the national capitals. This is true relative to say Germany but Belgium is substantially more focused on Brussels – if defined as a FUR – than is the case for either Britain/London or France/Paris. The most extreme reflection of this is illustrated in the last column of Table 4: in 1999 more than 40% of Belgium's total GDP was produced in the Brussels FUR.

Table 5: Fastest & Slowest Growing London Boroughs: 1981-96

Borough	% Change	Borough	% Change
Tower Hamlets	21.6 (I)	Havering	-4.7 (O)
Kensington & Chelsea	13.5 (I)	Brent	-2.6 (O)
Richmond-upon-Thames	11.2 (O)	Greenwich	-1.6 (O)
Merton	8.7 (O)	Bromley	-1.0 (O)
Westminster	8.4 (I)	Enfield	0.6 (O)
Barnet	8.2 (O)	Redbridge	0.6 (O)

Source: Regional Trends, I/98 (I) = Inner London; (O) = Outer London

6. Conclusion

Economies and societies alike are built out of FURs or something very like them. Major cities and their spheres of economic influence are the most relevant units for location and comparative measurement alike. There are few N.U.T.S. regions which correspond at all closely to the effective economic region of cities. Paris and the Ile de France represent one of the very few exceptions although Berlin and Brandenburg together probably approximate the functional reality of modern Berlin. N.U.T.S. are hugely varied. Some, like Inner London, Brussels and Bremen or even Hamburg are just parts of urban areas – at most the central city. On the other hand some N.U.T.S. regions are larger than a number of EU countries and major cities such as RhineMain/Frankfurt have no corresponding N.U.T.S. region at all. Even to compare city size or prosperity we need functionally defined urban regions. It is certain that we need FURs if we are to compare competitiveness because such a concept relates to coherent economic regions. A major focus of the GEMACA II project (IURIF, 2002) therefore was to identify all our metropolitan regions using a common set of functional criteria and then to analyse a wide range of data for the resulting FURs. On the other hand it must be accepted that politicians represent administrative regions and so like them.

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The cartography of Belgium's Social Security

Bea Cantillon, Seppe De Blust and Aaron Van den Heede
(Universiteit Antwerpen)

1. Introduction

Social security systems generate redistributions of income among regional entities. The interpersonal redistribution systems cause cash flows among the various regions of a country to the extent that: i) social risks are divided unequally throughout the regions; and/or ii) the ability to contribute to the social security systems differs per region; and/or iii) there are differences in the way social security systems are implemented and/or in the content of the related policy measures (e.g. job placement, education, etc.).

In Belgium, the transfers between the politically relevant entities – Flanders and Wallonia – are generally given most attention. In this chapter, we sketch out the geographic structure of the interpersonal transfers by charting the distribution of social security contributions and benefits *at the local level*.

2. Local distribution of social security¹²

The local distribution of social risks brings to light a pattern of clusters that *sometimes* coincide, but *usually do not* coincide with the demarcation of the country's regions. The take-up of social security, measured on the local level, is much more varied than what could be suspected from interregional flows. The maps below depict this spatial distribution of contributions and benefits. In order to chart the local distribution of social security contributions and benefits, we use data from the Datawarehouse labour market and social protection (2004). The Datawarehouse contains the data of all people whom are registered at one or more of the participating social security institutions, supplemented with the family members of these people on 1 January of the consecutive year. For 2004, 97.9% of the Belgian population is recognised by the Datawarehouse.¹³

In order to obtain a picture at the local level of the geographical clustering of contribution or benefit concentrations, we use Belgium as a reference for each municipality. We thus use a standardization with which only the difference between the local concentration and the Belgian average is shown. As a consequence, the local values are mutually not comparable, but must always be viewed against the reference category of Belgium.¹⁴

¹² We would like to thank Sarah Carpentier for her extensive feedback on earlier versions of this paper.

¹³ The population percentage that was not taken up by the Datawarehouse consists primarily of wage-earning workers working for an employer who is not obligated to contributions with regards to the RSZ (National Social Security Office) or the RSZPPO (National Social Security Office for the Local and Provincial Public services) (among others, seasonal and border labourers) and categories of non-employed (such as, for instance, some male and female homemakers). The lower coverage degree is concentrated primarily in Brussels and the eastern border area of Belgium. 2004 is chosen as the reference year because most data are available for that year.

¹⁴ The maps used—in order to maintain the readability and consistency as much as possible—always consist of four classes, defined by means of the Natural Break method. This method starts from break points within the data in order to construct the classification. Differences across classes and similarities within classes are being maximized.

2.1 Flemish and suburban, the carrying capacity of social security

The Belgian social security system is financed by a combination of employees' social contributions, employers' social contributions and alternative financing of the social security system. In order to approximate the differentiated composition of the local contribution capacity as well as possible in proportion to the population count, we use the accumulated result of the prosperity index.¹⁵ This index provides an indication of the capacity for individual, collective and alternative contributions.¹⁶

Figure 1 clearly demonstrates the uneven distribution of the average local incomes. Belgium's average annual income in 2004 (tax year 2005) was € 13.222 (a prosperity index of 100). A resident of Flanders earned an average income of € 14.026 (a prosperity index of 106), considerably more than a resident of Wallonia (€ 12.357 and an index of 93,45) or the capital region of Brussels (€ 11.309 and an index of 85,53).

In greater detail, these regional differences particularly show a higher average income in the so-called suburban municipalities. For the cities of Ghent, Antwerp, Brussels and Leuven, this higher average income of the suburban regions extends across the whole Flemish diamond.¹⁷ In Wallonia, we find the same phenomenon in the central cities. The suburban areas have a higher prosperity index than the region and the city centres. Yet, in Wallonia, the scope of this suburban advantage appears to be limited to the nearby suburban municipalities. The south of Luxemburg, of which many residents work in the city of Luxemburg, also shows a strong concentration of higher average incomes in Wallonia.

Figure 1. Prosperity Index

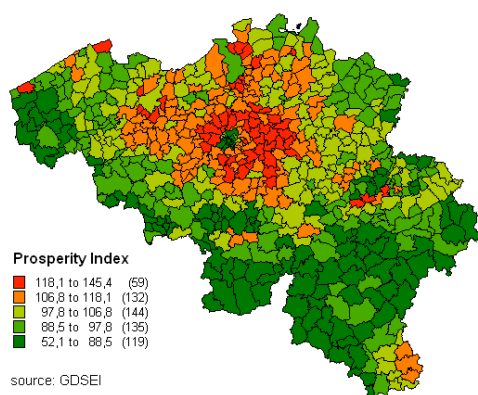
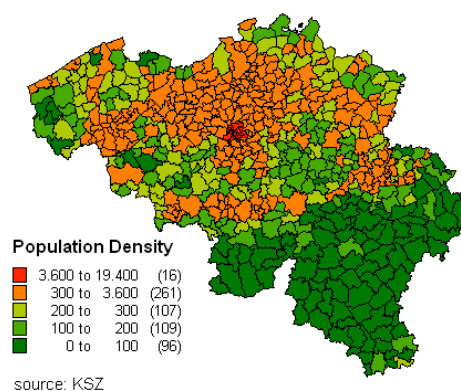


Figure 2. Population Density



We find the lower average incomes particularly in the rural areas (Southeast Belgium and the southern part of West Flanders) and some municipalities in the old-industrial Walloon axis (La Louvière, Charleroi, Liège).

Interestingly, the prosperity index in Belgium coincides in part with the distribution of the Belgian population (Figure 2). Not only does the Flemish diamond have a higher average income per resident, there are also more people living there. Both images clearly reflect the central economic

¹⁵ The Prosperity Index shows the similarity of the average local income per resident with the average Belgian income per resident. (Data: GDSEI)

¹⁶ When we use the gross income distribution for this, we arrive at a more or less similar pattern, except in areas such as Luxemburg with a high concentration of self-employed.

¹⁷ The Flemish diamond is defined in this report from the standpoint of an economic-geographic entity. The "Flemish diamond" is formed by the area amongst the cities of Brussels, Antwerp, Ghent and Leuven and their commuters. Walloon-Brabant belongs to the "Flemish diamond" for the most part.

position of the Flemish diamond (with the inclusion of a large part of Walloon-Brabant) in the socio-geographical configuration of Belgium and thus confirm the previous analysis that the global transfers today from the North to the South are caused particularly by differences in wage incomes.

2.2 Social risks, a changing and varied pattern

The interpersonal redistribution between, for example, working people and the unemployed, the young and the elderly, the healthy and the sick, which forms the basis of social security is two-fold. First, it ensures a replacement income in the event of a loss of income (unemployment, pension, worker's disability). Second, it provides an income supplement in the event of certain "social risks" such as raising children. These contribution-related benefits are complemented with a third pillar, namely the social assistance benefits for people who involuntarily lack an occupational income. Social assistance is not financed by social security contributions and hence does not belong to social security proper, but is a part of the overall social protection of the Belgian population. Both the social assistance benefits and the contribution-related benefits are spread over the territory according to the geographical distribution of social risks. We group these social risks on the basis of an underlying demographic distribution with the age structure of the municipality being central as well as an economic division on the basis of the labour situation of the local population.

2.3 Young and old, other risks, other places

Figure 3. 65+ yrs.

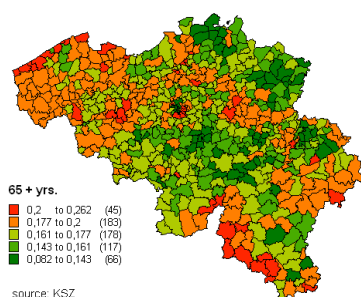


Figure 4. 15-64 yrs.

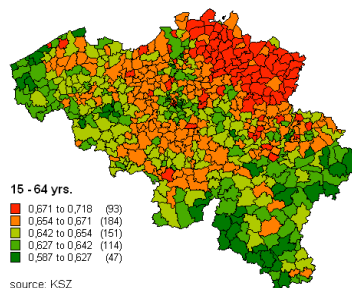
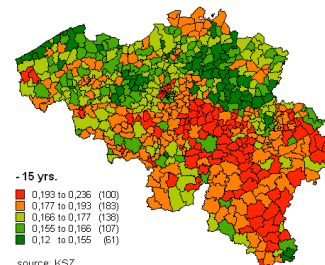


Figure 5. -15 yrs.



When we look at Belgium's age structure we notice a difference among the three regions. Flanders has (for 2004)¹⁸ a higher average age than Wallonia (41 and 40 respectively); Brussels has a younger population with an average age of 39. When we focus on the ageing of the population, the limited differences in average age conceal significant differences in the age distribution.¹⁹ Whereas Flanders has an ageing grade of 105,86%, in Wallonia, this amount is 91,91% (2004).²⁰ This difference is primarily attributed to a lower mortality (a mortality rate²¹ of 9,34 in Flanders in comparison with 10,62 in Wallonia (2004) and a lower birth rate²² in Flanders (1,65 in comparison to 1,76 for Wallonia (2004)). This stronger ageing in Flanders is in large part responsible for the large increase of the Flemish per capita income from social security benefits, which at the same time explains a decrease of Wallonia's surplus in social security take-up (Appendix 1).

¹⁸ The 2004 figures are used in order to maintain the consistency with the other data. The most recent figures (2008) provide a similar picture with regards to population structure.

¹⁹ $(65 \text{ years and older}) / (0-14 \text{ years}) * 100$.

²⁰ The most recent figures from 2008 provide a similar trend (110,72% and 92,78% respectively).

²¹ The number of deaths per 1000 residents.

²² This is for a specific year, the relationship between the number of live births by women of a specific age and the average number of women in that age group.

The analysis of the demographic structure of Belgium on a lower geographical level shows a more detailed distribution of the age structure. Thus, the older population in Flanders (65+) (Figure 3) is concentrated primarily at the coast, in West and East Flanders and in the urban regions. Likewise, the cluster of Dinant-Chimay-Bertrix in southwestern Wallonia has a noticeably higher concentration of elderly people.

The working-age population (15-64) (Figure 4) appears to have a better distribution between municipalities. Only the border regions of Belgium and the south of Luxemburg have a lower concentration of the 15-64 year-old age group. This discrepancy is explained, among others, by the fact that groups of employees in the border regions working for employers who do not contribute to the National Office of Social Security, are not included in the data set (seasonal and border workers, inter alia). Furthermore, the municipalities with a stronger representation of -15 year olds are situated primarily in Wallonia and in a number of smaller, Flemish clusters (Figure 5).

This variation in the local age structure ensures that social security benefits aimed at re-distribution among age groups or related to age-specific situations also have similar patterns. The retirement pension²³ (Figure 6) thus experiences a higher concentration in the Dinant-Chimay-Bertrix cluster, at the coast, in the Flemish urban regions and in the Dender Valley. Child benefits²⁴ (Figure 7) likewise have a pattern that coincides with the related target group. As such, the municipalities with a younger population (southeastern Wallonia and The Kempen) have a higher concentration of child benefits. Finally, early retirement pensions (Figure 8) do not completely conform to the pattern of the age structure. The local concentration of the early retirees shows on the one hand a combination of municipalities with an older population (seaside municipalities, Flemish cities and the Dender Valley, among others) and on the other hand, old industrial municipalities (for example, the district of Turnhout in the province of Limburg and the Hainaut province).

Figure 6. Retirement Pension

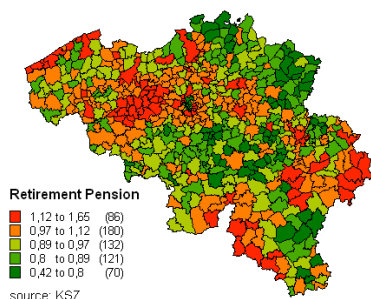


Figure 7. Child Allowance

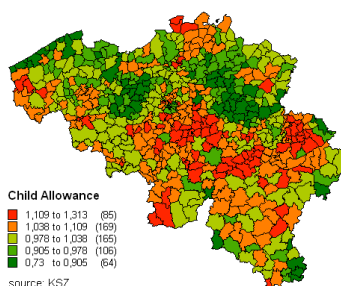
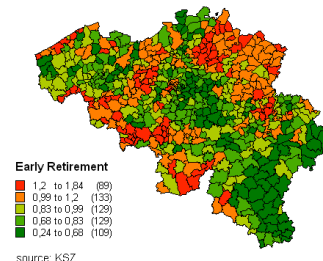


Figure 8. Early Retirement



²³ The retirement pension is calculated as a collated amount from the number of people with retirement pension in the systems of employees, self-employed and civil workers.

²⁴ Child allowance is drawn up for children who are both legally eligible with the RKW as well as children with the RSVZ.

2.4 Employed, unemployed and employment-seeking, a complex situation

Figure 9. Employed

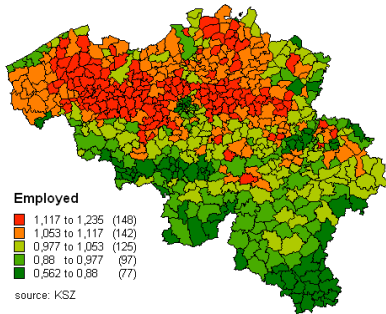


Figure 10. Not Actively Employed

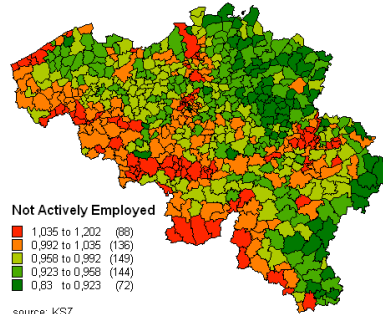
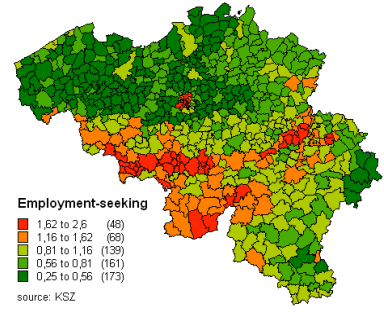


Figure 11. Employment-seeking



For the municipal distribution of the number of employed persons, not actively employed persons and job seekers, we use nomenclature positioning. Nomenclature positioning reflects the socio-economic situation of each person on the last day of the quarter. The nomenclature positions are divided into three large groups: employed, not actively employed and employment-seeking. The nomenclature position “employed” contains employees as well as the self-employed and all possible combinations of these. The nomenclature position of “employment-seeking” is specified on the basis of the type of benefit: unemployment benefits, recent graduate jobseeker’s benefits, transitional benefits and supervising benefits.²⁵ Finally, the nomenclature position of “not actively employed” is a combination of various socio-economic positions: full-time career leave, exemption from registering as employment-seeking, social assistance/financial help, pensioned without work, full early retirement, eligible children for child allowances and full worker’s disability. With the accumulation of various positions, priority is given to the socio-economic position “employed,” followed by “employment-seeking,” then “not actively employed.”²⁶

The concentration of employed persons (Figure 9) is noticeably higher in the municipalities belonging to the region of Flanders. This is confirmed by the unemployment figures of the various regions: in Flanders, there is an unemployment rate of 5,4%, in Wallonia the employment rate is 12% and in the Brussels Capital Region 15,7% was unemployed in 2004.²⁷ A more detailed analysis within Flanders shows a lower concentration of employed persons in the cities, parts of Limburg and the coast. In the case of the coast, this is due to the presence of the elderly population.

The pattern of the concentration of residents under the nomenclature position of “not actively employed” (Figure 10) tells the opposite story for the most part. The various causal factors (and underlying nomenclature positions) mean that the distribution pattern of the nomenclature position “not actively employed” is an accumulated result involving a very heterogeneous group of people. Socio-economic risks, demographic factors as well as local conditions, such as having the possibility to take early retirement, are all crucial. Because social-spatial structures are time-sensitive for which delay effects occur,²⁸ the ultimate socio-economic positioning of the municipality can be the outcome of a collective and enhanced effect of various underlying factors. The regions that have such a greater concentration of a “not actively employed” population, are,

²⁵ In this report, only the geographic distribution of the overarching nomenclature position of “employment-seeking” is reproduced. We do this in order to limit the represented maps and because of the relatively small portion of recent graduates jobseeker’s benefits within the job seeker population.

²⁶ For more information on the construction: http://www.ksz-bcss.fgov.be/nl/bcss/page/content/websites/belgium/statistics/_01/statistics_01_05.html

²⁷ For 2009, the percentages are: 5% for Flanders, 11,2% for Wallonia and 15,9% for Brussels.

²⁸ As such, a periodic increased social risk such as, for example, the insolvency of a certain business, through the combination of a place-connected and long-lasting effect on the socio-economic status of its workers, can influence a specific place for a longer time than the transition period itself lasts.

among others: the Flemish cities, the coast, the Walloon triangle of Dinant-Chimay-Bertrix, the Hainaut province and the Walloon urban belt. These regions are characterised by a higher average concentration of pensioners, high percentages of people in career leave, and so forth.

Finally, the nomenclature position “job seeker” (Figure 11) is concentrated primarily in the Walloon municipalities, more specifically in Wallonia's urban belt, the province of Hainaut and the socio-economically less developed area of Dinant-Chimay-Bertrix.

Figure 12. Primary Disability²⁹

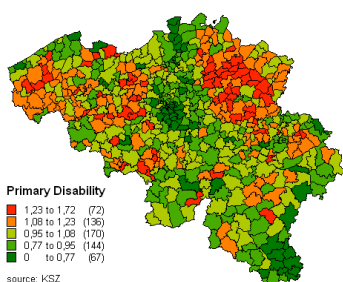


Figure 13. Invalidity³⁰

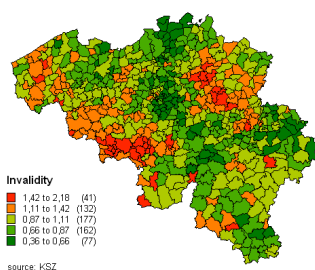
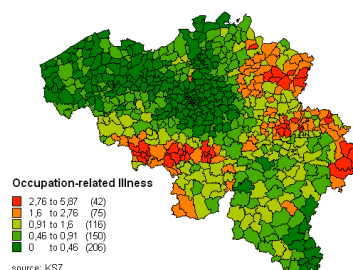


Figure 14. Occupation-related Illness³¹



When we further focus on the nomenclature position “not actively employed,” we see various other intraregional patterns.

A first series shows us the various positions of the complete worker's disability (primary disability, invalidity and occupation-related illness). Figure 12 and 13 show the concentration of primary disability and invalidity in Limburg (the Westerlo-St. Truiden axis) and the south of West Flanders. There is also a strong concentration of invalidity in the old-industrial axis of Hainaut. Occupation-related illness, represented in Figure 14, has three clear clusters with a higher concentration: the old-industrial areas of Limburg (The Kempen Basins), the Wallonia industrial basins of Hainaut and Liège (with a strong concentration of the old crisis industry of coal mining and heavy metal industry) and the East Cantons. The East Cantons experience neither specific economic development nor an industrial past that could explain the high concentration of occupational illnesses. A workers' mobility to nearby Liège or an administrative/political effect of the German-speaking community could be of importance here.

A final position under the nomenclature of “not actively employed” is the full-time career leave or the time credit scheme (Figure 15). For these schemes there is a clearly different distribution. Full-time career leave is concentrated primarily in the Flemish region and more specifically in the Flemish new-industrial centres such as the area around Roeselare-Kortrijk and the Kempen axis Heist-op-den-Berg—Lommel. In addition, the region around Liège also has a significantly higher share in full-time job leave/time credit. The associated part-time time leave (Figure 16), though not belonging to the nomenclature “not actively working,” likewise has a concentration in Flanders, but appears to be primarily situated in the areas with a high standard of living and a high rate of employment. It is clear that a high rate of employment, the age structure and economic capacity influence the concentration of this last measure.

Figure 15. Full-time Career Leave

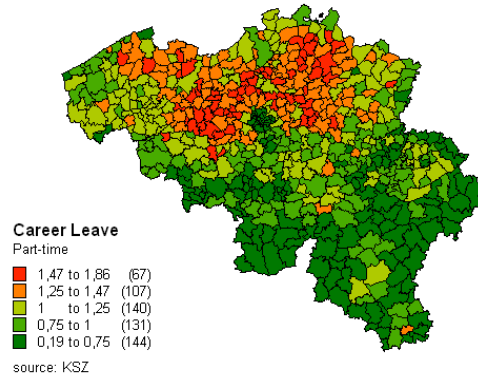
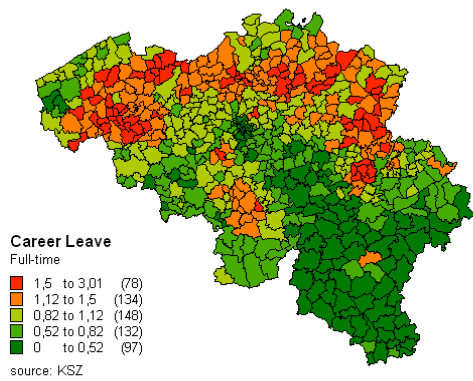
Figure 16. Part-time Career Leave

²⁹ The municipality of Herstappe has no resident within the worker's disability system and is represented with a value of null.

³⁰ The data related to invalidity can (in certain capacity) differ from later-received figures of the insurance structures.

³¹ The municipality of Herstappe has no resident within the work-related illness system and is represented with a value of null.

or Time Credit ³²



2.5 Social welfare, a third form of geographical differentiation

Figure 17. GIB/IBO

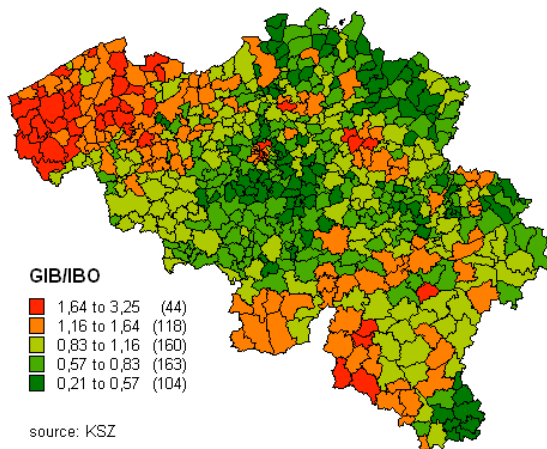
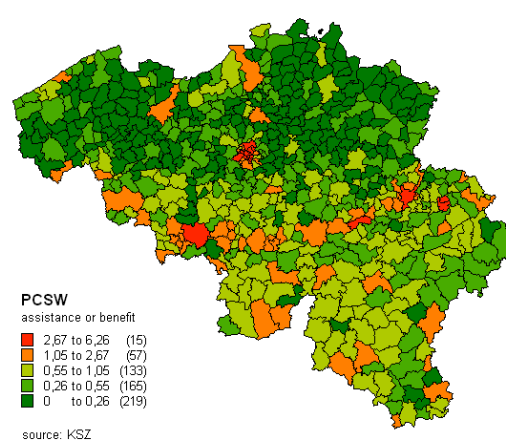


Figure 18. OCMW/CPAS³³



Finally, we briefly discuss two social assistance benefits. The social assistance benefits do not belong to classical branches of social security and are not contribution related. They are, however, paired with spatial concentrations of social risks and thus have influence on socio-economic transfers between or within the regions. We devote attention to them because they display a striking distribution structure.

The first type of social assistance benefit concerns the guaranteed income for the elderly (Figure 17). Its distribution coincides with (the municipalities with) a significant ageing population. The second sort of social assistance benefit concerns the OCMW/CPAS-assistance (Figure 18). There is a strong concentration for this form of social assistance in the Flemish and Walloon cities. The pattern clearly reflects the socio-economically disadvantaged position of the cities and in such a way functions as a complement to the dynamic of the city as an economic motor for its region.

³² The municipality of Herstappe has no resident in the system of full-time career leave and is represented with a value of null.

³³ The values under the rubric of OCMW/CPAS (Public Centres of Social Welfare) are all residents who receive assistance or benefit from the OCMW/CPAS. The municipalities of Bever, Nazareth and Herstappe do not have any residents in this position and are represented with a value of null.

3. The underlying patterns

The municipal distribution of social risks shows us the importance of the intraregional differences and underlying socio-geographical structures by charting regional transfers. The individual redistribution of social security is structured by residence patterns but does not automatically coincide with administrative or political structures.

In the municipality-level analysis there are three geographical structures that are crucial for the socio-economic configuration of Belgium and the related social security transfers: population distribution, urban poles and the spatial impact of the changing economic transition.

3.1 The population distribution (demography and migration)

Belgium has a clearly diversified population structure: the city centres have a different population constitution than the countryside; Flanders differs from Wallonia; and the coast differs from the Kempen. This diverse population structure appears to become more polarised in the future and will thus influence the social security transfers. The influence of the age structure on the cost structure of the social expenditures is crucial and will certainly experience a strong effect after 2015, when the generation of the 1960s come to an age that is associated with higher costs (cf. Mérenne, Van der Haegen et al., 1998). In addition to demographic trends, the population distribution is influenced by various age-specific changes of residence between and within the regions (cf. De Decker et al., 2009; Willems, 2008; and SUM-research, 2006). Thus, on the one hand, Belgium experiences a move of the elderly (60+, but more recently, also 41-60 year olds) to the seaside areas and on the other hand, a sustained migration to the city of young households and away from the city with larger households, determined by age-related living preferences. The combination of age-specific residence movements and a thorough demographic evolution cause the population distribution of Belgium and determine its socio-economic configuration, the distribution of risks for social security and the concentration of its prosperity basis.

3.2 The urban poles and their commuters

Employment is clearly determined by urban structure. After years of combining transport and housing policy (De Meulder, De Decker et al., 1999) the cities as economic motor, provide a large portion of employment for the municipalities around them. The urban living complex thus covers 51% of the country; Brussels alone 15% (cf. Luyten, 2007; Verhetsel et al., 2007). Brussels' commuters come from all over the Flemish diamond as well as the provinces of Hainaut and Walloon Brabant.

The central location of Brussels and its huge radius of action make this city the economic centre of Belgium (Thisse and Thomas, 2010) and thus determine to a high degree the socio-economic configuration of the country as well as the financial basis of the social security system.

The city centres themselves again have a socio-economically weaker population. Consequently, social security transfers take place here too.

3.3 The spatial impact of the economic transition

One final underlying structure is the spatial impact of the changing economic transition. In the past decades we have seen a transition to a knowledge economy that brings with it other residence patterns and thus a changing economic configuration. This transition is summarised by two overarching spatial dynamics (cf. Marissal et al., 2007, Vanhaverbeke and Cabus, 2004).

A first dynamic is the renewed concentration of economic growth in the large urban sector and its suburban areas. The strong decrease of industrial employment in the city is compensated by a strongly growing service sector, more specifically the business services. The space-requiring sectors, for example the logistics sector, establish themselves in the city perimeter. The strong position of the Flemish diamond as an urban network is an example of this.

The second dynamic, related to the first, is the difference in the ability for cities and their regions to adapt to this economic transformation. The Walloon cities such as Charleroi, Mons and Namur have had a much harder time to make the transition from a crisis economy to a knowledge economy. Here, however, Liège is an exception and has a relatively good standing within this new economic configuration. These difficulties to adapt lead to a contrast between Flanders and Wallonia with regard to economic strength. However, this contrast is not total. There is an increase of, among others, a strong knowledge economy in Walloon Brabant that forms a recovering economic fabric in the eastern side of that part of the country.

4. Conclusion

The fiscal basis of the Belgian social security system lies in the centre of the country. The 'Flemish diamond', including a large part of Walloon-Brabant does not only have a higher average income per resident, it also has more inhabitants.

The central geographical position of Brussels and its huge radius of action make this city the economic centre of Belgium. For this reason it determines to a high degree the socio-economic configuration of the country as well as the fiscal basis of the social security.

The spatial distribution of social security benefits shows a pattern that sometimes coincides with the major administrative entities of the country, but does not always do so. Demographic characteristics determine the distribution of pensions and of child benefits. The spatial impact of the post-industrial economic transition on the urban employment centres determines the spatial distribution of primary disability, career leave, unemployment and social welfare; the industrial past, on the other hand, is reflected in the spatial distribution of work-related illness.

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Appendix

The socio-economic and socio-demographic profile of Belgium's regions

The unequal distribution of social risks and the differential capacity to contribute to the social security system are the result of substantial socio-economic and socio-demographic differences between the three Belgian regions. Table A1 clearly shows that the difference in labour market participation between the regions is very high. Although employment rates in the three regions share a similar level, the employment rate in Flanders is much higher than in other regions (68% versus 55% in Brussels and 57% in Wallonia, in 2007). This is also reflected in the unemployment figures. In 2007 the rate of unemployment was 4% in the Flemish Region, 16% in the Brussels Capital Region and 10% in the Walloon Region. This means that the per capita capacity to contribute through taxes and social contributions is significantly higher in Flanders than in other

provinces. This leads de facto to interregional transfers (Deleeck et al, 1989). These transfers also arise because of the higher benefit dependency in the Walloon and Brussels regions. The difference in benefit dependency ratios between Flanders and Wallonia, expressed as a percentage of the total population, was approximately 6% in 2004. Given the lower employment rates, the proportion of individuals that received unemployment benefits in the Walloon Region was 3% higher than in the Flemish Region (11% versus 8%) (Cantillon and De Maesschalck, 2008). The prosperity index shows that the average income in Flanders is higher than in other regions. Moreover, differences in income level have increased over the period 1999-2007. While in 1999 the per capita income in Brussels averaged 91% of the national average income, it fell in 2007 to only 85%. In Flanders and Wallonia, the average per capita income relative to the average national income per capita was relatively stable during this period (in Flanders from 105% in 1999 to 106% in 2007, and from 93% to 94% in Wallonia).

Table A1. Socio-economic en socio-demographic profile by region, 1999-2007

	Employment rate	Activity rate	Unemployment rate	Prosperity Index	Dependency rate	Aging rate
				Belgium = 100		
Brussels						
1999	53,20	62,49	14,88	91,31	47,45	98,67
2000	54,88	65,24	15,88	91,03	52,90	94,09
2001	52,04	60,91	14,55	90,04	52,74	91,97
2002	54,07	64,28	15,88	89,69	52,33	89,27
2003	53,01	64,03	17,21	85,70	51,60	87,18
2004	53,41	64,19	16,80	85,70	51,23	85,80
2005	56,11	67,18	16,47	85,54	50,97	84,34
2006	53,62	65,22	17,79	84,59	50,64	82,23
2007	55,18	65,90	16,26	84,58	50,10	79,81
Flanders						
1999	62,87	66,11	4,90	105,48	49,30	86,84
2000	63,05	66,00	4,48	105,69	51,01	98,13
2001	63,72	66,90	4,75	106,56	51,32	99,91
2002	63,94	67,35	5,06	106,51	51,52	101,83
2003	63,86	67,76	5,77	106,56	51,70	103,78
2004	64,86	68,55	5,39	106,56	51,90	105,86
2005	64,67	68,54	5,63	106,08	52,10	107,81
2006	66,57	69,68	4,46	106,07	51,98	108,99
2007	66,83	69,54	3,90	106,06	51,63	109,61
Wallonia						
1999	55,08	62,63	12,05	92,74	54,74	90,24
2000	56,65	62,29	9,05	92,45	54,74	90,24
2001	54,11	60,85	11,07	91,19	54,69	90,27

2002	54,54	61,93	11,93	91,41	54,50	90,63
2003	56,36	63,55	11,31	92,55	54,22	91,11
2004	55,18	62,68	11,97	92,55	53,86	91,91
2005	56,27	63,62	11,57	93,46	53,56	92,80
2006	56,65	64,16	11,71	93,79	53,07	92,96
2007	57,69	64,33	10,33	93,82	52,34	92,73

Source: GDSEI, FPB, NAI.

The regional socio-economic differences, as shown in Table A2, confirm this difference in positioning of the three Belgian regions, but also show a remarkable trend, in particular the divergence of the proportion of individuals with a replacement income.

Table A2. Regional socio-economic disparities, 1985-2008

	Employment rate	Employed	People with income replacement	People with income replacement unemployment + bridging pension	People with income replacement Sickness and disability	People with income replacement Pension
Flanders						
1985	.	36	19	7	2	11
2004	62	41	28	8	4	17
2008	68	42	30	8	5	18
Wallonia						
1985	.	31	24	9	3	13
2004	55	36	30	11	4	16
2008	55	38	32	12	4	17
Brussels						
1985	.	.	.	.	.	.
2004	.	.	.	.	.	.
2008	46	38	30	13	4	14

Source: Cantillon en De Maesschalck (2008), own calculations.

During the period 1985-2008 the difference between the regions is considerably reduced through the sharp increase of the proportion of benefit recipients in Flanders. The share of pensioners increased by 63% in Flanders, whereas by 31% in Wallonia. The proportion of people claiming sickness and / or disability benefits increased by 150% in Flanders, by 33% in Wallonia. The underlying factor in this rapid increase in both branches of social security is clearly related to the rapid aging in Flanders and the increasing number of pensioners, both in absolute and relative terms. We might wonder to what extent this strong aging in Flanders will have an impact on the social security transfer between Flanders and Wallonia.

Table A3. Expected demographic and socio-economic developments, 2008-2050

	0-14 yrs. (%)	15-64 yrs. (%)	65+ yrs. (%)	Dependency of the elderly
Belgium				
2000	18	66	17	25,53
2007	17	66	17	25,94
2010	17	66	17	26,05
2020	17	64	19	30,26
2030	17	61	23	37,25
2040	16	59	25	42,22
2050	16	58	26	43,90
Brussels				
2000	18	65	17	25,65
2007	19	67	15	22,24
2010	19	67	14	21,37
2020	20	66	14	21,20
2030	20	65	16	24,13
2040	19	64	18	27,87
2050	18	63	19	30,38
Flanders				
2000	17	66	17	25,26
2007	18	66	18	27,00
2010	16	66	18	27,57
2020	16	63	20	32,42
2030	16	60	24	40,48
2040	15	58	27	45,79
2050	15	58	27	47,38
Wallonia				
2000	19	65	17	25,97
2007	18	66	17	25,18
2010	18	64	16	24,81
2020	18	61	19	29,49
2030	17	59	22	36,20
2040	16	59	24	41,06
2050	16	58	25	42,68

Source: FPB; own calculations.

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