

# **Internal mobility of international migrants: the case of Belgium**

Didier Willaert <sup>1</sup> & Helga de Valk <sup>1,2</sup>

*1 Interface Demography, Department of Social Research, Vrije Universiteit Brussel*

*2 Netherlands Interdisciplinary Demographic Institute (NIDI)*

*All correspondence to:*

*Helga de Valk*

*NIDI and Vrije Universiteit Brussel, Interface Demography*

*Pleinlaan 5*

*1050 Brussel, Belgium*

Email: [hdevalk@vub.ac.be](mailto:hdevalk@vub.ac.be)

**DRAFT: Please do not cite or quote**

## **Internal mobility of international migrants: the case of Belgium**

### **ABSTRACT**

Research on international migrants traditionally focused on their international moves only. In this study we expand on this work by looking at the internal mobility of international migrants living in Belgium. In our paper we will pay special attention to the case of Brussels, the main urban area in Belgium. This article studies the level of internal mobility of international migrants as compared to the majority group. We also test whether the same or different patterns of mobility are found among different origin groups in Belgium. Second, we study where international migrants move to by distinguishing between different areas and regions. Finally, we question how and to what extent neighbourhood characteristics are important for internal mobility of international migrants. Our work is based on the 2001 census and the 2006 register data of Belgium including the total population. The data are unique as beside regular data we also have detailed information on the evaluated and objective neighbourhood characteristics.

**Keywords:** migrants; internal migration; suburbanisation

## **Internal mobility of international migrants: the case of Belgium**

### **Introduction**

Research on international migrants traditionally focused on their international move. Studies have tried to explain why and where people move across borders based on different theoretical assumptions. This strand of research is largely separate from the study of internal mobility and migration decisions. The latter studies mainly focus on the majority population and often take a geographic starting point. The studies that have been done on spatial mobility of international migrants are mainly coming from the US and the UK. It is only in very recent years that these studies have been expanded to continental Europe. However, the growing ethnic diversity of European countries makes the question to what extent international migrants follow the same patterns of internal mobility ever more relevant.

The location choices of international migrants are not accidental. Immigrants often settle, at least initially, in the larger urban areas. This is the result of the available job options, cheap housing possibilities, as well as, the consequence of the importance of the network of family and friends in the migration move. Studies on international migration have focused on the fact that migrants are not randomly settling in a host society. Very often migrants arrive in the larger urban areas where housing and work are more readily available (Zorlu & Mulder 2008; de Valk et al., 2004).

Research on internal mobility, however, primarily focuses on the majority group in different countries. Only more recently and starting from work on the US, in some European countries this gap in research has been bridged by paying attention to internal moves of international migrants. Emphasis has been put on the ethnic specific patterns of mobility (Finney & Simpson, 2008), the role of family ties (Zorlu, 2009), segregation patterns (Brama, 2008) and consequences of mobility for integration of ethnic groups (Hall, 2009; Bolt, Özüekren & Philips, 2010). Despite the fact these studies have advanced our understanding of internal mobility, still limited is known on how neighbourhood and housing characteristics may influence mobility and in particular that of minority groups.

Segregation has been one of the core areas in migration studies. In particular in the US there is a long tradition in studying segregation of minority groups and its effects on different outcomes in life. Recent studies in Europe also have attempted to link segregation and patterns of integration of immigrants in the host society. Although levels of segregation in Europe in general are not as high as has been reported for the US, still many scholars and policy makers are concerned about ethnic concentration and its consequences. It has therefore been questioned what factors influence ethnic concentration and whether international migrants will also follow the suburbanisation path as has been frequently observed for majority groups. The latter group is in many countries found to leave the inner city centres as areas outside the inner city are perceived to be provide better living conditions. Residential segregation is thus reinforced with many immigrants arriving to these urban centres where majority group members are leaving ('white flight'). Very often these suburbanisation moves are associated with upward social mobility. The fact that housing conditions and quality of living is perceived to be better outside of the inner city potentially holds for both majority and minority group populations. The level to which these perceptions on housing conditions influence patterns of mobility remains to be explored. This article addresses the question how and to what extent neighborhood characteristics are important for internal mobility of international migrants.

In this article we expand the previous research to Belgium and aim to advance understanding of how housing conditions and neighbourhood factors relate to internal mobility. This study adds to the literature in three ways. First of all we test whether the same or different patterns of mobility are found among different migrant groups in Belgium. In Belgium, like in many other European countries, the share of immigrants in the population has grown the past decades. Immigrants in Belgium have a wide range of origins which will be taken into account in our work. Second, contrary to most studies that rely on survey data, our work is based on the census data including the full population. This allows for a detailed breakdown of different origins. Most studies have focused on the largest immigrant groups only. In our study we distinguish six different immigrant origins and the native population. In this way our study can provide more in depth knowledge on similarities and differences in residential mobility per origin. Third, very often it is suggested that the perceived

quality and the ethnic composition of the neighborhood are important factors in location decision making. Our data are unique in the sense that we do have detailed information on the evaluated and objective neighborhood characteristics. We question whether neighbourhood characteristics are important for internal mobility of international migrants and whether they are of same importance for different origin groups. For this paper we use linked Belgian census data for 2001 and 2006. This design provides longitudinal data on the full population of Belgium in order to disentangle the causal mechanisms behind mobility of a wide range of origin groups. The first part on mobility patterns covers Belgium whereas in the second part on the role of neighbourhood characteristics we focus on the Brussels Capital Region (BCR) with the highest overall mobility.

### **Theoretical frame**

Studies on integration of minorities into the host society after migration have perceived residential mobility as only one of the indicators for assimilation. According to this view, immigrants who reside in the country longer will have more similar residential patterns than is the case for those who arrived only recently (Massey, 1985). For newly arrived migrants the segregation into certain neighbourhoods is reinforced because of the available ethnic networks that will allow for finding a job, guidance in the new environment and specific ethnic goods. We thus expect that immigrants who live in an area with many co-ethnics are less likely to move than those in neighbourhoods with few co-ethnics (H1). This effect is expected to be relevant for all types of moves as well as for all origin groups.

For second generation immigrant we can expect that they are assimilating more to the host society. Among other things this is potentially also reflected in their residential choice and internal mobility. As immigrant groups are integrating in other domains of life they will just as well move out of the ethnic concentration in urban areas (Alba & Nee, 1997). The assumption is that spatial dispersion increases with generation and interethnic mixing with natives. Overall we thus expect that suburbanisation will likely be higher for second-generation/third-generation households than for first-generation households (H2).

### *Residential mobility*

The general framework for explaining residential location suggest that it is determined by preferences and needs of households on the one hand, and by their opportunities and constraints on the other hand. The opportunities and constraints are a result of the interaction between the income of households, and the availability and accessibility of (desired) dwellings and neighbourhoods (Bolt 2008; Clark et al., 2006). The housing need (in terms of size, type, quality, price and tenure) and preferences for a specific type of neighbourhood change as households move through the different stages of the life course. In this respect, life-course events – leaving home, forming a partnership, having children, getting divorced, the death of a partner, entry into the labour market, job change, or loss, the purchase of a house, etc. – often lead to an adjustment of the housing situation, and hence trigger residential mobility (Clark 1996; Zorlu 2008). The decision to move to another residence will be made when the disequilibrium between the current and the desired housing and neighbourhood is too large, and when the households' budget allows it (Hanushek 1978).

These opportunities and constraints can be expected to be of similar importance for migrant and native families alike. We thus expect that differences in life course stages, experienced events, and economic position of the household will explain different levels of mobility. Those who are younger, are single and experience no family life transitions, are higher educated and have a better income position are more likely to move houses (H3).

Regarding the destination of residential mobility, previous research has indicated that a move within the central city is mainly about adjusting to space (and is thus about housing consumption), while a move to the suburbs can be rather linked to tenure change (from renter to owner), to the desire for a more comfortable dwelling in a lower density and greener environment, or to neighbourhood dissatisfaction (Clark 2006). Longer-distance moves, on the other hand, are more associated with the occupational career (the search for a first job, job change, retirement) than with the housing or household career. We therefore expect that the tenure status will influence destination of the move where renter are more likely to leave the city (to suburbs and out of the urban area) while no such influence is expected for home owners (H4). For those we already own a house it is more likely that it satisfies their need in terms of space and com-

fort level, and so are less inclined to move. And if they move, it will rather be because of other external reasons. Again we expect that this hypothesis will hold for migrant and native majority groups.

There seems to be overall agreement that housing quality is an important determinant for mobility. One key aspect in quality of the living conditions may however also be related to the location of the house and the appreciation of the neighbourhood. This latter aspect has received less attention in the literature but could potentially be relevant for explaining residential mobility. The evaluated quality of the neighbourhood can be an important indicator for the way in which persons attach to the neighbourhood. Those who have a negative evaluation are more triggered to potentially change this situation in order to improve their quality of living. We thus hypothesize that a negative evaluation of the neighbourhood makes an individual either of native or immigrant origin more likely to move (H5).

### **Immigrant populations in Belgium**

Of the population in Belgium (around 11 million inhabitants) about nine percent is of foreign origin. The largest immigrant communities in Belgium are the Italian (347,000 first- and second-generation migrants in 2001), Moroccan (245,000), French (194,000), Turkish (140,000) and Dutch (140,000). The Italian community has a long history of migration in Belgium (Morelli 2004). The first contingents of Italians moved to Belgium in the 1920s to work in the heavy industries and coal mines. Immediately after the Second World War, tens of thousands of mainly Italian workers were recruited because of strong demand for labour in the metal and mining industries, and later also in other industries and in the construction and service sector. In the late 1950s and the 1960s, Italians are joined by Spaniards, Greeks and Portuguese. During the same period there was also a large influx of migrants from Morocco and Turkey (Lesthaeghe 2000). This massive immigration of foreign guest workers stopped abruptly with the economic crisis in the early 1970s. From the middle of the 1970s onward, immigration continues but is restricted to family reunification. The inflow of family members is reinforced by the import of brides and grooms by the Moroccan and Turkish population, which continues until now (Lievens 2000). The most recent developments are an increase in the number of asylum seekers (specially in the 1990s after the outbreak of the war in former Yugoslavia), and the large influx of Eastern European immigrants – mostly

from Poland, Romania and Bulgaria – after the enlargement of the EU with several Eastern European member states in 2004 and 2007.

The Belgian migrant community in this sense covers a large range of western (European) origin groups as well as groups originating from the Mediterranean area and Africa. Also when it comes to labour market, educational and housing position there is a wide variety between the different immigrant origin groups. Overall the socio-economic position of many immigrants of non-western origin is less favourable than that of the majority group whereas those coming from other European countries are more often in a similar or better position than the natives.

### **Data and measures**

This study uses data from the 2001 Belgian census (1/10/2001), individually and anonymously linked to the National Population Register (situation on 1/1/2006) by Statistics Belgium. By linking these two sources we can measure internal mobility of all residents of Belgium. The register information of 2006 used to identify municipality of residence and characteristics of the private households (number of household members and relationship to the head of the household). The explanatory variables are all measured before the move took place and are derived from the 2001 census. This includes covariates such as educational level, household income, housing characteristics and appreciation of the neighbourhood.

Internal migration is measured by comparing municipal residences in 2001 and 2006. We can only include those who have moved between municipalities. Those living in the same municipality on both measurement times might have moved houses within the same municipality, however, our data do not capture this residential mobility. From the 10,296,350 inhabitants of Belgium in the 2001 census, almost 9,550,000 (93%) were still living in Belgium in 2006. Approximately 13% of all inhabitants who also resided in Belgium in 2006, had moved to another municipality within this five year time period.

In addition, to the simple measure of moves we also want to know where people are moving. Therefore we make a distinction between the central city and its suburbs which is based on the typology of Belgian city regions (VanDerHaegen 1980; Luyten 2007). The central city consists of the historical core, the 19th-century expansion of the city and the other densely populated urban districts. Brussels, the



central city coincides with the 19 municipalities of the Brussels-Capital Region (BCR). In the multivariate analysis, the BCR is divided into a group of “inner city” municipalities<sup>1</sup>, which broadly corresponds to the expansion of Brussels before 1914, and into an “outer city” group<sup>2</sup> that was urbanised thereafter. The suburbs include the rest of the morphological agglomeration (the built-up area adjacent to the central city), the “banlieue” (the urban fringe with a predominantly rural appearance but functionally urban) and the commuter zone (municipalities with 15 percent or more of the labour force commuting to the urban agglomeration).

In the multivariate analysis of migration in the Brussels urban region, a distinction is made between (1) moves from the inner city to the outer city within the Brussels Capital Region (BCR), (2) moves from the BCR to its suburbs, and (3) moves from the BCR to the rest of Belgium. A move from the central city to the suburbs directly results in getting into a neighbourhood with more open and green space. Compared to the inner city of the BCR, the neighbourhoods in the outer city are less dense and have more green areas. Moves from inner- to outer city therefore also largely correspond to a gain in the quality of the physical environment. In the Brussels area, both types of moves generally coincide with a higher socioeconomic status of the neighbourhood and with better housing as well.

For the division of the population into native Belgians and those of migrant origin, information on the current nationality (at the moment of the 2001 census) and – for Belgian nationals – the nationality at birth was used. For children still living with their parents, the nationality at birth of the head of the household is also taken into account. By combining this information we can distinguish the migrant population into first-generation (born outside Belgium) and second-generation immigrants (born in Belgium). In order to reduce complexity of the analyses by migrant origin we distinguish 6 different groups based on migration history and similarity in socio-economic position. Migrants from Italy, Spain, Portugal and Greece are classified into one group (Southern European) as migrants from these countries mainly came to Belgium as labour migrants starting after WWII until the early 1970s. Turkish and Moroccan migrants also arrived predominantly as labour migrants in the mentioned period. However, their position in soci-

---

<sup>1</sup> Anderlecht, Bruxelles, Ixelles, Molenbeek-Saint-Jean, Saint-Gilles, Saint-Josse-ten-Noode & Schaerbeek

<sup>2</sup> Auderghem, Berchem-Sainte-Agathe, Etterbeek, Evere, Forest, Ganshoren, Jette, Koekelberg, Uccle, Watermael-Boitsfort, Woluwe-Saint-Lambert & Woluwe-Saint-Pierre

ety, their religious background and their demographic behaviour makes it warranted to distinguish them as separate origin groups. Although they are among the largest non-western migrant groups in Belgium, the differences between the two groups make it necessary to study them separately. Migrants coming from other non-western origins are numerically too small to distinguish separately and are thus grouped as other non-western. A fifth group comprises of migrants originating from Eastern European who have a more recent migration history to Belgium. The final group are those migrants coming from other western origins. This includes those both immigrants from the neighbouring countries (France, the Netherlands and Germany) who mainly live near the borders or in the major cities as well as migrants coming from other parts of Western Europe (like e.g. the UK). Given the similarity in socio-economic status and residential pattern immigrants from other developed countries (including the US, Canada, Japan, Australia and New-Zealand) are also included in this second group labelled as Western migrants.

For our analyses we restrict the study population to individuals between 18 and 64 years (working age population), and to those not living in institutional households or student accommodation. In line with the theoretical assumptions our analyses includes a range of demographic, socioeconomic, housing and neighbourhood variables to explain the residential mobility of natives and immigrants in the Brussels urban region. We apply multinomial logit analyses in which the three types of moves are compared to those who do not move (reference group). We estimate the models separately for each of the six migrant groups and the natives. For this analyses all explanatory variables are categorised and the reference category taken in the dummy variables is the group with the lowest mobility.

All explanatory variables are measured at the moment of the 2001 census. A first group of variables are demographic indicators. *Age* of the individual is measured in full years and divided into 4 age groups distinguishes young adults (18-24), young adults (25-34), middle aged (35-49) and older persons (50-64). *Type of household* at the moment of the 2011 census in which four different states are distinguished (single, one parent household, couples without children and couples with children; latter is the reference group). Furthermore we include the household transitions experienced within the five year period in order to link demographic transitions in the life course to mobility patterns. Transitions between household types are defined by four dummy variables which correspond to a gain/loss of a partner or

children. *Immigrant generation* is defined using nationality as explained before. We use a six category classification to identify the level of homogamy in the households; this classification of first-, second- and third-generation-plus immigrants is based on Ellis (2005). Third-generation-plus migrants correspond here to natives. Socioeconomic status is measured by *educational level* (higher education vs. no higher education indicating less than college) and by type of *income* in the household in which those with replacement income (reference category) are compared to those households where at least one person earns an income via paid labour, and households where two full-time incomes through labour market participation are earned.

In our study we are mainly interested in the role of housing and neighbourhood for mobility patterns among different origin groups. *Housing characteristics* are captured by a combination of tenure status (renter vs. owner) and housing quality. The quality of the dwelling is based on the degree to which the person indicates large repairs are needed, the size in square meters, the number of bedrooms, and the presence/absence of a toilet, bathroom, kitchen, and double glass (Vanneste 2007). The original five categories were reduced to three: low, medium and high quality. Two *neighbourhood characteristics* are included: the *self reported appreciation of the neighbourhood*, and the *share of the own ethnic group* in the neighbourhood. Appreciation of the neighbourhood refers to five items: the beauty of the buildings in the immediate surroundings of the dwelling, the cleanliness, air quality (pollution), the quietness, and the amount of green space in the neighbourhood. In the 2001 census, individuals could give a positive, neutral and negative appreciation on each of these items. A total score was calculated by assigning one point to a positive evaluation and subtracting one point in the case of a negative evaluation. Three dummy variables were constructed for scores between -5 to -2 (negative appreciation of the neighbourhood), between -1 and +1 (neutral appreciation), and between +2 and +5 (positive appreciation). The *concentration of the own ethnic group* in the neighbourhood is calculated by dividing the 724 statistical sectors of the Brussels Capital Region into quartiles with populations of equal size after sorting them first by increasing percentage of the own ethnic group in the total population (origin group specific). The three dummy variables correspond to the first, the two middle, and the fourth quartile.

A description of the independent variables by origin groups is provided in Table 1. The fact that immigrants are in general younger than the majority group is reflected in the age composition of the Belgian population as well. Natives are more likely to belong to the older age groups whereas in particular the non-western groups (including Turks and Moroccans) as well as the Eastern Europeans are young populations. This difference is also reflected in the household composition where migrant groups in general and those of Turkish and Moroccan and non-western origin in particular are more likely to be in a couple with children. When it comes to the ethnic composition of the household we find that among all origin groups the majority live in households with immigrants (first generation only). Inter-ethnic households with one partner from Belgium and an first or second generation immigrant are relatively common. Western, Eastern European and other non western origin migrants are least common for the Turkish and Moroccan group. All migrant groups are less educated than the Belgian majority group with the exception of the Western migrants in the population who are more likely to have higher education. Among all groups the majority of households has to rely on one income from paid work. Two full time incomes are more common among the Belgians and the Southern European immigrants and least likely for the Turkish and Moroccan group. When comparing the different origin groups than we find in general in particular differences between those of Turkish and Moroccan origin and the other migrant groups. Compared with the other immigrant groups, the population of Moroccan and Turkish descent has a clearly younger age structure, live more in traditional household forms, mix less with natives, have a lower educational level, rely more on replacement incomes and less on two full-time labour incomes, and live less in higher quality housing. The demographic and socioeconomic characteristics of the Western group and of Southern Europeans are closest to that of the natives. Eastern Europeans and the other non-Western group have an intermediate position. Of all immigrant groups, Southern Europeans have the highest proportion of second-generation individuals (22%). They are also characterised by a low proportion of higher educated persons, and a more traditional household formation pattern.

The geographical distribution of the migrant groups in the BCR varies significantly. Native Belgians live predominantly in the outer city, near the border with Flanders. The Western group, on the other hand, is mainly concentrated in the south-eastern (most expensive) parts of the city. Turks and Mo-

roccans live spatially segregated in the low-quality 19th-century neighbourhoods west and north of the historic city centre. Southern Europeans, Eastern Europeans, and the other non-Western migrants have more dispersed settlement patterns in mixed neighbourhoods (see for example Willaert 2005).

[Table 1 about here]

The population of foreign origin in Belgium predominantly lives in the Brussels-Capital Region and its suburbs, in several other major cities, near the border and along the industrial basin and former coal mines close to the cities of Mons, Charleroi, Liège and Genk (Figure 1). In the other municipalities, the proportion of migrants in the total population is much lower, particularly in Flanders (North Belgium).

[Figure 1 about here]

### **Patterns of internal migration compared**

Table 2 shows the population distribution of native Belgians and the six migrant groups in the major urban regions on an urban-suburban scale (row percentages). The percentage of natives decreases sharply with the degree of urbanity. The native population is most under-represented in the Brussels-Capital Region (53 percent of the total population). The location of immigrants varies by group. The Western immigrants are largely located in the south-eastern part of the BCR and its suburbs, and also near the border with the Netherlands, France and Germany. Southern Europeans of mainly Italian background live predominantly in the industrial areas of Mons, Charleroi, Liège and Genk (cf. labour migration in the second half of the twentieth century), and to a lesser extent in the BCR. Eastern Europeans, Moroccans and Turks have a similar residential pattern, but are more evenly spread than Southern Europeans. The proportion of Moroccans is especially high in the inner city of the BCR and in cities like Antwerp and Liege. Turks, on the other hand, are significantly concentrated in Ghent, in the municipalities of Saint-Josse-ten-Noode and Schaerbeek (Brussels) and near Genk. The location of the other non-Western group coincides to a large extent with the more densely populated urban areas, but they are also over-represented in the subur-

ban areas of Brussels and Liège and in several rural municipalities in the Walloon Region (South Belgium). Overall suburbs are more populated by native Belgians and central cities have a substantial share of immigrants.

[Table 2 about here]

The geographical pattern of internal migration in Belgium between 2001 and 2006 is characterised by net losses of native Belgians in all central cities of the major urban regions, except in Ghent, and net gains in all suburban and rural areas (Table 3). Especially in Brussels, the urban exodus is considerable. Negative migration balances are not confined to the central cities alone. Several suburban municipalities in the metropolitan city regions, as well as peripheral rural areas, also experience a net loss of natives (Figure 2a). This can be linked to elevated price levels of houses and building plots in the immediate surroundings of the central city, and to the rural exodus of young adults for study and job reasons. Areas of significant gain (over 2% of the population) are mainly situated in the Walloon Region, such as southeast and southwest from Brussels and in the rural Ardennes. In Flanders (Antwerp and Ghent), most municipalities have only a modest positive migration balance of natives. Only in the coastal region, net gains are higher because of extensive retirement migration.

[Table 3 about here]

[Figure 2 about here]

In line with our hypothesis, overall a similar pattern of movement out of the major central cities, and into the suburban and rural areas is found for the different migrant groups (Table 3 column 2 to 7; Figure 2b). One of the few exceptions is the net in-migration of Eastern Europeans and Moroccans in the metropolitan cities of Ghent and Charleroi. The urban exodus of the minority population is greatest in Brussels and in Liège, with even higher net losses – in relative terms – than is found for native Belgians. In the Brussels-Capital Region, however, there is a net gain in 9 of the 12 municipalities of the outer city

(not in Table). The settlement of migrant groups is most pronounced in municipalities close to the central city (whereas natives move more to rural areas further away from the city). In the suburbs, the percentage increase through internal migration is as high as 23.1 for Moroccans and 45.7 for Turks in the Brussels region, and 38.9 for Turks in the Ghent region although one should bear in mind that these percentages are based on relative small numbers (Table 2).

In order to get a more long term perspective on mobility patterns we replicated our analyses also for the 1996-2001 period. Table 4 thus shows the same rates as Table 3 but now for the five year period before the census (1996-2001). Overall patterns for this period in time are highly comparable to what we found before although absolute rates are different. For the native Belgians, the impact of suburbanisation is about the same in both five-year periods. But their movement out of the central city has substantially decreased in Ghent, Liège and Charleroi. Some differences stand out when comparing the two periods in time: we observe a striking increase in the level of urban exodus and suburbanisation of migrant groups in the Brussels urban areas. Especially Turks, Moroccans, and Eastern Europeans have a much higher net migration out of the Brussels-Capital Region in the most recent period of 2001-2006 (combined with a much higher inflow in the suburbs of Brussels in the latest period). Furthermore, the positive net migration of people with another non-Western background into the BCR in the 1996-2001 period changed to a net outflow of this same group in the same area in the 2001-2006 period. In the other urban regions, the evolution is less uniform. Movement of immigrants out of the central city and into the suburbs also increased in the Antwerp region. In Ghent, Liège, Charleroi and the smaller non-metropolitan cities, however, this is not always the case. Nevertheless, we can conclude that for migrant groups in general and for the Turkish and Moroccan population in particular the past decade has shown a increasing level of suburbanisation in all areas of Belgium.

[Table 4 about here]

In order to gain further insight into the mobility of migrant groups within Belgium, Table 5 presents net internal migration rates by area of concentration of each migrant group. Areas of concentration

are obtained by dividing all 589 Belgian municipalities into quintiles with populations of equal size after sorting them by increasing proportion of the respective migrant group in the total population. Migration rates are shown for each of the migrant groups, for the minority population as a whole, and for native Belgians (following Simpson & Finney (2009) for a similar analysis on Great Britain).

In the third row of Table 5 all immigrant minority groups are taken together and we find that for the 2001-2006 period, the population of immigrant origin moved from the municipalities where they are the most concentrated to areas where they are the least concentrated. In line with this the second row of the Table, subsequently, shows that the minority population on balance migrated out of the quintile with the lowest concentration of native Belgians and gained through internal migration in the other four quintiles. This clearly demonstrates the dispersion of immigrants into areas with a higher concentration of natives which is in line with the hypothesis based on residential assimilation. Since the population of immigrant origin dominates most in the Brussels-Capital Region (9 of the 12 municipalities in the highest quintile are located in the BCR), this movement is strongly associated with urban sprawl. The movement of native Belgians out of municipalities with the highest concentration of foreigners (or the lowest concentration of natives) should also be interpreted in the same way, rather than considered as “white flight”.

The migration rates for each of the minority groups separately shows a similar pattern of dispersal from high concentrated areas to low concentrated areas. The net loss in the municipalities with the highest concentration of the group itself amounts to almost 6% for Eastern Europeans and Moroccans, to 7% for Turks and 8.4% for the other non-Western group. Net gains in the municipalities with the lowest concentration, on the other hand, are highest for Turks and Moroccans (9% and 8% respectively), followed by Southern Europeans (6%). Also native Belgians and the minority population as a whole generally move away most from the highest migrant group concentrations and settle most in the lowest migrant group concentrations. However, the continuous gradient from high to low rates is sometimes interrupted. For example the minority population as a whole has a net settlement in the medium concentration quintile of Moroccans, but a net loss in both adjacent quintiles.

[Table 5 about here]



### **Internal migration of immigrants groups in the Brussels Capital Region**

Between 1968 and 1996, the population of the BCR declined continuously from 1,079,181 to 948,122 inhabitants, mainly as a result of consecutive waves of suburbanisation (De Lannoy 2000). From 1996 onward, the combination of a rising natural growth and a high positive international migration balance results in a strong population growth (Figure 3). In November 2009, the population of Brussels exceeded 1.1 million inhabitants for the first time in history. Together with population growth, a new cycle of suburbanisation started at the end of the 1990s. Since then, urban exodus more than doubled. The BCR now loses an average of 12.500 inhabitants per year through internal migration. The cyclical movement in international migration has a reversed image in internal migration. This is because both types of migration don't operate independent from each other: a large influx of immigrants is only possible when there is a considerable out-migration of already settled residents to the suburbs.

[Figure 3 about here]

In Table 6, origin-to-destination matrices of migration flows between different area types of the Brussels urban region are presented for the various migrant groups. Net internal migration is calculated per 100 group population in the origin area (rows). The upper triangle of each matrix corresponds to migration balances with districts further away from the area of departure, whereas the lower triangle relates to migration balances with districts closer to the central city than the area of departure.

The matrices show a cascade of migration from more dense (the inner city) to less dense (suburban) areas, and from these to the rest of Belgium. This 'counter-urban cascade' is very prominent for all migrant groups. The only deviation from this general pattern is a minor inward movement of Southern Europeans, Turks and the other non-Western group from outside the Brussels urban region.

On balance, all migrant groups leave the inner city of the BCR. Total net migration is also mostly negative in the outer city of the BCR, but the losses are very small because they are compensated to a large extent by a positive migration balance with the inner city. Only Turks and Moroccans have a net gain in

the outer city, because the out-migration to other urban districts is not as high as the influx from the inner city. Total net migration rates in the suburban areas are always positive, except for native Belgians in the contiguous built-up area extending from the BCR. The main difference between the respective migrant groups is that natives and Westerners gain most in the outer suburbs, whereas the other immigrants gain most in the inner suburbs.

[Table 6 about here]

### **Internal mobility: the role of housing conditions and neighbourhood**

In order to evaluate to which extent the propensity to move is determined by socioeconomic, household and neighbourhood characteristics, separate multinomial logistic models are estimated for the native population and the six minority groups residing in the Brussels Capital Region. Individuals can either stay (same municipality; reference category), move from the inner city to the outer city, move from the BCR to the suburbs, or move from to the rest of Belgium. All covariates are measured before the move (i.e. at the moment of the 2001 census), and neighbourhood characteristics relate to the location before departure. The results of the multinomial logistic regression analyses are presented in odds ratios of chances of moving in Table 7.

[Table 7 about here]

#### *Demographic characteristics and life course events*

Residential mobility varies considerably by age. Especially young adults have a high probability of moving. At older ages, the chance of relocating is much lower. Only around the age of 55-65 there is a small peak when some – mostly native – retirees make a (long-distance) move to the touristic coastal municipalities or to the Ardennes region. For moves from inner to outer city and for the long-distance migrations, the highest mobility rates are found around the age of 25. For moves from the BCR to the suburbs

this is at a somewhat older age (30 years), because this type of residential move more frequently coincides with the purchase of a dwelling. These findings are overall the same direction for all origin groups.

Household transitions often trigger a internal migration move: Especially transitions that involve a gain or loss of a partner (i.e. couple formation, separation, divorce) are associated with high residential mobility since this implies a move of at least one of the partners. Also the birth of a (first) child generates a significant amount of spatial mobility among all origin groups. To a lesser extent this is also the case for transitions from a household with children to a household without children, but not for city-to-suburban moves and long-distance moves of Moroccans. The household transitions are in particular relevant for inner to outer city moves in the BCR among all groups. For moves to the suburbs and long distance moves the pattern mainly seems to be related to union formation and dissolution that trigger also these moves. For individuals who didn't experience a household transition, the degree of mobility varies considerably according to household type, destination and ethnic group. In line with the literature, the probability of making a suburban move is highest among couples with children. Couples without children, but especially one parent households and singles have a much lower probability. This applies equally to natives and to the different migrant groups. On the other hand, singles and couples without children have a higher probability of moving within Brussels than households with children; again confirmed for all origin groups. For long distance moves, the effect of household composition is more complex. High spatial mobility is found among couples without children (natives and Southern Europeans) and among singles (Southern Europeans). With the exception of Eastern Europeans, one parent households have the lowest probability of moving over a longer distance.

In general, the hypothesis based on spatial assimilation theory, that internal mobility increases with generation and interethnic relations is validated: compared to first generation immigrant households, the degree of suburbanisation and longer distance mobility is clearly higher for households with at least a second-generation or native member. This finding is in particular true suburban and long distance moves among all groups. With respect to residential mobility from inner to outer city within the BCR, the assumption only holds for Turks and Moroccans. Although the findings for the Turkish group are not reaching significance, the patterns are clearly in the same direction.

### *Socioeconomic characteristics*

The effect of educational level is apparent for outward moves within Brussels and to the suburbs: highly-educated persons are more likely to make this type of residential move than those without higher education among all origin groups. The only exception relates to the suburbanisation of Southern Europeans. On the other hand, only higher educated natives and Moroccans are significantly more likely to move over a longer distance, whereas Southern Europeans are much less likely to make such a long distance move.

The presence/absence and number of labour incomes in the household has an even larger impact in particular on the degree of suburbanisation than the level of education. For example persons of Moroccan descent living in households with two full-time incomes or at least one labour income have respectively 4 and 2 times more chance to make a suburban move than Moroccans households with only a replacement income. This pattern is generally also observed for moves from the inner to the outer city, although it does not always reach significance. Long distance moves, are on the contrary, less likely for those with two full incomes, with the exception of Moroccans (though not significant).

### *Housing conditions and neighbourhood*

As expected, the probability of moving is largely associated with tenure status: renters are much more likely to move than homeowners and even more so when their housing quality is perceived to be of low quality. The analyses show that households living in a low or medium quality dwelling have a higher probability to move either within Brussels to the suburbs as well as to other parts of Belgium. This mobility reflects the search for a higher quality dwelling. Renters of high quality housing seem to be somewhat more likely to move to the suburbs which can potentially be linked to the higher probability of persons with a high socioeconomic status to relocate to the suburbs (see above). For homeowners we do not find such a clear pattern. Only Belgian homeowners with low-medium quality housing seem to be more likely to make any move compared to those with high quality houses. For all other groups there seem to be hardly any mobility differences based on housing quality of owned dwellings.

The probability of making a move from the inner city of Brussels is clearly negatively associated with the appreciation of the neighbourhood. Those individuals who are negative about the neighbourhood quality in 2011 are much more likely to have moved from the inner city to the outer city of Brussels in 2006. This finding is consistent for all groups except for the Turks where though the effect does not reach significance it is in the same direction. A negative neighbourhood evaluation also pushes people out of the city to the suburbs. Although this seems to hold for most origin groups, a negative association is found for the Turks (not significant) for which neighbourhood quality mainly has an effect on longer distance moves. For this latter group a bad neighbourhood quality seems to push them further away out of Brussels. Similar results are found for those who are neutral about their neighbourhood compared to those who are positive.

Finally, the degree of concentration of the own ethnic group in the neighbourhood also has a clear effect on mobility. In general, individuals who reside in neighbourhoods with a high concentration of the own group of origin have a lower probability of making a move outside the Brussels Capital Region. This only doesn't hold for natives moving to the suburbs and for Eastern Europeans and Moroccans moving to the rest of Belgium (though the latter two findings are not significant). A high concentration of co-ethnics reduces the likelihood of moves from the inner- to outer city within the BCR for both natives and Turks/Moroccans. For western migrants we find on the contrary a higher probability of moving within Brussels when they live in high or intermediate co-ethnic concentration neighbourhoods.

## **Conclusion and discussion**

In this paper we expanded the research on internal mobility of immigrant groups to Belgium. We studied to what extent internal migration of migrants follows the same patterns as that of the native majority group and what differences can be found between migrant origin groups. Based on detailed information for the Brussels Capital Region we studied the factors affecting internal mobility among the different origin groups by paying special attention to the role of housing conditions and perceived neighbourhood characteristics.

Distribution of the immigrant groups in Belgium is not even as was expected based on the literature. Overall city centers are more likely to include substantial shares of immigrants which go up to almost half of the population in the Brussels inner city. Suburban regions all over Belgium are still more dominated by the native majority population and immigrants are still relatively limited represented here. Nevertheless, in line with our hypothesis we found that sub-urbanisation not only is observed among the majority group but also takes place among immigrant groups. Patterns of internal mobility of immigrants and in particular out of the inner city centres is observed for the 2001-2006 period. Although some first suburbanisation took place before that time, only these latter five year period it became more important for the different immigrant groups. This can be explained by the fact that immigration to Belgium is a relatively recent phenomenon. Only in the past decades the second generation is growing and reaching young adulthood in which they might decide to move out of the places they lived with their parents. It is in particular this younger generation who seems to adapt more to the Belgian mobility patterns which implies for many a move out of the city centre. Although this can be interpreted as a sign of ongoing spatial assimilation of the next generation (in line with our hypothesis 2) it might just as well be related to housing availability and costs in the urban centres which makes it difficult for young people to find a home in the innercities. Future studies should better capture the local housing market in order to grasp these different factors involved in mobility decisions.

Overall our results show that demographic and socio-economic characteristics are important explanatory variables for moves among all origin groups. Life course factors are clearly relevant: younger people are more likely to move as well as are those who experience family life transitions. Life course events in the family domain clearly trigger moves. Getting children is related to more moves from the inner to the outer city and suburbanisation moves among all groups. In general we can conclude that these determinants are operating rather similar for all origin groups. In this respect it is important for future planning of houses and facilities to take these patterns into account and to recognise the vast impact the life course events have on mobility of households of whatever origin. Higher education is just as well related to more inner to outer city moves and suburbanisation. With an increasing educational level of the second

generation migrants in Belgium preferences of housing of this group might become more similar to those of the native group and should thus be taken into account as such.

Among all groups and for all moves our findings showed that renters are more likely to move irrespective of destination. This is contrary to our hypothesis which said that renters would be more likely to leave the city to suburbs and out of the urban area). Our results suggest an general higher level of mobility among renters, irrespective of destination, while no such influence is found for home owners. For the Turkish group also this factor seems to be less related to suburbanisation.

Dissatisfaction with the neighbourhood in terms of cleanliness, quietness, visual attraction of the buildings, air quality and the amount of green space is found to be a good predictor of the rate of out-migration. A less dense and a green environment is obviously what many households are looking for and make them to decide to move as well. Although the effect of neighbourhood satisfaction is found for all groups it is most persistent for the natives and western origin migrants. Those natives and western migrants who evaluate their neighbourhood as negative are more likely to have made any move. This is somewhat less the case for the immigrant groups. Negative evaluation in particular stimulates moves from the inner to the outer city. This may suggest that economic position and possibilities are relevant again: natives who want to leave a specific neighbourhood have more means to materialize this wish than many of the immigrant groups. One finding is striking in this respect: evaluation of the neighbourhood does not affect the chances of short and suburban moves among the Turks but it clearly does affect the changes for long distance moves. Those Turkish who evaluate their neighbourhood as negative are much more likely to have moved over a longer distance. This could again indicate that this migrant group does not perceive to find better affordable conditions in other areas of the city and thus decides to move further out of Brussels to achieve their preferred housing situation.

Our analyses thus show that patterns of mobility and the factors affecting these moves are overall similar for all origin groups in Belgium. It also points to the fact that studies should take neighbourhood characteristics into account when studying internal mobility. Ignoring this factor in studies does not do justice to the living conditions of both immigrants and natives. Finally our analyses also point to one potentially important result of internal mobility of immigrants. Whereas first generation immigrants mainly

settled in the inner city, the residing immigrant groups in these urban centres are potentially increasingly ageing populations as it is mainly the young adult second generation of immigrant origin who leave the city (like is the case for the native majority group). This has potential important implications for health facilities, access to care and suitable housing for these elderly immigrants who not necessarily are in the position of changing their housing situation. Future research should look further into the potential effects this specific internal mobility pattern might have for the individual, their families and the city. This is relevant for both scholars and policymakers in the field.



## REFERENCES **TO BE COMPLETED AND CHECKED WITH TEXT!**

- Bolt, G., van Kempen, R., & van Ham, M. (2008). Minority ethnic groups in the Dutch housing market. Spatial segregation, relocation dynamics and housing policy. *Urban Studies*, 45(7), 1359. doi:10.1177/0042098008090678
- Clark, W. A. V., & Dieleman, F. M. (1996). *Households and housing. Choice and outcomes in the housing market*. New Brunswick: Centre for Urban Policy Research, State University of New Jersey.
- Clark, W. A. V., Deurloo, M. C., & Dieleman, F. M. (2006). Residential mobility and neighbourhood outcomes. *Housing Studies*, 21(3), 323-342. doi:10.1080/02673030600585946
- Ellis, M., & Wright, R. (2005). Assimilation and differences between the settlement patterns of individual immigrants and immigrant households. *Proceedings of the National Academy of Sciences of the United States of America*, 102(43), 15325-30. doi:10.1073/pnas.0507310102
- Gastner, M. T., & Newman, M. E. (2004). Diffusion-Based method for producing density-equalizing maps. *Proceedings of the National Academy of Sciences of the United States of America*, 101(20), 7499-7504. doi:10.1073/pnas.0400280101
- Hanushek, E., & Quijley, J. (1978). Housing disequilibrium and residential mobility. In W. A. V. Clark & E. G. Moore (Eds.), *Population mobility and residential change*. Evanston, Ill: Northwestern University.
- De Lannoy, W., Lammens, M., Lesthaeghe, R., & Willaert, D. (1999). Brussel in de jaren negentig en na 2000. Een demografische doorlichting. In E. Witte, A. Alen, H. Dumont, & R. Ergec (Eds.), *Het statuut van Brussel - Bruxelles et son statut*. (pp. 101-54). Deboeck & Larcier .
- Lesthaeghe, R. (2000). Transnational islamic communities in a multilingual secular society. In R. Lesthaeghe (Ed.), *Communities and generations: Turkish and Moroccan populations in Belgium*. VUB University Press.
- Lievens, J. (2000). The third wave of immigration from Turkey and Morocco. Determinants and characteristics. In R. Lesthaeghe (Ed.), *Communities and generations: Turkish and Moroccan populations in Belgium*. VUB University Press.
- Luyten, S., & Van Hecke, E. (2007). De Belgische stadsgewesten 2001. *Statistics Belgium Working Pa-*

*per*, (14).

- Massey, D. (1985). Ethnic residential segregation: a theoretical and empirical synthesis. *Sociology and social research*, 69, 315-350.
- Morelli, A. (2004). *Histoire des étrangers et de l'immigration en Belgique de la préhistoire à nos jours*. Bruxelles: Couleurs livre.
- Simpson, L., & Finney, N. (2009). Spatial patterns of internal migration. Evidence for ethnic groups in Britain. *Population, Space and Place*, 15(1), 37-56. doi:10.1002/psp.497
- Van der Haegen, H., & Pattyn, M. (1980). An operationalization of the concept of city region in West-European perspective: The Belgian city regions. *Tijdschrift Voor Economische En Sociale Geografie*, 71(2), 70-77. doi:10.1111/j.1467-9663.1980.tb00872.x
- Vanneste, D., Thomas, I., & Goossens, L. (2007). *Woning en woonomgeving in België*. FOD Economie. Sociaal-economische enquête 2001, Monografie nr. 2.
- Willaert, D., & Deboosere, P. (2005). *Buurtatlas van de bevolking van het Brussels Hoofdstedelijk Gewest bij de aanvang van de 21e eeuw*. Dossier nr. 42. Brussel: Brussels Instituut voor Statistiek en Analyse, Ministerie van het Brussels Hoofdstedelijk Gewest.
- Zorlu, A. (2008). *Who leaves the city? The influence of ethnic segregation and family ties*. IZA discussion paper no 3343.

Figure 1: Population of foreign origin in Belgium, 2001

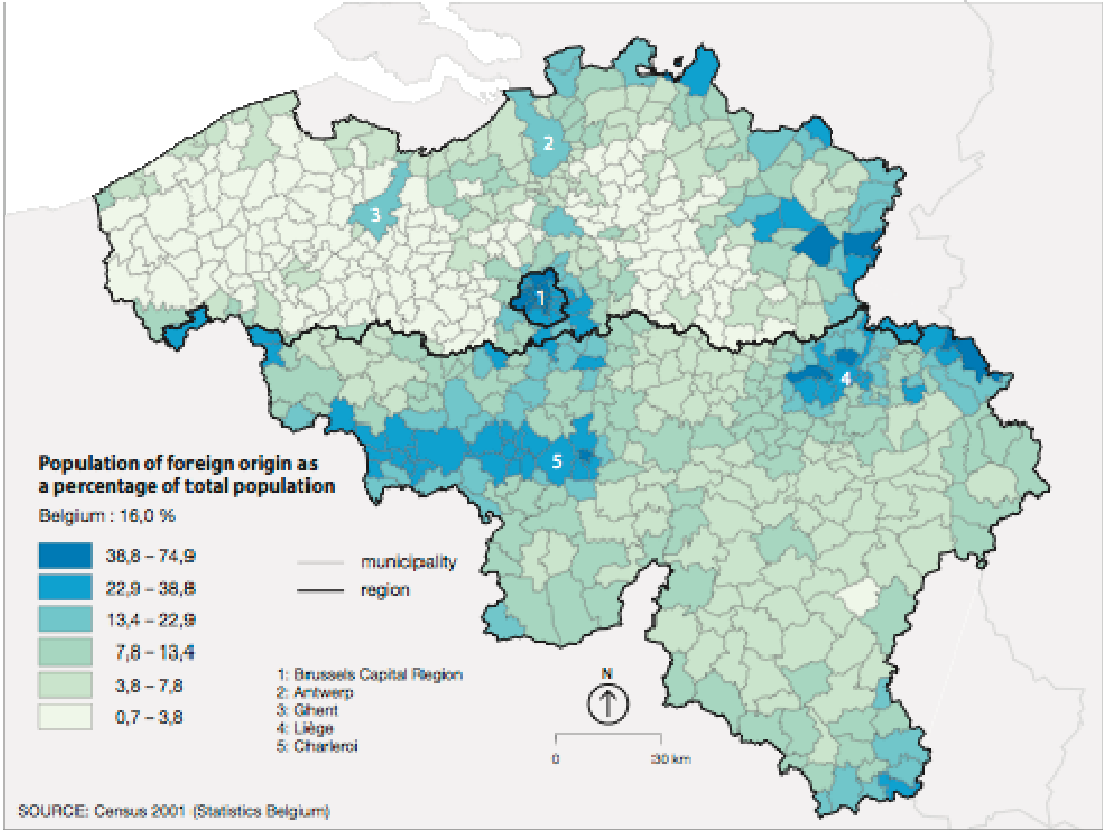


Figure 2a. Net internal migration rate by municipality, 2001-2006, native Belgians

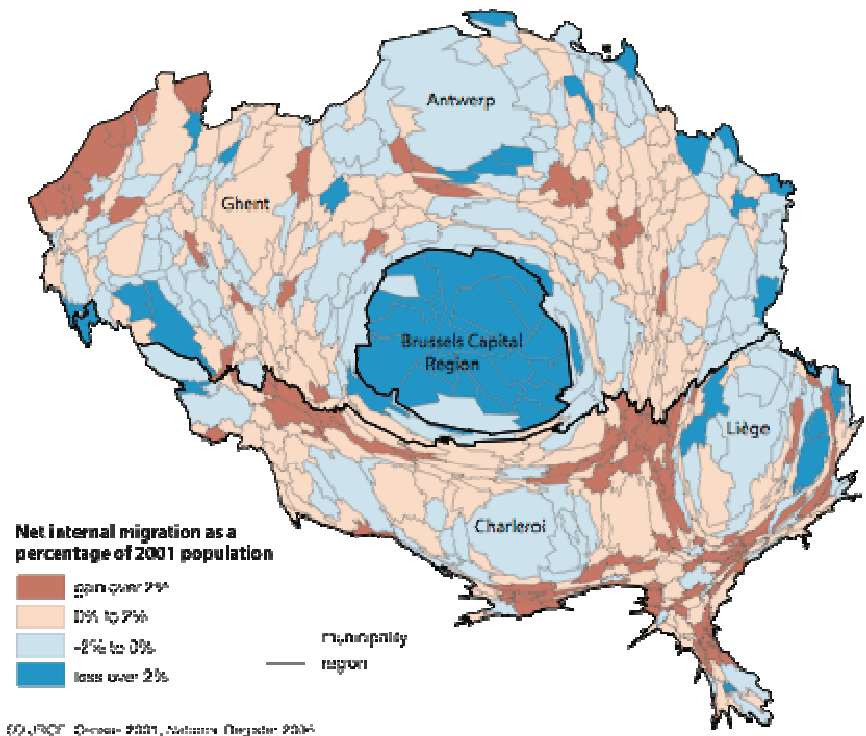
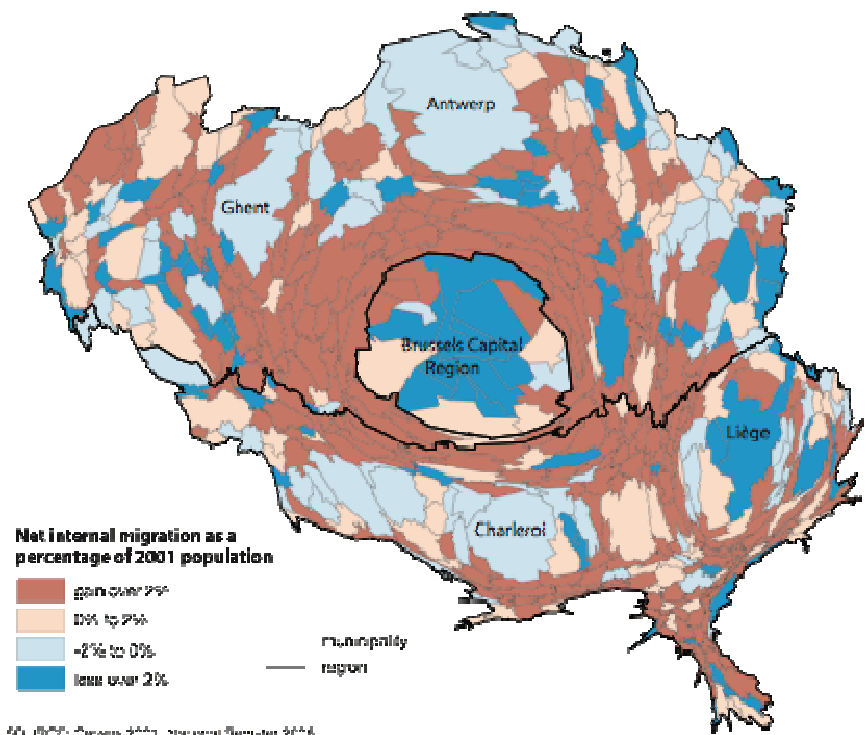


Figure 2b. Net internal migration rate by municipality, 2001-2006, immigrants



Note: These maps (cartograms) are proportional to population size on 1/1/2006, using the algorithm of (Gastner 2004)

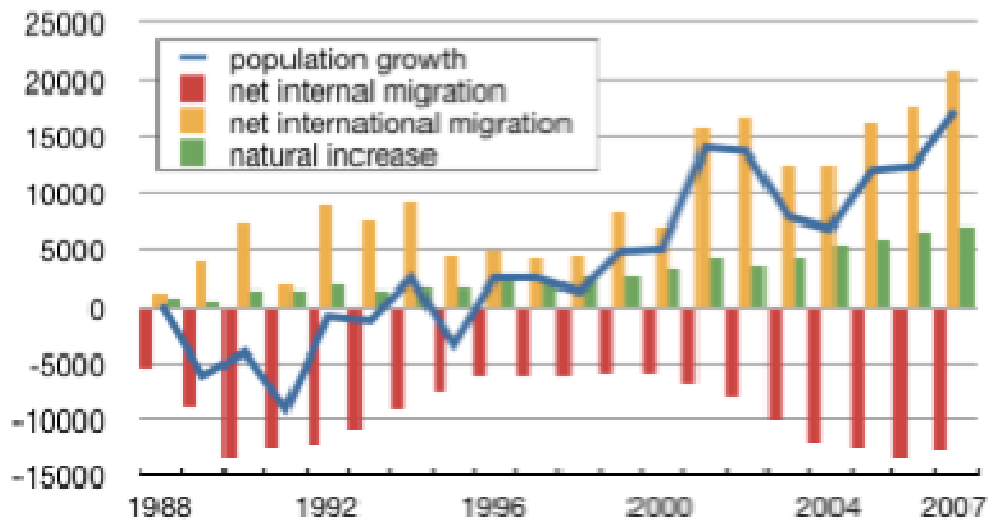


Figure 3. Components of population change in the Brussels-Capital Region, 1988-2007  
 Source: National Register (Statistics Belgium); authors' calculations

Table 1. Distribution of the study population (%) by variable used in the multinomial logit model & migrant group, 2001

	Native Belgian	Western	Southern European	Eastern European	Moroccan	Turkish	Other non-Western
18 - 24 years	3.2	2.9	3.0	4.3	7.8	9.2	4.1
25 - 34 years	23.5	27.5	25.2	32.4	35.5	36.4	31.4
35 - 49 years	39.3	40.3	44.4	38.3	38.9	37.9	46.6
50 - 64 years	33.9	29.2	27.4	25.0	17.8	16.5	18.0
Single to couple without children, or one parent to couple with children	5.1	5.7	3.9	4.5	3.0	2.5	5.0
Household without children to household with children	8.4	10.0	8.2	8.7	11.2	7.2	11.3
Household with children to household without children	5.6	4.3	5.7	4.7	2.2	4.1	3.1
Couple to single/one parent	6.1	5.9	6.1	7.4	6.9	7.5	7.7
Single	22.9	24.2	16.8	13.7	9.0	7.3	15.2
One parent household	5.9	5.0	5.9	5.7	5.2	5.2	7.4
Couple without children	17.4	14.2	12.6	13.6	4.3	5.3	7.6
Couple with children	28.5	30.8	40.9	41.7	58.1	60.9	42.6
Third-generation-plus-only household	89.7	–	–	–	–	–	–
Second-generation/third-generation-plus household	2.8	6.3	7.3	3.0	1.6	1.0	2.4
Second-generation-only	–	7.4	14.9	5.6	9.1	6.2	4.6
Immigrant/third generation-plus	7.5	17.4	9.2	15.2	5.1	2.9	16.8
Immigrant/second-generation	–	3.9	8.5	6.0	16.0	13.9	4.1
Immigrant-only household	–	65.0	60.1	70.2	68.1	76.0	72.1
Higher education	46.3	58.7	25.7	35.8	13.8	7.7	42.2
No higher education (Ref.)	53.7	41.3	74.3	64.2	86.2	92.3	57.8
Two full-time incomes	29.0	24.0	27.2	18.7	13.7	15.7	18.2
At least one labour income	53.1	62.1	54.9	59.7	56.0	54.4	59.5
Only replacement income(s)	17.9	13.9	17.9	21.6	30.3	29.9	22.3
Renter, low quality housing	7.2	6.9	9.6	9.6	16.0	9.0	14.0
Renter, medium quality housing	30.9	32.4	33.5	41.0	40.8	28.5	42.9
Renter, high quality housing	11.8	21.2	11.3	10.2	8.1	5.1	12.8
Owner, low quality housing	2.7	1.9	3.5	3.5	4.3	7.7	2.6

	Native Belgian	Western	Southern European	Eastern European	Moroccan	Turkish	Other non-Western
Owner, medium quality housing	19.6	11.8	20.3	18.7	18.0	32.5	13.8
Owner, high quality housing	27.8	25.8	21.9	17.1	12.9	17.2	13.9
Negative appreciation of the neighbourhood	26.7	25.8	31.3	30.7	40.1	43.5	29.6
Neutral appreciation of the neighbourhood	47.1	46.6	45.8	45.4	42.7	39.8	47.1
Positive appreciation of the neighbourhood	26.2	27.6	22.9	23.9	17.3	16.7	23.2

*Source:* Census 2001 & National Register (Statistics Belgium); authors' calculations

Table 2. Population distribution (%) and total population by migrant group and urban region, Belgium, 2001

	Native Belgian	Western	Southern European	Eastern European	Moroccan	Turkish	Other non-Western	Total population (x 1,000)
Brussels - central city	52.9	9.9	9.7	2.5	13.2	3.8	8.1	974
Brussels - suburbs	89.5	4.3	2.7	0.6	0.9	0.2	1.8	1,562
Antwerp - central city	77.3	5.4	1.6	1.7	7.3	2.6	4.1	448
Antwerp - suburbs	93.2	4.1	0.4	0.4	0.7	0.4	0.8	700
Ghent - central city	86.2	2.4	0.7	0.8	1.2	5.9	2.7	225
Ghent - suburbs	96.9	1.8	0.2	0.2	0.1	0.1	0.6	348
Liège - central city	66.3	4.0	14.2	2.1	5.1	2.6	5.7	185
Liège - suburbs	77.3	3.3	14.0	1.8	0.9	1.1	1.6	546
Charleroi - central city	70.4	3.1	16.7	1.3	2.7	3.2	2.7	200
Charleroi - suburbs	79.4	2.9	13.2	1.1	0.8	1.4	1.2	312
Non-metropolitan urban regions - central city	85.9	3.7	3.6	1.0	2.1	1.6	2.2	979
Non-metropolitan urban regions - suburbs	88.9	4.8	3.6	0.6	0.5	0.8	0.8	1,246
Other (mainly rural) municipalities	89.8	4.8	2.7	0.5	0.5	0.9	0.8	2,571
Total population (x 1,000)	8,635	489	475	95	245	139	219	10,296

Source: Census 2001 (Statistics Belgium); authors' calculations



Table 3. Net internal migration rate per 100 group population by migrant group and urban region, Belgium, 2001-2006

	Native-Belgian	Western	Southern European	Eastern European	Moroccan	Turkish	Other non-Western
Brussels - central city	-3.9	-2.6	-4.2	-4.4	-3.3	-4.5	-4.1
Brussels - suburbs	0.1	2.7	8.7	10.5	23.1	45.7	0.0
Antwerp - central city	-2.0	-2.2	-2.4	-1.1	-0.6	-0.3	-0.6
Antwerp - suburbs	0.4	0.4	5.5	2.7	4.6	2.8	0.1
Ghent - central city	0.2	-0.2	-0.9	1.5	0.8	-1.0	-0.4
Ghent - suburbs	0.4	0.8	4.5	2.0	0.8	38.9	0.3
Liège - central city	-0.4	-0.5	-2.6	-2.2	-3.1	-5.0	-5.8
Liège - suburbs	0.4	0.9	0.5	0.4	8.3	5.7	0.4
Charleroi - central city	-0.8	0.5	-2.2	1.0	5.0	-0.5	2.0
Charleroi - suburbs	0.3	1.2	0.6	-1.3	3.7	-0.4	3.5
Non-metropolitan urban regions - central city	-0.4	0.9	-0.1	-0.2	-0.9	0.2	-1.6
Non-metropolitan urban regions - suburbs	0.4	0.0	0.4	0.6	4.3	0.3	2.0
Other (mainly rural) municipalities	0.6	0.4	1.3	0.9	2.6	-0.1	0.3

Source: Census 2001 & National Register (Statistics Belgium); authors' calculations

Table 4. Net internal migration rate per 100 group population by migrant group and urban region, Belgium, 1996-2001

	Native-Belgian	Western	Southern European	Eastern European	Moroccan	Turkish	Other non-Western
Brussels - central city	-3.6	-1.6	-3.5	-1.5	-0.3	-0.7	1.2
Brussels - suburbs	1.0	1.8	8.2	4.1	7.1	11.1	0.0
Antwerp - central city	-2.6	-1.6	-1.9	0.0	0.0	-0.6	1.0
Antwerp - suburbs	0.5	0.7	4.6	1.5	-0.9	0.4	-1.2
Ghent - central city	-1.0	-3.1	-2.7	0.8	-1.1	0.5	0.4
Ghent - suburbs	0.8	1.9	5.3	-3.5	0.0	8.5	-1.6
Liège - central city	-2.8	-3.5	-5.5	0.6	-4.7	-5.8	-6.4
Liège - suburbs	0.4	0.2	1.5	-0.8	5.6	4.1	-1.4
Charleroi - central city	-2.3	-2.1	-2.3	-2.1	0.7	1.2	-1.5
Charleroi - suburbs	0.0	1.5	1.0	0.1	-6.9	-5.2	-2.5
Non-metropolitan urban regions - central city	-0.5	-0.6	-1.5	0.5	-0.6	0.2	-1.3
Non-metropolitan urban regions - suburbs	0.5	0.2	0.8	-0.5	-1.4	0.6	-2.2
Other (mainly rural) municipalities	0.6	0.7	1.0	0.5	-0.1	-0.3	-2.7

Source: Census 2001 & National Register (Statistics Belgium); authors' calculations

Table 5. Internal migration between group concentrations, Belgium, 2001-2006

Migrant group for which concentrations are given	Migrant group for which migration is given	Net internal migration rate (%)				
		Lowest concentration	Low concentration	Medium concentration	High concentration	Highest concentration
Native Belgian	Belgian	-1.64	-0.39	0.82	0.71	0.49
	Minority	-2.07	1.92	4.70	3.59	6.89
All minority groups	Minority	4.44	1.87	0.35	-0.27	-6.35
	Belgian	0.66	-0.50	-0.99	-1.25	-4.65
Western	Western	2.76	0.72	-0.56	-0.96	-1.88
	Minority	2.86	0.42	-1.70	-2.47	-1.76
	Belgian	0.46	0.11	-0.83	-1.44	-2.07
Southern European	S. European	6.41	-0.96	-1.85	-1.28	-2.35
	Minority	2.35	-2.34	-1.23	-0.59	-2.04
	Belgian	0.35	-2.33	-0.97	-0.56	-0.66
Eastern European	E. European	4.41	2.76	0.08	-1.36	-5.83
	Minority	2.92	2.00	0.58	-3.04	-3.65
	Belgian	0.51	-0.08	-0.97	-1.45	-2.99
Moroccan	Moroccan	8.44	-0.65	1.72	-3.74	-5.67
	Minority	1.89	-1.87	0.86	-5.06	-6.53
	Belgian	0.36	-0.96	-1.98	-5.71	-3.93
Turkish	Turkish	9.32	0.78	-0.89	-1.82	-7.37
	Minority	1.80	-1.28	-2.40	-1.85	-7.80
	Belgian	0.28	-1.56	-0.68	-0.89	-5.05

---

	Other non-W.	3.94	5.43	-0.16	-0.77	-8.43
Other non- Western	Minority	1.78	2.15	0.37	-1.71	-6.01
	Belgian	0.52	0.14	-1.48	-2.77	-3.57

---

*Source:* Census 2001 & National Register (Statistics Belgium); authors' calculations

Table 6. Net internal migration rate per 100 group population between residential zones in the Brussels capital region (origin-destination matrix) by migrant group, 2001-2006

Native Belgian								All minorities							
dest. orig.	1	2	3	4	5	6	total	dest. orig.	1	2	3	4	5	6	total
1		-1.1	-1.5	-0.8	-1.2	-0.3	-4.8	1		-2.1	-1.9	-0.6	-0.8	-0.4	-5.8
2	0.9		-1.4	-1.1	-1.0	-0.5	-3.0	2	4.2		-1.9	-0.9	-0.6	-0.1	0.6
3	1.1	1.2		-0.9	-1.3	-0.8	-0.7	3	8.5	4.4		-0.6	-0.7	-0.2	11.5
4	0.6	1.0	0.9		-1.4	-0.6	0.5	4	3.8	2.7	0.8		-1.4	-0.5	5.4
5	0.3	0.2	0.4	0.4		-0.5	0.8	5	3.0	1.3	0.6	0.9		-0.1	5.6
Western								Southern European							
dest. orig.	1	2	3	4	5	6	total	dest. orig.	1	2	3	4	5	6	total
1		-2.4	-0.8	-0.7	-0.5	-0.5	-4.8	1		-1.9	-2.5	-0.9	-0.8	-0.4	-6.4
2	2.5		-1.3	-0.9	-0.4	-0.3	-0.4	2	3.1		-2.0	-0.8	-0.6	-0.2	-0.6
3	1.3	2.1		-0.6	-0.4	-0.5	1.9	3	8.2	4.1		-0.8	-0.8	-0.2	10.5
4	1.6	2.0	0.8		-1.2	-0.7	2.5	4	4.3	2.5	1.1		-1.4	0.2	6.7
5	0.9	0.8	0.5	0.9		-0.3	2.8	5	2.9	1.3	0.9	1.0		0.8	6.9
Eastern European								Moroccan							
dest. orig.	1	2	3	4	5	6	total	dest. orig.	1	2	3	4	5	6	total
1		-2.6	-3.0	-0.6	-0.6	-0.2	-7.0	1		-1.8	-1.5	-0.4	-0.7	-0.7	-5.0
2	3.6		-2.7	-1.1	-0.5	0.1	-0.6	2	7.5		-2.1	-0.6	-0.7	-0.4	3.8
3	11.9	7.7		-0.5	-1.3	-0.6	17.3	3	22.6	7.5		-0.6	-0.9	0.1	28.8
4	3.7	4.4	0.6		-1.7	-0.8	6.2	4	10.9	3.5	0.9		-0.6	-1.1	13.7
5	1.8	1.1	0.9	0.9		-0.3	4.3	5	6.1	1.5	0.5	0.2		-0.6	7.6
Turkish								Other non-Western							

dest. orig.	1	2	3	4	5	6	total
1		-2.3	-3.1	-0.5	-0.5	-0.4	-6.7
2	15.7		-3.3	-1.2	-0.4	-0.3	10.6
3	71.3	11.2		-0.2	0.2	0.4	82.9
4	29.2	11.1	0.6		0.2	3.0	44.1
5	5.6	0.7	-0.1	0.0		0.6	6.7

dest. orig.	1	2	3	4	5	6	total
1		-2.7	-2.2	-0.7	-1.4	0.2	-6.8
2	4.0		-2.4	-1.0	-1.0	0.3	-0.1
3	10.1	7.4		-0.4	-0.7	0.2	16.7
4	3.6	3.5	0.4		-2.3	-0.6	4.7
5	4.4	2.1	0.5	1.4		-0.3	8.0

1: inner city of the BCR, 2: outer city of the BCR, 3: other municipalities of the morphological agglomeration (built-up area bordering the central city), 4: "banlieue", 5: commuter zone, 6: other Belgian municipalities  
Source: Census 2001 & National Register (Statistics Belgium); authors' calculations



Table 7. Multinomial logit regression estimates by type of move and migrant group (odds ratios)

	Inner city to outer city within Brussels							Brussels to suburbs							Brussels to the rest of Belgium						
	Native	West	SEur	EEur	Mor	Tur	Onw	Native	West	SEur	EEur	Mor	Tur	Onw	Native	West	SEur	EEur	Mor	Tur	Onw
Two full-time incomes	1.06*	1.19*	0.96	1.23	1.40**	1.07	1.07	1.76**	1.80**	1.93**	2.96**	3.97**	1.82**	1.95**	0.89**	0.72*	0.63**	0.75	1.21	0.65	0.90
At least one labour income	1.08**	1.11	1.09	1.15	1.19**	1.16*	1.15**	1.39**	1.51**	1.45**	1.95**	2.16**	1.45**	1.54**	0.98	0.96	0.90	0.99	1.13	0.83	1.10
Only replacement income(s) (Ref.)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Renter, low quality housing	4.20**	4.35**	3.97**	4.09**	4.59**	3.95**	3.79**	2.68**	3.49**	2.17**	2.10**	2.28**	1.36	2.95**	2.84**	3.51**	2.20**	2.23*	3.68**	2.36*	3.54**
Renter, medium quality housing	3.65**	4.10**	3.48**	3.61**	3.92**	3.13**	3.38**	2.74**	3.43**	2.25**	2.64**	2.49**	1.35*	2.51**	2.92**	2.68**	2.94**	1.78	3.01**	2.78**	3.99**
Renter, high quality housing	3.57**	4.14**	3.29**	3.00**	3.47**	3.65**	2.98**	2.79**	3.88**	2.05**	2.99**	2.50**	1.39	3.11**	2.72**	2.72**	3.71**	1.69	2.67**	1.26	3.80**
Owner, low quality housing	1.27**	1.38	1.05	0.62	1.07	1.00	1.07	1.27**	1.45	0.87	1.51	0.95	1.29	1.33	1.38**	1.06	1.65	2.31	1.34	1.00	0.59
Owner, medium quality housing	1.14**	1.28**	1.01	1.24	1.01	1.23	1.07	1.38**	1.81**	1.29**	1.25	1.44**	0.92	1.17	1.36**	1.59**	1.31	0.54	1.04	1.27	1.36
Owner, high quality housing (Ref.)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Negative appreciation of the neighbourhood	1.14**	1.44**	1.20**	1.40**	1.36**	1.11	1.22**	1.42**	1.03	1.20**	1.16	1.39**	0.92	1.00	1.55**	1.97**	1.50**	1.50	1.28	2.52**	1.37*
Neutral appreciation of the neighbourhood	1.05*	1.18**	1.03	1.20*	1.13**	0.92	1.04	1.07**	0.90*	1.00	1.00	1.20*	0.97	1.03	1.12**	1.47**	1.07	1.00	1.13	2.45**	1.07
Positive appreciation of the neighbourhood (Ref.)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
neighbourhood with a high concentration of the own ethnic group	0.56**	1.49**	0.93	1.18	0.68**	0.61**	1.11	1.08**	0.79**	0.89	0.66**	0.54**	0.60**	0.83*	0.64**	0.48**	0.74*	1.03	1.04	0.59**	0.74*
neighbourhood with an intermediate concentration of the own ethnic group	0.80**	1.18**	1.15**	1.12	0.74**	0.62**	1.23**	1.15**	0.88*	0.99	0.84	0.70**	0.74**	1.01	0.81**	0.63**	0.94	1.12	1.04	0.61**	0.95
neighbourhood with a low concentration of the own ethnic group (Ref.)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

\* $P < 0.05$ , \*\* $P < 0.01$ ; – not applicable; . reference category