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DOI

[10.1007/s10901-019-09678-8](https://doi.org/10.1007/s10901-019-09678-8)

Publication date

2020

Document Version

Final published version

Published in

Journal of Housing and the Built Environment

License

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Citation for published version (APA):

Booi, H., & Boterman, W. R. (2020). Changing patterns in residential preferences for urban or suburban living of city dwellers. *Journal of Housing and the Built Environment*, 35(1), 93-123. <https://doi.org/10.1007/s10901-019-09678-8>

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Changing patterns in residential preferences for urban or suburban living of city dwellers

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Received: 16 February 2018 / Accepted: 26 May 2019 / Published online: 12 June 2019
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Abstract

Many cities in the western world have recovered from the urban crisis after the industrialization period and have become attractive places to live and work. It seems obvious to conclude that the preference for urban living has increased. But is this really the case? The (increased) preference for urban living may also be driven by demographic, socio-economic and socio-cultural changes in the population rather than by a structural change in residential preferences. In depth analysis of the stated residential preferences in Amsterdam in the period 2003–2017 indeed show that residential preferences are quite stable. The analysis does show a small decline in the preference for moving at all: slightly more households in Amsterdam prefer to stay put. This can mainly be explained by the growing owner-occupied sector. When households want to move, their preference for moving to the region is fairly stable. Only families with older children seem to have become more urban orientated. The education level is one of the key variables that explains the stated preference for moving to the region of Amsterdam: the higher educated more often prefer to stay. Their share in the population has increased and this does influence the residential preference at an aggregate level towards a more urban orientation.

Keywords Residential preferences · (Sub)urbanization · Demography

1 Introduction

In scholarly accounts of the contemporary urbanization there is wide agreement that central cities are economically and demographically thriving. This is for instance reflected in the work of Glaeser (2011) who heralds the triumph of the city. Remarkably in this ‘triumph of the city’ what is exactly meant by ‘the city’ is not always clearly defined. Although undeniably many central cities across the western world were faced with an urban crisis in the deindustrialization period in the seventies and eighties, most urban regions, much of it

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suburban development, continued to grow. Furthermore, current urbanization is characterized by highly uneven spatial development across regions and cities, as well as within cities (Smith 2010; Lees et al. 2015). Cities are on different economic and demographic trajectories (Turok and Mykhnenko 2007). Cities with a diverse economy including a strong position of knowledge intensive production appear to be very attractive places, both for production and for consumption (Scott 2014; Musterd et al. 2016). In the past four decades Global cities like London and New York have indeed become more attractive places to live and work for the growing middle class (Butler and Robson 2003; Lees 2008) but these cities are spatially variegated, witnessing ubiquitous gentrification while continuing to struggle with persistent poverty and rising segregation (Hamnett and Butler 2013). Also smaller Global cities like Copenhagen and Amsterdam are experiencing similar developments (Larsen and Lund Hansen 2008; Musterd and Van Gent 2016) and there are signs of gentrification further descending down the hierarchy (Lees 2006; Buzar et al. 2007). On the other hand many former industrial cities such as Detroit and Glasgow struggled to adjust (fast enough) to the demands of new forms of production and started to recover much later, or sometimes not at all (Doucet 2017; Turok and Mykhnenko 2007). The re-making of the former working class city into spaces of consumption, work and residence for the middle classes (Lees 2008) has attracted a lot of scholarly attention. The academic focus on the 'return' of the middle classes to the city had led scholars like Glaeser (2011) and Florida (2003) argue that the structure of the economy is fundamentally urban and the future lies in urban living. They contend that the preference for urban living vis-à-vis rural or suburban living is structural. It is true that urban core areas of many cities are witnessing a fast demographic growth, which is not only caused by the increase of young and higher educated households, but also by complex demographic dynamics of for instance older generations of middle classes aging in the city (Hochstenbach and Boterman 2017), middle class families staying in the city (Brun and Fagnani 1994; Karsten 2003; Lilius 2014) and international migration from both the Global North and Global South (Lees et al. 2015). Cities like New York, Copenhagen and Amsterdam are experiencing the fastest demographic growth since WWII. But also medium-sized cities, often historical centres, are experiencing growth, typically fueled by more intra-national migration flows (Rérat 2012; Buzar et al. 2007).

The renewed growth of medium-sized and larger urban centres does not, however, herald the end of suburbia. To the contrary, urban sprawl and other forms of suburbanization are taking place simultaneously. While some suburban areas are in decline, a very large and increasing share of urban populations across the globe lives in suburban low density areas (Keil 2013; Tzaninis 2016). Despite of the narrative that urban living has become the default option for many, even including family households, suburbanization is still a key contemporary urbanization process. Also the successful cities of today's economic order are located within metropolitan regions in which suburban areas also have a central role. While it is true that the intra-regional residential dynamics have clearly changed: inner-city areas attract more higher educated and affluent young households and suburban areas are diversifying socially and ethnically (Tzaninis 2016; Hamnett and Butler 2010).

The fact that the urban core, the central city, is successful demographically and economically does not necessarily mean that the preference for urban living has increased.

Underlying preferences for residential environment, tenure, housing type may have stayed the same. We know that residential preferences change throughout the life-course (Mulder 1993), but are historically quite stable within a stage in the life course (Fuguitt and Brown 1990). For instance it is reported that the *stated* preference for urban or non-urban living of families in the Netherlands did not change much in the period 1981–2012, and

were predominantly non-urban (De Groot et al. 2015). This appears paradoxical but it may be explained in an alternative way than that preferences have structurally changed: The growing (revealed) preference for urban living could be driven by demographic, or perhaps by socio-economic and socio-cultural changes in the population. When more urban oriented households (students, non-family households, higher educated) increase relative within the city, at the aggregate level, the preference for moving to more suburban areas will decrease. While it is difficult to separate preferences from the structural conditions under which they are acquired, changes of composition, not of individual preference, may lead to changing dynamics of residential mobility in its own right. In order to study to what extent the residential dynamics in urban regions could be ascribed to structural changes in preferences or may be related to changing composition, this paper will investigate the stated preferences of the population in the city of Amsterdam and how the composition of the city changed. Drawing on a large survey about moving intentions in Amsterdam, the Living in Amsterdam Survey (WIA), conducted every second year since 2003, this paper addresses the following sub questions:

1. To what extent are residential preferences for staying or leaving the city depended on demographic, socio-economic and socio-cultural household characteristics?
2. To what extent are the preferences of different household types stable over time?
3. How did the population composition for the key variables explaining residential mobility change over the period 2003–2017?

The city of Amsterdam presents a suitable case for investigating the changing dynamics of residential mobility in urban regions. Amsterdam's urban core has experienced substantial demographic growth and the socio-economic position of the population is changing fast (OIS 2017). Gentrification affects large parts of the inner-city (Hochstenbach 2017) and is carried out by a range of different gentrifier households including students, young graduates, families and affluent members of the 'baby boom' generation (Hochstenbach and Boterman 2017). While some suburban areas within the region are increasingly absorbing also less affluent groups (Hochstenbach and Musterd 2017) and some may even have started to downgrade, most Amsterdam suburbs experience growth and continue to house many middle class, predominantly family households (Tzaninis and Boterman 2018). Also, many non-native Dutch households have started to suburbanize adding to the complexity of the social geography of the Amsterdam region (De Groot 2004).

2 Theoretical framework

2.1 Suburbanization and urbanization

Suburbanization has historically been associated with social mobility and the expansion of the middle classes throughout most of the Fordist era (Gans 1967; Fishman 1987; Hayden 2003). The gradual emancipation of workers and their increasing purchasing power, also fueled by strong ideology supporting homeownership, allowed for the rapid expansion of suburbs throughout western metropolitan areas (Jackson 1985; Hayden 2003). While there is much debate about the fading of the traditional meaning of suburbs and about the growing complexity of what is referred to as post-suburbia (Phelps and Wood 2011), most of what constitutes today's urbanization processes in western countries could be still labelled

sub-, peri- or exurban settlement. That is, while metropolitan areas have shown consistent growth over the past century, the majority of this growth has taken place in areas outside of the urban core (Tzaninis and Boterman 2018). Understanding the dynamics of metropolitan areas is still very much about processes of suburbanization. Despite ubiquitous gentrification and a wide-spread trend of (sometimes fast) demographic growth of core areas, suburbanization in all its myriad manifestations is still the dominant trend of most metropolitan areas (Keil 2018). While indeed some suburban areas are experiencing demographic decline or an influx of lower income groups, other areas (continue to) expand rapidly, especially the ‘pseudo-countryside’ is very popular: living in a rural setting, but still within commuting range of urban labour markets (Heins 2004; Green 1997). Notwithstanding these changes in the dynamics between urban core and metropolitan peripheries (Savini 2014) the faiths of suburbs and inner cities are still intrinsically linked to each other. As suburbanization in post-war decades expanded demographically at the expense of inner-cities, the current revival of the inner-core is also relational to developments in the suburbs. The question is how we can understand these changing dynamics. According to Storper and Manville (2006, p. 1262) residential preferences are a crucial part in understanding urban growth, ...*‘for it is the transformation and alteration of preferences that drive the transformations we call resurgence.’* While this seems a simple logical statement, current dynamics between city and suburbs seem to reveal indeed renewed preference for urban living. However demographic change associated with residential mobility does not necessarily imply that the preference for urban living has increased. Revealed preferences for urban living could be driven by demographic, or perhaps by socio-economic and socio-cultural changes in the population.

2.2 Changing residential preferences?

Residential preferences are a complex and sometimes inconsistent set of factors that are related to among other things the house itself (tenure, price, size etc.), its place (and all the social and symbolic construction of that place) and how it provides access to amenities such as schools, but also how it facilitates social interaction with friends and family. For each individual these preferences differ and also shift over time. In demographic literature two key ways of measuring this exist: via stated preferences and via revealed preferences. Although what people say they want and what they do is of course related (Vasanen 2012), constraints of different nature (resources or health for instance) cause a discrepancy between preference and practice (Clark and Dieleman 1996). Furthermore, residential preferences can hardly ever be realised all in one move to a new home. A move to a new home always include complex trade-offs and conflicts between preferences. For example the preference for a large family home can conflict with the preference for living in a more urban environment; because these houses are not available, or because they are too expensive. Moreover, constraints and preferences are not entirely experienced as two separate categories. Preferences are inherently connected to assumptions about what is realistic (in terms of price for instance) (De Groot et al. 2013). This implies that it is impossible to fully separate stated and revealed preference. Nonetheless, the confrontation of stated preference research and residential mobility (as revealed preferences) is important to assess how and which constraints work and for whom and to gauge whether it is possible to discern any structural changes in residential preferences. Changes in moving behaviour might be associated with shifting (stated) preferences but could also be caused by the shifting role of constraints or changing demographics. To understand the changing patterns of residential

mobility out of the city we therefore also need an assessment of how stated preferences may have changed over the years and for which household categories.

2.3 Demographic perspectives on suburbanization

Suburban areas around cities have always relied on migration from the core city for their population growth. Much of the dynamics between urban and suburban development are closely linked to demographic processes (Buzar et al. 2005). Cities attract non-family households, students and (inter)national migrants, while suburbs attract (traditional) families. Current trends of (sub)urban growth and decline can partly be explained by changing patterns in migration and family formation (Bontje and Latten 2005). A key mechanism behind suburban growth has been conceptualized within the broader idea of the escalator region (Fielding 1992) in which core cities attract young people in early stages of their life-course and when they want to start a family, they would move to the suburb. This mechanism builds on the idea that housing preferences differ through the life-course; people have different housing needs in different stages of life (Van Ham 2012; Mulder 1993). A young single person household will, in general, look for another type of home compared with a co-habiting couple and when a couple becomes a family the housing needs could alter again. Within this kind of approach, residential mobility is considered a reaction to ‘triggers’, often associated with changes in the household situation (Clark and Dieleman 1996). Young people, who experience many of those changes, move more often, because their household situation is not settled yet (leaving the home, move to another city to study, moving for a new job, etc.). When children are reaching school age households become less inclined to move and tend to settle down. So preferences change throughout the life-course (Mulder 1993), which has proven to be historically surprisingly stable (Fuguitt and Brown 1990; De Groot et al. 2015).

The idea that the life course impacts upon residential mobility of individuals and hence shapes migration dynamics within metropolitan regions is still very relevant. Nonetheless, life courses are increasingly differentiated across individuals. Correspondingly, these changes in individual life courses have contributed to the emergence of various new household types. The revival of cities are associated with the emergence of these ‘new’ types of household, for instance singles and non-family couple households with an urban lifestyle (Ley 1996) and single mothers (Rose 1984; Bondi 1991). Particularly students and graduates massively flocked to the city and stayed. Both female and male graduates took their time to make a career and family formation was postponed. It could be argued that this stage in life without children, roughly falling between age 25–35 in which urban living is often more preferred, became longer. But also the longer duration of stay, because of the prolonged stage in the life course when urban living is more preferred, could have an effect in itself, keeping them in the city (Bailey et al. 2012). Another new household type is the single parent. The gradual social acceptance of divorce has caused the expansion of the single parent (often the mother) household. Feminist geographers in the eighties and nineties argued that the single mothers also found a fitting residential environment in the city (Rose 1984). They are among the marginal gentrifiers that opted for urban living in order to balance the work and caring task from an affordable residential location. Yet another new household category is constituted by the rise of the deliberately child-less men and women. Although there always have been childless adults, for example, of the 2004 generation women aged 28–32 in the Netherlands about 20% is expected to deliberately remain without children compared to about 11% of the baby boom generation (CBS 2004). In addition

to these childless urban households, differentiation in the way life-courses are unfolding made room for yet another new type of household, the middle class urban family. The rise of dual earners in combination with higher labour market participation among higher educated women has resulted in a growing share of career orientated families in the city (Brun and Fagnani 1994; Boterman 2012).

2.4 The rise of higher education

The rise of these new households, however, cannot be seen separate from the more general effect of the democratization of higher education. More young people than ever before follow and complete higher education. Since the seventies the number of students at colleges and universities has increased enormously (Ley 1996; Smith and Holt 2007). For instance, in most recent decades in the Netherlands the number of university students has increased with more than 100,000 (about 60%). The vast majority of these students and graduates live at some point of their lives in cities and often stay there for several years. In the post-industrial economies of western cities, higher educated have come to dominate the housing dynamics in metropolitan regions. Cities with higher education institutions and a strong labour market do not only attract highly educated, but also retain them for longer periods of time. This seems to be the case in metropolitan areas in North America (Glaeser 2011; Moos 2014) but also in European cities (Musterd et al. 2016). Tano (2014) for instance, found for Sweden that graduates tend to stay in their university city when this city has a high proportion of higher educated people in general. Graduates who studied in places with less higher educated people, tend to move to cities with a higher education level. This trend was stronger for students with higher grades. This means that cities with a high share of 'high potentials' tend to attract more high potentials. Haapanen and Tervo (2012) found similar patterns in Finland. Students who go to university in another place than where they grew up tend to leave more often after (or just before) graduation than students who went to university in their hometown. But this broad trend is not seen in the capital: students in Helsinki have far lower odds to leave after graduating than students in other places in Finland. Venhorst (2013) also sees this pattern for the four big cities in the Netherlands, they receive more graduates than graduates leaving these cities.

2.5 Migration and diversity

Another key trend affecting the composition and dynamics of metropolitan areas is related to globalization and correspondingly the increase in international migration. While US cities have been shaped by migration flows from various parts of the world for over a century, west-European cities were affected much later by large-scale international migration. The first substantial waves of international migration to west-European countries in the sixties, seventies and eighties consisted largely of migrants from former colonies and 'guest workers' from Mediterranean countries. In more recent decades migration flows are increasingly diverse. In European cities international migration now consists of refugees, both high skilled and low skilled migrants from the Global South but also substantially from other European countries. First generation migrants irrespective of their origin are often more oriented toward the central cities, because of the availability of work and suitable housing. In previous decades this implied an overrepresentation of lower-skilled and often relatively poor households. First generation migrants of non-western descent had rather limited options on the housing market, which resulted in concentrations in affordable

rental housing. In the specific Amsterdam context this implied a correlation between the extensive social rental stock and concentration of lower skilled migrants (Musterd 2005). In more recent times first-generation migrants are increasingly high skilled and earning relatively higher wages, making them an important gentrifying force. Children of first generation migrants, who are now a substantial group in many Western cities, are more differentiated in terms of their social position and their life courses. They are often more middle class than the first generation migrants. While their parents relied heavily on rental housing, the second generation is also moving into owner-occupancy. This may take place within the city but the social mobility of second generation migrants also manifests itself in suburbanization (De Groot 2004).

The changes in the composition of the population of post-industrial cities influences the residential orientations and preferences at an aggregate level. Not only did migration flows to the metropolitan area change, but the changing population of both city and suburbs reconfigures intra-metropolitan migration as well. For instance, the rise of smaller households and highly educated—who generally have a preference for urban living—is a primary source for contemporary urban growth. This could lead to a reduction in the propensity to leave urban areas and hence may stem flows of suburbanization. On the other hand, the social mobility of second generation migrants may coincide a growing preference and opportunity for suburban living, which at the regional level may boost suburbanization. Also the changing class dynamics of cities may not only affect the aggregate levels of suburbanization but also the direction of those flows. Some areas may experiencing unprecedented growth while others may witness decline.

2.6 Changing housing supply

Residential preferences are not only influenced by characteristics of the household, also the housing supply in a specific region, and the supply of specific residential milieus will influence preferences (Clark and Dieleman 1996). One of the key changes over the past decades in many cities across the Global North is the privatization and liberalization of the housing market (Boterman and Van Gent 2014). State policies promoting homeownership, such as the mortgage tax deductibility in the Dutch context (Ronald 2008), and tenure restructuring as part of strategies for engineering of the urban population (Murie 2012; Van Gent 2013) are both cause and effect in processes of gentrification. Correspondingly, social housing sector is increasingly marginalized and residualised (Harloe 2008; Andersson and Magnusson Turner 2014; Musterd 2014). While tenure restructuring may have exclusionary effects it may also create opportunities for specific types of household (Boterman and Van Gent 2014). This could foster a more structural (stated) preference for living in the city, because homeownership is increasingly feasible in the city. In cities that have been traditionally dominated by (public) rental housing this has of course stronger repercussions than in contexts that have been depending of private (owner-occupied) housing. In the specific context of Amsterdam, where homeownership accounted only for a mere 10% by the mid-nineties (compared to about 55% social housing and also the remaining 35% of private rent had strong rent control), the gradual expansion of that sector to about 30% of the city's housing stock had clear effects on the composition of the urban population. Particularly considering the vast contrast with the suburban areas around the city, including the new towns of Almere and Purmerend that did offer a substantial supply of owner-occupied housing. Even though this kind of contrast between region and core city is a more general characteristic

of metropolitan areas, the contrast in terms of tenure between urban core and region are particularly sharp in Amsterdam.

Apart from tenure, the type and quality of housing available in different parts of the metropolitan region also affect residential mobility within urban regions. Generally, urban areas tend to be dominated by multi-story apartment buildings, that are densely built and offer only limited space outdoors. When households prefer a single-family dwelling they often have to move to the outskirts or even further away, out of the city, to find such a place. This logic has been central in thinking about the 'social ecology' of cities. However, current developments in suburbs and in the city are blurring this distinction (Tzaninis and Boterman 2018). In the context of Dutch urban regions, suburban development, especially in new towns such as Almere is highly regulated and also quite dense. Much of the more recent urban development in Amsterdam has been semi-suburban (Lupi and Musterd 2006). A substantial part of the housing built between 1990 and 2010 within the city borders of Amsterdam has been significantly more spacious than the existing housing stock. The large urban expansions such as Nieuw Sloten, De Aker, Eastern Docklands, and IJburg (together about 28,000 units) have created a supply quite akin to much of the housing that characterizes the post-war suburban developments.

3 Data and methods

To get a better insight in residential preferences we have to rely on survey-based research. Most research on stated residential preferences is based on a single survey, reflecting the preferences at that moment (for example Talen 2001; Sanchez and Dawkins 2001; Goodman 1979). There are not many examples of research comparing residential preferences at different moments in time in a consistent way. This paper draws on cross-sectional data about the stated preferences of households over a long period (2003–2017). The data come from the 2-yearly survey (Living in Amsterdam, WIA) based on questionnaires for which households are asked about their current situation and about their residential preferences. It contains approximately 18,000 respondents per wave. These 18,000 all reside in the city of Amsterdam; therefore the perspective in the empirical analysis is from the point of view of Amsterdam households. The survey is directed at the head of the household and also the partner is allowed to respond. The questions are on the level of the household. Although moving intentions can be different between partners, in general partners will try to overcome these differences and the answers in the survey will then reflect the preferences of the household, and not of the individual partners in the household.

The survey design only includes already independent living households. The residential preference of for example grown-up children still living with their parents are not part of the survey. It is known that this group of young adults face serious difficulties in entering the housing market (Lennartz et al. 2016). Also other households that could not find a home in the city and moved directly to the region around the city are not included. This means that an important part of the demand for urban housing stays out of the scope of this analysis.

The survey sample is random, but stratified by neighbourhood. Extra field work (telephone, face-to-face) is done in neighbourhoods where the response is low. The overall response rate is around 20% (this fluctuates a bit between the years). This is not very high, but because of the extra field work and the large sample, it does give fairly representative results. The survey contains a weighting variable to correct for unevenness in the response.

In this analysis we did not use the weighting variable, because we were mainly interested in the links between the characteristics of the respondents, and not in the extrapolation of the results to the total population.

Nonetheless, this large dataset allows for in-depth analysis of residential preferences of different demographic, socio-economic and socio-cultural groups, living in Amsterdam. In all these waves respondents were asked if they would like to move and whether this would be within the city or out of the city. The variable whether households want to move is build up of two questions. The first question is: “Do you *want* to move within the coming 2 years?” The respondents that answered ‘yes, definitely’ and ‘have already found another house’ are included as movers.

The second question is: “Do you *have* to move within the coming 2 years?” The respondents that do not *want* to move, but *have* to move are also included as movers.

When respondents want to move out of the city, their preferred location is divided into ‘to the region of Amsterdam’ and ‘to elsewhere in the Netherlands or abroad’. The exact phrasing of the question in the survey of the preferred location changed a bit over time. The question stayed the same, but the answering categories changed. The question is: “Do you want to move outside Amsterdam or stay within Amsterdam?” In 2003–2011 the answer categories were: 1 stay in Amsterdam, 2 within 20 km from Amsterdam, 3 to elsewhere in the Netherlands, 4 abroad, 5 no preference. In 2013–2017 the answer categories were: 1 prefer to stay in Amsterdam, 2 prefer somewhere else in the Netherlands, 3 prefer abroad, 4 no preference. In 2013–2017 this was followed by a question: “When you move out of Amsterdam, where would you like to move to?” respondents had the choice of a few pre-defined municipalities in the region of Amsterdam and an option to write down their preferred municipality (or country abroad). This answer was coded into municipalities within a 20 km distance of Amsterdam and further away.

The respondents in 2003–2011 that answered ‘within 20 km distance’ and the respondents in 2013–2017 that named a municipality within a distance of 20 km of Amsterdam were classified as a preference for moving to the region of Amsterdam.¹

This group with a preference for the region of Amsterdam can be used to see whether the preference for moving to the suburbs has changed. What is the chance that a household prefers to live outside or in the city? The changing answers to this question might, however, on aggregate be a compositional effect. Therefore it is important to also take into account whether the changes hold for different demographic, socio-economic and socio-cultural groups. This can be analyzed using binary logistic regression models. This makes it possible to analyze the change in preference for moving to the region of Amsterdam in relation to other changes in preferences.

The preference for moving to the region can decrease because households prefer other options (moving within the city, moving to elsewhere outside the metropolitan region, etc.), or because the preference for moving or staying changes in general. Therefore, the analysis is divided in two parts: first we look if the preference for moving at all (within Amsterdam, or to the region of Amsterdam) has changed. Then we focus only on the group who wants to move and compare the group who wants to move to the region to the group who wants to move within Amsterdam. In both parts of the analysis the change over time is tested.

¹ In 2009 the answer categories were 1 exclusively stay in Amsterdam, 2 exclusively moving out of Amsterdam, 3 prefer to stay in Amsterdam, maybe moving out of Amsterdam, 4 prefer to move out of Amsterdam, maybe stay in Amsterdam. These categories could not be categorized in the same way as the other waves, and therefore 2009 was left out of the analysis.

To answer the third research question we will use statistical data on the demographic, socio-economic and socio-cultural composition of households in Amsterdam and the composition of the housing stock.

Following the literature on what kind of demand and supply factors might be important to understand residential preferences, we included demographic, socio-economic, and socio-cultural attributes, as well as supply characteristics. Here we briefly refer to the variables we included in the analysis and also provide the expected preferences related to them.

Young childless households will likely have a more urban preference, while families, especially those with young children are expected to have a higher preference for moving out of the city (Buzar et al. 2005; Hayden 2003; Mulder 1993). When people get older they will be less inclined to move. Also households that already live for a long time on the same address are expected to move less (Bailey et al. 2012). If this also results in a more urban orientation when they do want to move, is less clear.

In general we expect low income households to prefer staying in the city, because of availability of social housing and the necessity to be near to the place of work. However, the social rented sector is declining in neo-liberal contexts and ongoing demand for urban living may drive up housing costs in the city in particular. Therefore, housing may become relatively more accessible in suburban environments (Tzaninis 2016; Hamnett and Butler 2010). For households with a high income the opposite trend can be expected: in general they will be more orientated to the region, because of the quality of the housing stock (more owner-occupied, more single-family dwellings), but the upgrading of the city can change this preference. When households in the city already own a home, live in a large home or a single-family dwelling it is expected that they prefer to stay put (Helderman et al. 2006).

Higher educated people seem to have a more urban preference (Tano 2014), especially if partners in the household are both higher educated and have symmetric roles in the household (Boterman 2012); low and middle educated households are expected to prefer leaving the city. It is unclear how this will interact with income: higher educated tend to have higher incomes and the expected preferences for higher incomes is the opposite of the expected preference for the higher educated.

Traditional families with one earner are expected to have a higher preference for moving to the region than dual earner households (Boterman 2012).

In addition, it is expected that second generation migrants have a higher preference for leaving the city than first generation migrants (Tzaninis 2016). But this could also be mediated by the rising education level of migrants.

4 Results

In the period 2003–2008 the population of the city was quite stable in size, it contained around 740,000 inhabitants but after 2008 the population grew, to 845,000 inhabitants in 2017. During this period the couples with children were a growing group. This could be a result of a higher preference of families for staying in the city. The household composition also became ethnically more diverse. This was partly due to immigration, resulting in a growth of households of the first generation migrants, mainly from western countries. But it was also due to newly formed households of migrants from the second generation, descendants of the migrants from the '70's and '80's, mostly people from the former colonies and guest workers.

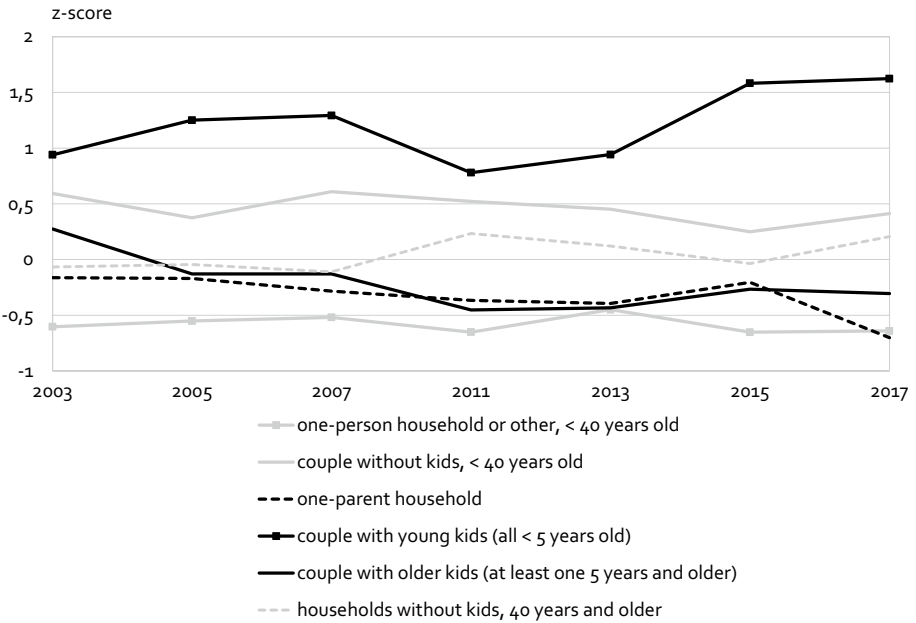


Fig. 1 Z-score of the predicted probability for moving to the region versus moving within Amsterdam by household type, 2003–2017. 2009 is omitted, due to the phrasing of the question in that year. See also Sect. 3 *Source:* Survey Living in Amsterdam 2003–2017/municipality of Amsterdam, calculations by authors

Amsterdam has long been a city where low income groups could find a home, because of the large rental stock. Less than a third of the households have a higher income (more than 1.5× modal), but this income group is growing fast (+36% in the period 2013–2017). The growth of households where the head of the household is higher educated is growing even faster (+58%).

An important driver in the changing composition of the city is the changing housing stock. The owner-occupied stock doubled in size in the period 2003–2017. Both the social and the private rental stock decreased. The composition changed due to newly build houses, which were more often owner-occupied, but also due to selling of the rentals to individual households.

The figures in Table 1 show clearly that the household composition of the city changed. The city became wealthier, higher educated and ethnically more diverse. In the following analysis we look whether these key variables influence residential preferences.

4.1 Changes in preference for moving or not moving

Almost one in five respondents in the survey ‘Living in Amsterdam’ (waves 2003–2017) wants to move within the region of Amsterdam (within Amsterdam and to the region together 16,252, 18%, Table 2). Almost half of the respondents state they do not have plans to move. Three percent wants to move out of the region of Amsterdam (2276). The remaining households, 38%, have an unclear residential preference (maybe want to move, or want to move but has no specific location in mind, 34,776 respondents).

Table 1 Household composition of Amsterdam, 2017 (abs. and %) and growth 2003–2017 (%). *Source:* OIS Amsterdam register data; income and education level: estimation based on survey-data

	2017 (abs.)	2017 (%)	Growth 2003–2017 (%)
Total population (abs.)	844,952	–	14.8
Total head of the household per address (abs.)	405,788	100	13.9
One-person household, < 35 years	60,863	15	11.1
Couple without children, < 35 years	32,913	8	39.6
Couple with children	65,798	16	23.1
One-parent household	34,877	9	6.4
Couple without children, 35–64 years	35,539	9	– 7.7
One-person household, 35–64 years	102,390	25	3.9
Couple without children, 65 years and older	22,680	6	14.9
One-person household, 65 years and older	50,728	13	26.1
Non-western migrant, 1st generation	94,203	23	9.4
western migrant, 1st generation	44,172	11	70.5
Non-western migrant, 2nd generation	23,235	6	149.4
Western migrant, 2nd generation	25,832	6	20.8
Non-migrant background	218,346	54	– 0.3
Higher educated (higher professional or university)	155,000	38	58
Higher income (> 1.5× modal household income)	127,000	31	36
Owner-occupied	120,703	29	97.6
Social rent	190,803	46	– 7.1
Private rent	105,590	25	– 0.8
Total housing stock	417,096	100	11.9

Table 2 Preference for moving or not moving, (N = 92101). *Source:* Survey Living in Amsterdam 2003–2017/municipality of Amsterdam, calculations by authors

Year	Wants to move within Amster- dam or the region	Subselection: wants to move to the region	Wants to move else- where	Uncertain wish to move	Do not want to move	Total
2003	2540	(461)	365	4994	4689	12,588
2005	2347	(437)	339	4684	4977	12,347
2007	2373	(398)	372	5471	5395	13,611
2011	1972	(321)	256	4491	5627	12,346
2003–2011	9232	(1617)	1332	19,640	20,688	50,892
2013	2271	(189)	358	5250	6357	14,236
2015	2299	(209)	276	5088	5676	13,339
2017	2450	(300)	310	4798	6076	13,634
2013–2017	7020	(698)	944	15,136	18,109	41,209
Total 2003–2017	16,252	(2315)	2276	34,776	38,797	92,101

Table 3 Multinomial regression on residential preferences (ref. = do not want to move, N=9210,1, Nagelkerke $R^2=0.190$). Source: Survey Living in Amsterdam 2003–2017/municipality of Amsterdam, calculations by authors

	Wants to move within Amsterdam or the region		Wants to move elsewhere		Uncertain wish to move	
	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	sig.
2017	1.078		0.853		0.909	***
2015	1.091		0.861		1.061	*
2013	0.935		0.928		0.939	*
2011	0.872	***	0.728	***	0.878	***
2007	1.003		1.033		1.051	*
2005 (ref. 2003)	0.962		0.960		0.942	**
One-person household or other, < 40 years old	3.341	***	2.331	***	2.756	***
*Time	1.014	**	1.032	***	1.010	**
Couple without kids, < 40 years old	4.928	***	5.169	***	3.145	***
*Time	0.991		0.989		0.996	
One-parent household	2.805	***	2.054	***	1.567	***
*Time	0.990		0.974		0.989	*
Couple with young kids (all < 5 years old)	6.303	***	6.992	***	2.408	***
*Time	0.998		0.962	**	0.991	
Couple with older kids (at least one 5 years and older)	2.019	***	1.370	*	1.286	***
*Time	1.001		0.972	*	0.990	**
Households without children, > 40 years old (ref.)						

Other variables in the model: income and education level, number of earners in the household, migration background, length of current residence, housing type, tenure and size

During the waves there seems to be a small increase of respondents that state they do not want to move. Both the categories ‘wants to move within Amsterdam or the region’ and ‘uncertain wish to move’ seem to decrease slightly.

Is this slight decrease also manifest when broken down by demographic, socio-economic and socio-cultural characteristics of the household? To see whether the preference for moving or not moving has changed through time the different variables are put in to a multinomial regression model. Table 3 shows the results of this model. The reference category in the dependent variable is ‘do not want to move’. Almost all household types want to move more often than the reference household type category (households without children, older then 40 years of age). Especially young couples without children and families with children under 5 years old want to move often. This is in line with the theory of residential preferences during the life-course (Mulder 1993).

Other characteristics behave as expected (see “Appendix”). Migrants of non-western descent want to move more often, but only within Amsterdam or the region. Migrants from western descent of the 1st generation want to move more often out of the region (probably abroad to their country of origin). Households with a shorter duration-of-stay want to move more often than the more settled households. Households that live in a single family dwelling and households that are owner-occupier often do not want to move. The larger the

current dwelling, the less likely it is that a household wants to move. Their current housing situation is probably sufficient.

In an effort to answer the question whether the preference for moving is stable over time a time-variable is added to the analysis. The time variable is linear, where 2003=0, 2005=2, 2007=4 etc. to 2017=14. This time-variable is added as an interaction with household type. Besides this time-variable a categorical variable is included for the year of the wave. This last variable controls for other year-effects.

The interaction of the household type with the time variable shows that young one-person households have an increasing intention to move, both within the region of Amsterdam and to elsewhere. Also the uncertain preference for moving increases for this household type. These young households are a fast growing group in Amsterdam, largely made up of students and graduates both from the Netherlands and increasingly coming from abroad. Not all of them have the intention to settle in Amsterdam. This results in an increasing intention to move.

For the other household types the intention to move is more stable over time. The intention to move within the region of Amsterdam is fairly stable for young couples and households with children. The preference for moving out of the region decreases a little for families with children. Families with older children and one-parent households less often have an uncertain moving intention through time.

The year-variable shows that overall the intention to move was somewhat lower in 2011. This is probably due to the economic crisis and the following crash of the housing market. In this time residential mobility was low and many households that did have a desire to move, were 'stuck' in their home, because they could not sell their home. Many postponed their wish to move.

Although the share of households that want to move within Amsterdam or to the region decreases slightly, there does not seem to be a structural change in preferences. The differences between the years disappear when the variables that describe the current housing situation are added to the model. The growing owner-occupied sector seems to make households less inclined to move on an aggregate level.

4.2 Moving within Amsterdam or to the region

Due to the change in phrasing of the questionnaire, the analysis for the preference for moving to the region versus moving within Amsterdam has to be split in two time periods: 2003–2011 and 2013–2017. In 2003–2011 18% of the respondents who intend to move, wants to move to the region (1617 out of 9232 respondents, Table 2), 82% state that they prefer to move within the city. The preference for moving to the region in 2013–2017 is lower: 10% (698 out of 7020 respondents). The phrasing 'preference for Amsterdam' in the answer categories in 2013–2017 seems to have triggered more respondents to choose that option than the more neutral phrasing 'in Amsterdam' in 2003–2011. In the following analysis we will take a closer look on the period 2003–2011.

The share of respondents that prefers to move to the region decreased from 18% in 2003 to 16% in 2011. Using a binary logistic regression model we will test whether this decrease will hold when different demographic, socio-economic and socio-cultural characteristics of the household are included.

Table 4 shows the results of a binary regression of the preference for moving to the region of Amsterdam. The reference category is "want to move within Amsterdam". The analysis is split in four models adding sets of variables. In the first model only the

Table 4 Binary logistic regression of wanting to move to the region of Amsterdam (N = 9232; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$; reference category: want to move within Amsterdam). *Source:* Survey Living in Amsterdam 2003–2011/municipality of Amsterdam, calculations by authors

	Model 1		Model 2		Model 3		Model 4	
	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.
2003 (ref)								
2011	1.108		1.167		1.075		1.073	
2007	1.036		1.046		0.994		0.916	
2005	1.047		1.090		1.081		1.029	
Households without children, 40 years and older (ref)								
One-person household or other, < 40 years old	0.735	*	0.763		0.878		0.732	*
*Time	0.948	*	0.947	*	0.957	*	0.958	
Couple without kids, < 40 years old	1.619	***	1.003		1.186		1.041	
*Time	0.979		0.980		0.986		0.988	
One-parent household	1.109		1.378		1.295		1.183	
*Time	0.938	*	0.938	*	0.936	*	0.943	*
Couple with young kids (all < 5 years old)	2.422	***	1.829	***	1.900	***	1.653	***
*Time	0.963		0.947	*	0.949	*	0.956	*
Couple with older kids (at least one 5 years and older)	1.521	**	1.420	*	1.278	*	1.222	
*Time	0.900	***	0.903	***	0.906	***	0.907	***
Education level: high, income level: high (ref.) ^a								
Education level: low, income level: low			0.765	***	0.966		1.322	**
Education level: low, income level: middle			1.187		1.345	**	1.648	***
Education level: low, income level: high			1.396	***	1.422	***	1.617	***
Education level: high, income level: low			0.518	***	0.678	***	0.848	***
Education level: high, income level: middle			0.796	**	0.923	**	0.977	
No earners (ref)								
Two-earner household			1.321	**	1.349	**	1.108	**

Table 4 (continued)

	Model 1		Model 2		Model 3		Model 4	
	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.
One-earner household			1.057		1.082		0.929	
Non-migrant background (ref)								
Non-western migrant, 1st generation			0.468	***	0.493	***	0.476	***
Western migrant, 1st generation			0.549	***	0.581	***	0.593	***
Non-western migrant, 2nd generation			0.706	**	0.722	**	0.693	**
Western migrant, 2nd generation			0.816	*	0.832	*	0.817	*
Length of current residence: > 20 years (ref)								
Length of current residence: < 3 years			1.048		1.101		0.990	
Length of current residence: 3–5 years			1.618	***	1.689	***	1.497	***
Length of current residence: 6–10 years			1.400	***	1.478	***	1.331	**
Length of current residence: 10–20 years			1.139		1.19		1.110	
Single-family dwelling (ref. apartment)					1.939	***	1.913	***
Social rent (ref)								
Owner-occupied					1.154	*	0.870	*
Private rent					0.909		0.833	**
Size of the dwelling—less than 40 m ² (ref.)								
Size of the dwelling—40–60 m ²					1.454	***	1.380	***
Size of the dwelling—60–80 m ²					1.762	***	1.634	***
Size of the dwelling—80–100 m ²					2.26	***	2.131	***
Size of the dwelling—100 m ² and more					1.676	***	1.565	***
Prefers to rent (ref)								
Prefers to buy							2.591	***
No preference							1.379	***
Constant	0.203	***	0.217	***	0.101	***	0.083	***

Table 4 (continued)

	Model 1		Model 2		Model 3		Model 4	
	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.
Nagelkerke R ²	0.038		0.085		0.103		0.128	

^aIncome level low: below modal; middle: modal—1.5× modal; high: 1.5× modal and more. Based on the national distribution. Education level high: university or higher professional education, low: no education, only general education or intermediate professional education

household and time variables are included. Couples with young children show the highest odds for moving to the region. Couples without children and couples with older children both show higher odds for moving to the region than the reference category (households without children, above 40 years old). The interaction with the time variable indicates that the intention to move to the region has decreased for the families with older children. Also young one-person households and one-parent households show a slight decrease. This could indicate that living in the city has become more preferred for these household types than living in the region around the city.

But this could be influenced by the other characteristics of the household and the dwelling. In the second model the characteristics of the households are added and in the third model the characteristics of the current dwelling. Adding these variables makes the differences between the household types less prone. Still young families show the highest odds, but the differences are smaller. The influence of the interaction with the time variable changes: young families now show a slightly decreasing trend.

Because of the possible contradicting effect of education level and income level a combined variable is made. Households with a low education level and a high income level have a higher preference for moving to the region. This is in line with the expected outcomes that the higher educated are more urban oriented than the lower educated. Although the literature suggests that two-earner households are less prone to prefer moving to the region than more traditional one-earner households, our results show the opposite: two-earner households show a higher preference for moving to the region (model 2 and 3). The expected higher preference for moving to the region of one-earner households is not found.

Migrants of the first generation have a lower preference for moving to the region and also western migrants of the second generation are less interested in moving to the region. Also second generation migrants of non-western descent show lower odds, but the odds become more comparable with the preference of the Dutch without a migrant background. This finding is in line with what is expected. When migrants integrate into society their preferences will resemble to the population without a migration background.

Households with a duration-of-stay on their current address between 3 and 10 years have a higher preference for moving to the region. They seem to be less settled in the city than households with a longer duration-of stay. Also this finding is in line with what is expected based on the literature on the duration-of-stay effect.

The current housing situation (model 3) does not change the influence of household type drastically. Households living in a single-family dwelling and/or a owner-occupied home and/or a larger home often do not want to move, but when they do, they often prefer moving to the region. Maybe their current housing situation already reflects more suburban preferences. And their current housing is already of relatively good quality, their options to find a better home will be larger in the region than in the city.

In 2011 the intention to move was low, and this was probably related to the economic situation and the related crash on the housing market. In the region of Amsterdam the owner-occupied market is more dominant than in Amsterdam. Therefore the decrease of the intention to move to the region of Amsterdam could also be related to the situation of the housing market. To test this in the fourth model the preferred tenure is included. Households that prefer to move to an owner-occupied home have a higher preference for moving to the region. Adding this variable does indeed diminish the time-effect. This indicates that the decrease in the intention to move to the region of Amsterdam is more related to changes in the housing market than in the preferences of young households. Adding this preference also alters the coefficients of other variables: the influence of income weakens (households with a low education level now all have a higher preference for moving to the

region, regardless of their income level) and dual-earner households do not have a higher preference for moving to the region anymore. Households that already own a home are now less interested in moving to the region than renters in the social sector.

The analysis shows that the preference for staying or leaving the city is influenced by the demographic, socio-economic and socio-cultural household composition. The interaction variable between household type and time shows that the preference for moving to the region diminishes slightly for household types with children, especially households with older children. For the families with young children this decrease is less clear and seems to be influenced by the situation on the housing market. But for the families with older children the situation seems to be different, the results indicate that they have an increasingly urban orientation. Maybe this group of families with older children is increasingly made up of households that want to stay in the city, instead of households that had to stay because of limited options on the housing market.

Also other variables have been tested whether there was a time effect (not shown). The interaction of time with income-education level, the number of earners, duration-of-stay and the type of housing (current and preferred) did not result in a significant time-effect. The relation between these characteristics and the preference for staying or moving to the region is constant through time. The ethnic background of the household did show a time-effect: second generation migrants of non-western descent showed a decreasing preference for moving to the region. They seem to become more urban oriented. In the period 2003–2011 quite some urban renewal has taken place in areas of the city where a large part of the second generation migrants grew up. Their options to find a suitable home in these areas have increased. It could be that this urban renewal has made them more interested in moving within in the city.

Although the data for the period 2013–2017 are not completely comparable with the data from 2003–2011, it does give the possibility to see what the recent trends are. To make both periods more comparable the results per year are computed into z-scores. The z-scores are computed per respondent. In order to do that the results first have to be transformed into probabilities. The model above is used to define the predicted probabilities per respondent. The same is done for the data of 2013–2017. These predicted probabilities are computed to z-scores. The mean for every year is zero, the scores indicate the relative position of the different household types (Fig. 1).

The decreasing trend of the households with older children in their preference for moving to the region results in a positive z-score in 2003 (0.27) changing to a negative score in 2011 (−0.45). The results for 2013–2017 seem to indicate that the trend has stabilized (2017: −0.31). For the childless households the trend seems quite stable. Also the one-parent households show a stable trend, except for the last available year: the z-score drops to −0.70 indicating a decrease in the preference for moving to the region. For the couples with young children the results indicate a changing trend: their preference for moving to the region shows a strong increase.

5 Discussion

To understand how the residential dynamics within urban regions are related to changing preferences this paper has analysed the stated preferences of individuals in the Amsterdam region and how they may have changed in the period 2003–2017. In line with earlier findings we found that household characteristics strongly influence the propensity to move

and to move out of the city. First of all, the combination of income and level of education appear a strong factor. Interestingly, highly educated with middle and lower incomes are most urban in their orientation, while lower and middle educated with higher and middle incomes are most likely to prefer to leave the city. This seems to reflect earlier work on middle class fractions that also demonstrated that particularly households with more cultural capital and less economic capital are the typical urban households (Butler and Robson 2003; Boterman 2012). Secondly, ethnic background also has a clear effect. Particularly first generation immigrants have a much stronger urban orientation than people without a migrant background. Finally, the composition of the household also influences preferences. Young singles demonstrate a stronger orientation to the city, while young families generally are highly mobile and more often consider moving to a more suburban location. These results tend to reflect some longstanding insights into households and residential mobility (Fielding 1992; Mulder 1993; Clark and Dieleman 1996). However, one of the key questions is to what extent these preferences have been stable over time (Fuguitt and Brown 1990). Much of the literature on residential preferences seems to suggest that individuals more generally are increasingly orientated to the city (Glaeser 2011; Florida 2003). Our results of how preferences changed in the studied period indeed suggest that the residential preferences of families who stayed in the city when their children became older, may have slightly become more urban oriented in the period 2003–2011. The tentative analysis on the time period 2013–2017 suggests that their preference remains at a more urban level. This is not the case for the families with young children: they express a clear suburban orientation. This suggests that the families that do stay in the city, do this more often out of their own choice.

A third and crucial point in respect to the changing residential mobility patterns in the Amsterdam region is related to the composition of the urban population. The growing owner-occupied housing sector accommodated the growth of more affluent households. The owner-occupied sector has doubled in share in the period 2003–2017. The options to buy a house in the city therefore increased. This has contributed to a growing group of households that do not have an intention to move. But when households want to move, a preference for buying a home is still related to a preference for moving out of the city. This effect does not seem to have changed over time. Apparently the expansion of the owner-occupied sector has not been substantial enough to resolve this imbalance of housing supply between the region and the city.

Notwithstanding, Amsterdam is strongly affected by processes of gentrification (Hochstenbach 2017) which is manifested in a growing group of high-income households and highly educated households. This 'return' of the middle classes is often seen as evidence of a structural change in residential preferences, but this is not necessarily the case. As the highly educated and higher income groups have historically displayed a more urban orientation (De Groot et al. 2015), much of the changing residential dynamics of staying in the city and a lower rate of suburbanization may be primarily caused by their growing numbers rather than their changing preference. A growing group of more urban orientated households will affect residential mobility at the aggregate city level and lead to a more general urban orientation also in later life stages (Karsten 2003).

This is also reflected in the growing share of families in the city who are also increasingly middle class (Boterman et al. 2010). To some extent this is the effect of the changing population composition, but this changing composition itself may also positively affect the city's attractiveness for families. This paper suggests that the more urban preference through time could be a result of the changing composition, making it more attractive for other families to stay as well.

Notwithstanding, demographic factors are still the key fault line between city and suburb: family households still primarily live in the suburbs and non-family households in the city. We however suggest that this division may become less strong, due to changes in the city, but also due to changes in the region (Tzaninis and Boterman 2018). However, to what extent this is a more general and lasting change, remains to be seen. Some important caveats seem in order, which lie in the time-period we analysed and the specificity of the Amsterdam case: First, the aftermath of the global financial crisis seriously reduced levels of residential mobility, which may affect the rate of suburbanization in this period. In more recent years we see an increased trend to suburbanization (CBS 2017). Also in other contexts many suburbs are still experiencing growth at the same time as core cities are demographically thriving (Keil 2013). Secondly, the dynamics in the Amsterdam region are also to a large extent influenced by the development of housing supply. The highly regulated structure of the housing market of the entire region possibly influences preferences in a way which are not easily transferable to other contexts.

Although the survey data of 'living in Amsterdam' are a rich source of information about residential preferences over a long period of time, it has its limitations. The change in the exact phrasing of the questionnaire made it hard to make a sound comparison through the whole time period.

The survey data only describe the preferences of households already living in Amsterdam. The preferences of young people still living with their parents, as well as households that could not find a home in the city are not included. This could give an underestimation of the urban preference.

Finally, the analysis shown is based on stated preference information. These stated preferences show quite some stability and seem to be less influenced by changes in the housing market and housing supply than actual moving behaviour. A confrontation of the analysis we performed with so-called revealed preference analysis, in which people's actual residential mobility is studied, may help to improve the understanding for the dynamics we have discussed.

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Appendix

See Tables 5, 6 and 7.

Table 5 Descriptives of preference for moving or not moving, 2003–2011 (N = 50,892). *Source:* Survey Living in Amsterdam 2003–2011

	Wants to move within Amsterdam	Wants to move to the region	Wants to move elsewhere	Uncertain wish to move	Do not want to move	Total	% Wants to move within Amsterdam or to the region	% Wants to move to the region (only movers within Amsterdam or to the region)
Total	7615	1617	1332	19,640	20,688	50892	18	18
2003	2079	461	365	4994	4689	12,588	20	18
2005	1910	437	339	4684	4977	12,347	19	19
2007	1975	398	372	5471	5395	13,611	17	17
2011	1651	321	256	4491	5627	12,346	16	16
One-person household or other, <40 years old	1982	242	288	4728	1971	9211	24	11
Couple without kids, <40 years old	1037	320	265	2454	1150	5226	26	24
One-parent household	789	135	80	1396	1413	3813	24	15
Couple with young kids (all <5 years old)	597	255	149	1001	752	2754	31	30
Couple with older kids (at least one 5 years and older)	1054	206	114	2251	3201	6826	18	16
Couple without kids, 40–64 years old	443	154	131	1749	2836	5313	11	26
Couple without kids, 65 years and older	190	64	32	958	2111	3355	8	25
One-person household or other, 40–64 years old	1239	201	234	4013	4808	10,495	14	14
One-person household or other, 65 years and older	284	40	39	1090	2446	3899	8	12
Low educated, low income	2455	373	222	4971	6071	14,092	20	13
Low educated, middle income	535	159	78	1592	2040	4404	16	23

Table 5 (continued)

	Wants to move within Amsterdam	Wants to move to the region	Wants to move elsewhere	Uncertain wish to move	Do not want to move	Total	% Wants to move within Amsterdam or to the region	% Wants to move to the region (only movers within Amsterdam or to the region)
Low educated, high income	414	169	77	1333	1893	3886	15	29
Higher educated, low income	1683	189	264	3994	2983	9113	21	10
Higher educated, middle income	937	183	183	2781	2289	6373	18	16
Higher educated, high income	1591	544	508	4969	5412	13,024	16	25
Two-earner household	1973	715	485	5207	5239	13,619	20	27
One-earner household	3899	634	608	9945	8024	23,110	20	14
No earners	1743	268	239	4488	7425	14,163	14	13
Non-western migrant, 1st generation	1748	215	100	2224	2548	6835	29	11
Western migrant, 1st generation	479	72	115	1186	1269	3121	18	13
Non-western migrant, 2nd generation	291	52	20	484	320	1167	29	15
Western migrant, 2nd generation	505	108	95	1468	1493	3669	17	18
Non-migrant background	4592	1170	1002	14,278	15,058	36,100	16	20
Length of current residence: <3 years	1373	211	236	4138	3838	9796	16	13
Length of current residence: 3–5 years	1822	489	402	4331	3342	10,386	22	21
Length of current residence: 6–10 years	1998	461	342	4297	3816	10,914	23	19

Table 5 (continued)

	Wants to move within Amsterdam	Wants to move to the region	Wants to move elsewhere	Uncertain wish to move	Do not want to move	Total	% Wants to move within Amsterdam or to the region	% Wants to move to the region (only movers within Amsterdam or to the region)
Length of current residence: 10–20 years	1709	325	226	4235	5135	11,630	17	16
Length of current residence: > 20 years	713	131	126	2639	4557	8166	10	16
Single-family dwelling	331	173	128	2293	4461	7386	7	34
Apartment	7284	1444	1204	17,347	16,227	43,506	20	17
Owner-occupied	1359	492	487	7139	8496	17,973	10	27
Private rent	1918	374	349	4297	3179	10,117	23	16
Social rent	4338	751	496	8204	9013	22,802	22	15
Size of the dwelling—less than 40 m ²	3366	612	479	7324	5484	17,265	23	15
Size of the dwelling—40–60 m ²	1975	469	342	5488	6230	14,504	17	19
Size of the dwelling—60–80 m ²	842	299	236	3198	4247	8822	13	26
Size of the dwelling—80–100 m ²	406	130	150	2183	3958	6827	8	24
Size of the dwelling—100 and more	1026	107	125	1447	769	3474	33	9
Preference buy	3178	1056	–	–	–	–	–	25
No preference	722	115	–	–	–	–	–	14
Preference rent	3715	446	–	–	–	–	–	11

Table 6 Descriptives of preference for moving or not moving, 2013–2017 (N = 50,892). *Source:* Survey Living in Amsterdam 2013–2017

	Wants to move within Amsterdam	Wants to move to the region	Wants to move elsewhere	Uncertain wish to move	Do not want to move	Total	% Wants to move within Amsterdam or to the region	% Wants to move to the region (only movers within Amsterdam or to the region)
Total	6322	698	944	15,136	18,109	41,209	17	10
2013	2082	189	358	5250	6357	14,236	16	8
2015	2090	209	276	5088	5676	13,339	17	9
2017	2150	300	310	4798	6076	13,634	18	12
One-person household or other, < 40 years old	1412	87	212	2961	1157	5829	26	6
Couple without kids, < 40 years old	861	124	178	1842	902	3907	25	13
One-parent household	636	46	59	1009	1243	2993	23	7
couple with young kids (all < 5 years old)	539	134	95	786	623	2177	31	20
Couple with older kids (at least one 5 years and older)	916	76	67	1759	2970	5788	17	8
Couple without kids, 40–64 years old	357	58	84	1297	2128	3924	11	14
Couple without kids, 65 years and older	205	33	30	1048	2320	3636	7	14
One-person household or other, 40–64 years old	1056	109	174	3033	3818	8190	14	9
One-person household or other, 65 years and older	340	31	45	1401	2948	4765	8	8
Low educated, low income	1592	123	156	2969	4559	9399	18	7
Low educated, middle income	358	61	46	920	1431	2816	15	15
Low educated, high income	302	64	36	836	1334	2572	14	17

Table 6 (continued)

	Wants to move within Amsterdam	Wants to move to the region	Wants to move elsewhere	Uncertain wish to move	Do not want to move	Total	% Wants to move within Amsterdam or to the region	% Wants to move to the region (only movers within Amsterdam or to the region)
Higher educated, low income	1459	103	236	3001	2715	7514	21	7
Higher educated, middle income	829	78	123	2375	2291	5696	16	9
Higher educated, high income	1782	269	347	5035	5779	13,212	16	13
Two-earner household	1938	308	337	4404	4817	11,804	19	14
One-earner household	2951	265	412	6958	6540	17,126	19	8
No earners	1433	125	195	3774	6752	12,279	13	8
Non-western migrant, 1st generation	1155	64	71	1628	2570	5488	22	5
Western migrant, 1st generation	455	55	97	1202	1300	3109	16	11
Non-western migrant, 2nd generation	345	36	33	480	419	1313	29	9
Western migrant, 2nd generation	464	38	62	1148	1281	2993	17	8
Non-migrant background	3903	505	681	10,678	12,539	28,306	16	11
Length of current residence: <3 years	1561	143	246	3354	3021	8325	20	8
Length of current residence: 3–5 years	1317	157	219	2876	2535	7104	21	11
Length of current residence: 6–10 years	1395	187	217	2994	3147	7940	20	12
Length of current residence: 10–20 years	1274	113	149	3055	4441	9032	15	8

Table 6 (continued)

	Wants to move within Amsterdam	Wants to move to the region	Wants to move elsewhere	Uncertain wish to move	Do not want to move	Total	% Wants to move within Amsterdam or to the region	% Wants to move to the region (only movers within Amsterdam or to the region)
Length of current residence: > 20 years	775	98	113	2857	4965	8808	10	11
Single-family dwelling	459	87	91	2075	3833	6545	8	16
Apartment	5863	611	853	13,061	14,276	34,664	19	9
Owner-occupied	1574	288	330	6787	9481	18,460	10	15
Private rent	1758	173	271	3199	2040	7441	26	9
Social rent	2990	237	343	5150	6588	15,308	21	7
Size of the dwelling—less than 40 m ²	2255	211	311	4621	3876	11,274	22	9
Size of the dwelling—40–60 m ²	1569	198	231	4040	4909	10,947	16	11
Size of the dwelling—60–80 m ²	973	146	178	2785	4095	8177	14	13
Size of the dwelling—80–100 m ²	647	86	106	2519	4636	7994	9	12
Size of the dwelling—100 m ² and more	878	57	118	1171	593	2817	33	6
Preference buy	3004	465	—	—	—	—	—	13
No preference	424	37	—	—	—	—	—	8
Preference rent	2894	196	—	—	—	—	—	6

Table 7 Multinomial regression on residential preferences (ref. = do not want to move, N=92,101, Nagelkerke $R^2=0.190$) full model. *Source:* Survey Living in Amsterdam 2003–2017/municipality of Amsterdam, calculations by authors

	Wants to move within Amsterdam or the region		Wants to move elsewhere		Uncertain wish to move	
	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.
2017	1.078		0.853		0.909	***
2015	1.091		0.861		1.061	*
2013	0.935		0.928		0.939	*
2011	0.872	***	0.728	***	0.878	***
2007	1.003		1.033		1.051	*
2005 (ref. 2003)	0.962		0.960		0.942	**
One-person household or other, < 40 years old	3.341	***	2.331	***	2.756	***
*Time	1.014	**	1.032	***	1.010	**
Couple without kids, < 40 years old	4.928	***	5.169	***	3.145	***
*Time	0.991		0.989		0.996	
One-parent household	2.805	***	2.054	***	1.567	***
*Time	0.990		0.974		0.989	*
Couple with young kids (all < 5 years old)	6.303	***	6.992	***	2.408	***
*Time	0.998		0.962	**	0.991	
Couple with older kids (at least one 5 years and older)	2.019	***	1.370	*	1.286	***
*Time	1.001		0.972	*	0.990	**
Households without children, > 40 years old (ref.)						
Higher educated, high income (ref.)						
Low educated, low income	0.693	***	0.470	**	0.817	***
Low educated, middle income	0.725	***	0.548	**	0.884	***
Low educated, high income	0.820	***	0.562	**	0.861	***
Higher educated, low income	0.791	***	0.790	**	0.976	
Higher educated, middle income	0.854	***	0.739	**	1.010	
No earners (ref.)						
Two-earner household	1.662	***	1.376	**	1.359	***
One-earner household	1.495	***	1.358	**	1.418	***
Non-migrant background (ref.)						
Non-western migrant, 1st generation	1.364	***	0.641	**	0.906	***
Western migrant, 1st generation	0.994		1.227	**	0.981	
Non-western migrant, 2nd generation	1.454	***	0.776	*	1.021	
Western migrant, 2nd generation	1.031		0.889		1.012	
Length of current residence: > 20 years (ref.)						
Length of current residence: < 3 years	0.725	***	0.777	**	0.757	***
Length of current residence: 3–5 years	1.364	***	1.626	**	1.104	***
Length of current residence: 6–10 years	1.691	***	1.837	**	1.232	***
Length of current residence: 10–20 years	1.434	***	1.282	**	1.136	***
Housing type-apartment (ref.)						
Housing type-single-family dwelling	0.485	***	0.714	**	0.788	***

Table 7 (continued)

	Wants to move within Amsterdam or the region		Wants to move elsewhere		Uncertain wish to move	
	Odds ratio	Sig.	Odds ratio	Sig.	Odds ratio	Sig.
Tenure-social rent (ref.)						
Tenure-owner-occupied	0.344	***	0.549	**	0.803	***
Tenure-private rent	1.251	***	1.411	**	1.334	***
Size of the dwelling-less than 40 m ² (ref.)						
Size of the dwelling-40–60 m ²	0.525	***	0.546	**	0.799	***
Size of the dwelling-60–80 m ²	0.341	***	0.418	**	0.657	***
Size of the dwelling-80–100 m ²	0.258	***	0.404	**	0.566	***
Size of the dwelling-100 m ² and more	0.190	***	0.266	**	0.472	***

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