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### Intentions to move, residential preferences and mobility behaviour: a longitudinal perspective

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## 2 The realisation of intentions to move: longitudinal and cross-sectional analyses of stated intentions and actual behaviour

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*ABSTRACT This study addresses the discrepancy between stated intentions to move and actual mobility behaviour. Two methodologies can be distinguished in previous research concerning the linkage between stated intentions and actual behaviour: the cross-sectional approach and the longitudinal approach. Using a data set in which survey data from the Housing Demand Survey 2002 are enriched with longitudinal register data from the Social Statistical Database, it is argued that a longitudinal research method is preferred to gain insight into the relationship between stated intentions to move and actual mobility behaviour. Furthermore, it is shown that the extent to which people behave in accordance to their stated intentions to move is mainly affected by the urgency of the intention to move. The underlying triggers for moving and tenure preferences also play a role; particularly those who prefer to move out of homeownership have a high probability of realising their intention to move. Surprisingly, the realisation of stated intentions to move is hardly affected by socioeconomic characteristics such as income.*

## 2.1 Introduction

Research concerning residential mobility and migration is often based either on information on stated attitudes towards moving or on actual mobility behaviour. Attitudes towards moving, such as desires and intentions, are, together with housing preferences (hypothetical housing choices), the subject of the stated preference approach (for an overview, see, for example, Kim et al., 2005). The study of actual mobility (and actual housing choice) belongs to the revealed preference approach (Dieleman, 1996). This approach is based on observable market behaviour under the assumption that actual behaviour is a reflection of preferences (Timmermans et al., 1994).

It is difficult to describe the decision process underlying potential moves by concentrating on either stated attitudes towards moving or actual mobility behaviour. Studies using stated preference data are unable to show to what extent a positive attitude to move will result in actual behaviour. At the same time, by focussing only on the mobility outcome, those who have a favourable attitude towards moving but do not relocate because of a lack of housing market opportunities are ignored (Feijten & Van Ham, 2009). Furthermore, studies using revealed preference data lack the potential to unravel the extent to which moves are the result of the interplay between positive attitudes towards moving, housing preferences (and the willingness to substitute housing preferences), individual resources and restrictions, and housing market opportunities (Goetgeluk & Hooimeijer, 2002; Timmermans et al., 1994).

To gain insight into the process between stated intentions to move and actual moves, information is needed on intentions as well as actual behaviour. This information is available in cross-sectional surveys and in longitudinal surveys. However, only longitudinal surveys combine information about stated intentions and actual moves for the same individuals by following intended movers in time with respect to their actual mobility behaviour. The longitudinal research method is, therefore, an ideal methodology for gaining detailed insight into the extent to which people behave according to their stated intentions to move and into the circumstances that hamper or stimulate actual mobility behaviour conditional on stated intentions to move.

Longitudinal research concerning the question of how positive attitudes towards moving result in actual mobility behaviour is often based on small-scale panel surveys (Landale & Guest, 1985; Rossi, 1955; Speare, 1974) because the type of longitudinal data needed to answer this question is difficult to collect. Generally, it is difficult to track the same respondents, especially if the study is conducted over a long period of time. This is particularly problematic in mobility research because movers are more difficult to trace than non-movers.

However, in the Netherlands, it has recently become possible to combine housing survey data with longitudinal register data at the level of individuals. The resulting large-scale longitudinal data set gives information on both intentions to move and actual mobility behaviour for the same individuals. In contrast to most other longitudinal studies based on panel surveys, all respondents can be followed over time; there are no problems with tracking them. Moreover, the research sample is larger than the samples used in most previous studies, which makes it possible to perform more in-depth analyses with greater statistical power.

Using this newly created longitudinal data set, this study aims to investigate how the longitudinal and cross-sectional approach may lead to different conclusions with respect to the discrepancy between mobility intentions and mobility behaviour. Furthermore, while applying the longitudinal research method, the following research question is addressed: *To what extent do reasons for moving, housing dissatisfaction, and housing preferences hamper or stimulate the actual mobility behaviour of those intending to move to another dwelling (the so-called intended filterers)?* The analyses presented in this chapter are partly based on the study by De Groot and colleagues (2008). The intention to move is derived from the Housing Demand Survey (HDS) 2002; the subsequent mobility behaviour of the HDS respondents is derived from the longitudinal Social Statistical Database (SSD) of Statistics Netherlands.

## **2.2 Theory and background**

### **2.2.1 From stated intentions to actual behaviour: Theory**

The theory concerning residential mobility and migration starts from the assumption that there must be a trigger for a positive attitude towards moving. The first trigger source for moving is the existence of a certain state in a current dwelling or location and the wish to change that state. It is often assumed that the state in the previous dwelling should be dissatisfactory or stressful to make people wish or intend to move (Mulder, 1996). The second category of triggers for moving relates to facilitating the occurrence of life events in the household, educational, or occupational career, such as leaving the parental home, union dissolution, and job change. In contrast to the first category, these triggers for moving are not necessarily related to residential stress or dissatisfaction (Mulder, 1996; Rossi, 1955).

The trigger for moving indicates the importance of achieving the intended behaviour for the subject (Gollwitzer, 1993) and, therefore, partly determines the urgency level of the intention to move. The urgency level of an intention to move

indicates the level of commitment to execute the intended action (Gollwitzer, 1993), such as how hard people are willing to try or how much of an effort they plan to exert to perform the behaviour (Ajzen, 1991). People who intend to move because the current housing situation does not match the preferred housing situation (housing reasons) usually do not have an urgent reason to move. Delaying the move only causes an extension of the suboptimal housing situation (Goetgeluk, 1997). In contrast, triggers for moving related to life events such as job change, union formation, and, especially, union dissolution are more urgent reasons for moving because these events can hardly take place without at least one move (Goetgeluk, 1997; Oskamp, 1997).

The individual's intention to perform a certain behaviour is the central factor in the theory of planned behaviour (Ajzen, 1991). This theory has been widely used for the prediction of a wide range of behavioural outcomes conditional on intentions (for an overview, see Sheeran, 2002) and has been designed to predict the execution of behaviour that is not under volitional control. That is, it predicts behaviour (for example, mobility behaviour) that not only depends on a person's own motivational factors but also on factors that are beyond a person's control (Ajzen, 1991; Madden et al., 1992). For example, whether people are able to realise their intention to move depends on housing opportunities and constraints at the macro level (compare Hooimeijer & Oskamp, 1996; Mulder & Hooimeijer, 1999). The theory of planned behaviour also predicts that people take perceived hampering factors into account in the formation of a behavioural intention (Ajzen, 1991; Gollwitzer, 1993). Intentions to move are likely constrained attitudes; if people expect hindrances in the form of a lack of resources or opportunities, then an initial favourable attitude towards moving may not crystallise into an intention to move (Gardner et al., 1985).

First, the realisation of intentions to move is subject to resources and restrictions. Financial resources are necessary to realise an intention to move (Kleinhaus, 2005; Mulder & Hooimeijer, 1999). The most important financial resource is income. The more income one has, the more dwellings that are within the financial reach of the intended mover (Mulder & Hooimeijer, 1999; Murie, 1974). Financial resources are also needed to cover the cost of the move itself. At the same time, restrictions stemming from the housing and household careers may hamper the realisation of an intention to move. Homeowners may have more difficulties realising an intention to move than renters because more time and effort are required to sell a home than to cancel a tenancy. Furthermore, it can be more difficult to realise an intention to move for couples and families than for singles because the former have to take into account the daily activity

spaces and preferences of other household members (Mulder, 1993; Mulder & Hooimeijer, 1999).

Second, intentions may not result in behaviour if the intention is not strong enough. As a rule, the stronger the intention to engage in a behaviour, the more likely that the behaviour will be performed (Ajzen, 1991). As mentioned previously, the urgency of the intention to move is closely connected to the trigger for moving. People whose intention is primarily prompted by housing reasons (which are considered less urgent reasons for moving) are therefore expected to be less likely to realise their intention to move than those whose intention is triggered by household or labour market reasons.

The realisation of intentions to move likely depends on housing preferences, such as the preference for a rented or an owner-occupied home. While opportunities in the owner-occupied sector are mainly determined by the availability and affordability of owner-occupied homes (in relation to a person's own financial means and the willingness of the banks to provide mortgage loans), access to the social rental sector is largely dependent on waiting lists and eligibility criteria (such as age and household size). Thus, people who prefer a rental home (which is likely to be a preference for a social rental home because most rental homes in the Netherlands belong to the social housing sector) may have more difficulties realising their intention to move than those who prefer to move to an owner-occupied home. Tenure preferences may also have an impact on the realisation of intentions to move in combination with current housing tenure. Homeowners who prefer moving to a rental home are expected to move more frequently than others because they are considered to have an urgent need to do so (Feijten, 2005). For the other combinations of current and preferred tenure, it is not straightforward which combination will lead to more difficulties in finding a new home. On the one hand, homeowners who prefer to move to another owner-occupied home might move less frequently than renters who prefer to move into the owner-occupied sector because homeowners also have to put effort into selling their homes (Helderman et al., 2004). On the other hand, it is also possible that renters have more difficulties realising their intention to move if they prefer to enter homeownership because of a lack of personal equity.

Preferences concerning the geographical location are also expected to be relevant because of the regional differences in housing market opportunities (Clark & Dieleman, 1996). Opportunities on the regional housing market are determined by the arrival rate of housing vacancies (Hooimeijer & Oskamp, 1996) and are constrained by price and by the allocation rules set by institutions (Hooimeijer & Linde, 1988). Compared with the Randstad (the more urbanised western region of the Netherlands), the peripheral regions are characterised by

low pressure on the housing market and, therefore, more opportunities to realise an intention to move.

Moreover, the discrepancy between intentions and behaviour depends on the stability of intentions between the time of measurement of the intentions and the performance of the behaviour (Fishbein & Ajzen, 1975). The intention to move may be adjusted, dropped or postponed due to constraints and facilitators that have been previously ignored by the individual (Lu, 1998). For example, if the search for a new home is sufficiently frustrating, a household may decide to stay in the old dwelling (Brown & Moore, 1970). The intention to move may also change due to the occurrence of unanticipated life events. During the search for a new dwelling, people may experience unanticipated events such as becoming unemployed or widowed. Unanticipated life events may prevent some people's moves but may lead others to move rather unexpectedly, even though they might indicate in surveys that they do not intend to move (Hooimeijer & Oskamp, 1996). The longer the time interval, the more likely the occurrence of unanticipated events that may change the initial intention to move or to stay in the current home (compare Ajzen & Madden, 1986).

### ***2.2.2 From stated intentions to actual behaviour: Results of previous research***

In previous research, two approaches can be distinguished concerning the relation between stated intentions to move and actual mobility behaviour: the cross-sectional approach and the internationally more common longitudinal approach.

#### *Cross-sectional studies*

Until recently, no large-scale longitudinal data set was available for the Netherlands that followed people with an intention to move over time with respect to their actual mobility behaviour. To determine the extent to which intentions to move result in actual behaviour, Goetgeluk and colleagues (1991; 1992) developed a cross-sectional ("quasi-longitudinal") research method using information from the large-scale cross-sectional Housing Demand Surveys (HDS). To estimate the extent to which people are likely to realise their intention to move, a comparison was made between the number of people who had moved in the year preceding the interview and the number of people who were actively searching for a home in the period before the interview (see Table 2.1). Both groups, then, were actively searching for a home in the year before the interview, but only one of them had succeeded in finding a home.

**Table 2.1** Method of cross-sectional analysis

Initial status ( $t_{i-1}$ )	Actual mobility behaviour ( $t_{i-1} - t_i$ )	Current status ( $t_i$ )
Actively searching potential mover	Moved	Recent mover
Actively searching potential mover	Not moved	Actively searching potential mover

*Source:* based on Goetgeluk et al. (1992)

In the last two decennia, several studies, all in the Netherlands, have adopted the methodology developed by Goetgeluk and colleagues. However, in some studies, the selection criteria underlying the cross-sectional methodology were applied less strictly than Goetgeluk and colleagues had recommended: the selection of respondents intending to move comprised not only those actively searching for a home, but also a wider selection of intended movers (for example, see Haffner et al., 2008; Van Groenigen & Van der Veer, 2006; VROM, 2007a).

The study of Goetgeluk and colleagues estimated that of the 4,222 respondents who were searching for a home in the year before the interview in 1990, approximately 58 per cent moved to another home, while the remaining respondents were still searching for a home (Goetgeluk et al., 1992). Using data from the HDS 1994, Hooimeijer and Poulus (1995) estimated that in the year preceding the interview, approximately 416,000 people changed residence. In the same period, approximately 461,000 people had searched for a home without success. Of the 877,000 respondents, then, who actively searched for a home in the year preceding the interview, only 416,000 had found a new home. This results in an estimated rate of success of 47 per cent in finding a home within one year ( $416,000 / 877,000$ ). Van Groenigen and Van der Veer's (2006) cross-sectional analysis for Amsterdam shows that in 2005, 71,000 households stated that they definitely intended to find a home in Amsterdam within two years, whilst approximately 39,100 households had recently moved (in the eighteen months before the interview). By relating these numbers to each other, Van Groenigen and Van der Veer (2006) found a success rate of 55 per cent. The study of Haffner and colleagues (2008) for the Netherlands as a whole shows a somewhat lower success rate of 47 per cent for those searching for a home in 2004 and 2005. A national cross-sectional analysis by the former Ministry of Housing, Spatial Planning and the Environment (VROM) estimated that in 2006, approximately 1.9 million people declared an intention to move within two years, whereas in the last two years, only 1.1 million people had moved (VROM, 2007a). The success rate of 58 per cent suggests that a considerable proportion of intended movers will probably not realise their intention. People below the age of 25 face a particularly low rate of success: the number of people searching for a

home far exceeds the number of people who have recently moved (VROM, 2007b). Furthermore, a comparison between the number of people who have recently moved (1.1 million) and the number of people with an urgent intention to move (1.1 million) suggests that most people with an urgent intention to move will find a home within one year (VROM, 2007c).

### *Longitudinal studies*

Longitudinal studies, often based on panel data in which the same people are interviewed at two or more points in time, also show a discrepancy between positive attitudes towards moving and actual mobility behaviour. Using panel data for Philadelphia, Rossi (1955) found that of those who expected to move, approximately 80 per cent did so within the following year. Two decades later, Speare (1974) concluded that approximately 37 per cent of those in Rhode Island with a wish to move actually did so. Landale and Guest (1985) showed that of the residents of the Seattle metropolitan area who were thinking about moving, almost 40 per cent moved within one year. Konter and Van den Booren (1986) used a panel survey for the province of Noord-Holland in the Netherlands and found that approximately 28 per cent of those with a desire to move changed residence within one year. A small-scale panel survey for the Netherlands by Van Kempen and colleagues (1990) showed that approximately 15 per cent of those living in the city of Utrecht and desiring to move changed residence within one year. Based on a small-scale panel survey for Utrecht and Arnhem (relatively large cities within the Netherlands), Goetgeluk (1997) found that of those actively searching for a home, approximately 50 per cent realised their intention to move within one year. Lu (1998) used the national American Housing Survey (AHS) and showed that 44 per cent of those preferring to move did so within two years. Based on the Panel Study of Income Dynamics (PSID), a representative survey of U.S. residents and their families, Kan (1999) showed that almost half of the households expecting to move did so within the following two years. More recently, a large-scale longitudinal study by GfK (2009) showed that approximately 42 per cent of those with an intention to move in the cross-sectional Housing Research Netherlands survey 2006 changed residence within two years.

All of the above-mentioned longitudinal studies show a discrepancy between positive attitudes towards moving and actual mobility behaviour, but the size of the discrepancy differs considerably between the studies. These differences are probably caused in part by the diversity in the positive attitude concepts used in the studies. For example, Speare (1974) measured mobility “wishes”, while Kan (1999) used mobility “expectations”. Generally, it is

assumed that expectations are a better predictor of mobility behaviour than desires or wishes to move (Crowder, 2001; Lu, 1998; Rossi, 1955; Sheeran, 2002). Mobility expectations reflect what is perceived as likely over a specified time period, whereas desires, wishes, and thoughts represent, to a greater extent, unconstrained attitudes (Crowder, 2001).

Longitudinal studies have also found evidence that some people move although they previously had not intended or expected to do so (Lu, 1999; Rossi, 1955). Kan (1999) and De Groot and colleagues (2011a) showed that unanticipated life events are important triggers of such previously unintended or unexpected moves. Unanticipated life events may cause an urgent reason for moving and a subsequent move within a short period of time (compare Speare, 1974).

In contrast to cross-sectional studies, longitudinal studies also provide insight into the extent to which individual characteristics and external circumstances hamper or stimulate actual mobility behaviour conditional on a positive attitude towards moving. A study in the Netherlands based on a follow-up survey among 4,000 respondents of the HDS 1985/1986 indicated a strong linkage between age and the extent to which people realise their intention to move (Everaers & Lamain, 1989). Other studies have shown that whites are more likely to realise their expectation to move than blacks (Crowder, 2001; Kan, 1999). The impact of income on the realisation of stated intentions to move is not straightforward. Some studies have shown a positive effect of income on the probability of moving for those intending or expecting to move (Everaers & Lamain, 1989; Lu, 1998; Moore, 1986), although Everaers and Lamain found that this only applies to people younger than 45, while other studies hardly found an income effect (Goetgeluk, 1997; Kan, 1999). Furthermore, living in a rented or a crowded home increases the probability of moving for those intending or expecting to move (Duncan & Newman, 1976; Lu, 1998; Moore, 1986). Finally, some studies have shown that the probability of moving among those intending to move differs between regions (Kearns & Parkes, 2003; Lu, 1998).

## **2.3 Data and methods**

### **2.3.1 Longitudinal data**

To gain insight into the process between stated intentions and actual mobility behaviour, longitudinal data about the stated intentions and actual mobility behaviour of the same individuals are needed. Most longitudinal studies in which the realisation of positive attitudes towards moving is analysed are based on panel data (Kan, 1999; Landale & Guest, 1985; Rossi, 1955; Speare, 1974). Data

on mobility behaviour are obtained in a follow-up survey among the same respondents. Panel surveys often face difficulties in tracking the same respondents over time because of respondent dropout caused by moves, deaths, or refusals to continue (Behr et al., 2005; Ruspini, 1999). In contrast to the above-mentioned studies, the longitudinal studies of Lu (1998, 1999) and Kearns and Parkes (2003) are based on surveys that follow housing units over time rather than the households that occupy them: the American Housing Survey (AHS) and the English House Condition Survey (EHCS). Changes in the occupants of any housing unit between successive surveys are interpreted as actual moves of the initial occupant of the housing unit. Unfortunately, changes can also occur if the initial occupant dies in the period between the successive surveys, but this information is not always available, as is the case in the data set of Kearns and Parkes (2003).

Recently, it became possible in the Netherlands to enrich survey data from the Housing Demand Surveys (HDS) and its successor, the Housing Research Netherlands survey (HRN), with longitudinal register data of the Social Statistical Database (SSD) of Statistics Netherlands (Bakker, 2002; Houbiers, 2004) at the individual level. The two data sources can be linked by a unique personal identification number that is included in both data sources, resulting in a longitudinal data set that is similar to a linked panel. In linked panels, data items that are not collected primarily for panel purposes (such as census or register data) are linked together using unique personal identifiers (Ruspini, 1999). The advantages of linked panels are obvious; linking data items by using a personal identifier is not only the least intrusive method of collecting longitudinal data (Buck et al. 1994) but also, in contrast to regular panel surveys, presents no problems with tracking the respondents over time.

For this study, survey data of the HDS 2002 are used. Since 1964, this large-scale, cross-sectional survey has been held repeatedly in the Netherlands to provide insight into the housing situation of individuals and households. The interviews of the HDS 2002 were held in the period between January 2002 and March 2003 among a large, person-based sample representing the Netherlands population aged 18 and over who were not living in institutions. The survey contains detailed information about sociodemographic and socioeconomic characteristics, the current housing situation, and the intention to move. An intention to move is indicated by positive answers (i.e., “Possibly yes, maybe”, “I would like to, but I cannot find anything”, or “Most certainly yes”) to the survey question “Do you want to move within the next two years?” For intended movers, the survey also contains information about the speed with which they intend to move (e.g., within half a year or within one year’s time) and preferences

concerning the future home and residential location. Retrospective information about the mobility behaviour of individuals in the two years before the interview is also included.

For the purpose of this research, the HDS 2002 was enriched with individual longitudinal register data from the SSD. The core of the SSD consists of linked registers containing administrative demographic and socioeconomic data for the entire population of the Netherlands from 1999 and onwards. The SSD provides information about characteristics and events such as household composition, employment situation, and mobility behaviour; it shows whether people have moved and in which year and month. Information about moves originates from the municipal population registers (in Dutch, Gemeentelijke Basis Administratie, abbreviated GBA). A disadvantage of using register data to determine the mobility behaviour of individuals is that people do not always (immediately) reregister after they have moved to another address. This limitation probably results in somewhat biased estimates. The magnitude of this problem is unknown, but it is probably largest for students and other mobile groups.

#### *Selection of respondents*

The HDS 2002 contains information on 74,788 respondents. For the analyses in which the HDS respondents were followed over time, a small number of HDS respondents who died in the two years after the time of interview were excluded. After this selection, the research sample included 73,714 respondents. The research sample includes 18,143 respondents with an intention to move, 53,803 respondents without an intention to move (persons who answered “Most certainly not” or “I do not know” to the mobility intention question), and 1,768 respondents expecting an involuntary move (for example because of impeding housing demolition) or who had already found a new home.

In the analyses, a distinction is made between starters and filterers, which are two different groups on the housing market. Starters are people who intend to move to their first independent dwelling; they want to leave the parental home or want to move out of their dormitory to establish their own household. Filterers are people who intend to move from one independent housing situation to another. In the research sample, 4,543 respondents were classified as “intended starters” (25 per cent) and 11,730 respondents as “intended filterers” (65 per cent). For the multivariate analysis with respect to the realisation of intentions to move, the research sample was restricted to the intended filterers. The remaining 1,870 respondents included people who intended to leave the housing market

(because they intended to move abroad or into a nursing home) and people who intended to move into a dormitory.

### **2.3.2 Variables**

With the exception of the dependent variable, all variables are derived from the HDS and refer to the moment of the HDS 2002 interview. The descriptive statistics and definitions of the dependent and independent variables used in the multivariate analysis are presented in Table 2.2. The table also contains the percentage of movers in the distinct categories of the independent variables.

The dependent variable reflects whether people moved in the two years after the interview was held and was coded into two categories: moved (1) and did not move (0). The mobility behaviour of HDS respondents is thus determined for a period of two years after the moment of interview, which implies that those interviewed in January 2002 were followed until January 2004, whereas those interviewed in March 2003 were followed until March 2005. A move (which covers migration within the Netherlands as well as emigration) was measured as the first relocation after the interview; further relocations were ignored.

Respondents with an urgent intention to move are intended movers who had indicated that they intended to move within a year, who were actively searching for a new home (and had undertaken at least one search activity; the reason they had not yet moved could not be attributed to low search activity) and who had declared that they would react immediately if they found a desired home. Intended movers who did not meet these requirements were considered to have a less urgent intention to move.

The reason for moving refers to the main motive for moving and was coded into four categories. The first category covers demographic reasons such as marriage or cohabitation, union dissolution (either married or unmarried), and ageing and health. The other categories refer to reasons related to the home or the neighbourhood characteristics (housing reasons), reasons related to education or work, and to other (highly diverse) reasons for moving.

Household income was coded in quartiles; the quartiles were based on the household income of all respondents in the survey sample. Income refers to household income and not personal income because mobility behaviour is likely based on the total income in the household (it should be noted, however, that approximately 15 per cent of the intended filterers expected a change in their household situation, which presumably affects current household income).

**Table 2.2** Descriptive statistics of dependent and independent variables in the multivariate analysis for filterers ( $N = 11,730$ )

	Frequency	%	Of whom moved (%)
<i>Mobility behaviour (dependent variable)</i>			
did not move within two-year period	8019	(68.4)	
moved within two-year period	3711	(31.6)	
<i>Characteristics of intention to move and housing preferences</i>			
<i>Urgency of intention to move</i>			
less urgent intention	9281	(79.1)	25.7
urgent intention	2449	(20.9)	54.3
<i>Reason for moving</i>			
demographic event	1713	(14.6)	33.7
housing	6129	(52.3)	31.2
work or education	859	(7.3)	33.1
other reason	3029	(25.8)	31.0
<i>Preferred tenure</i>			
wish to rent	5165	(44.0)	30.3
wish to own	6565	(56.0)	32.7
<i>Preferred type of housing</i>			
wish for apartment	3231	(27.5)	30.8
wish for single family home	8499	(72.5)	32.0
<i>Preferred search location</i>			
Randstad	5485	(46.8)	30.8
intermediate zone	3393	(28.9)	31.7
national periphery	2852	(24.3)	33.1
<i>Resources and restrictions</i>			
<i>Income</i>			
low	2646	(22.6)	30.0
middle-low	3272	(27.9)	29.8
middle-high	2914	(24.8)	32.7
high	2898	(24.7)	34.1
<i>Level of education</i>			
up to lower secondary	4414	(37.6)	28.2
higher secondary or medium vocational	3741	(31.9)	33.0
higher vocational or university	3575	(30.5)	34.5
<i>Employment status</i>			
employed	7897	(67.3)	33.3
not employed	3833	(32.7)	28.3
<i>Expected household composition</i>			
single	2975	(25.4)	29.2
couple without children	4207	(35.9)	35.7
family with children	4548	(38.8)	29.5
<i>Current tenure</i>			
renter	6972	(59.4)	32.4
owner	4758	(40.6)	30.5

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*Other individual and housing characteristics*

Migrant status			
native Dutch	9210	(78.5)	32.2
non-Western background	1470	(12.5)	28.8
Western background	1050	(9.0)	30.2
Age			
< 25	980	(8.4)	43.7
25–34	3959	(33.8)	38.5
35–44	2843	(24.2)	27.4
45–54	1728	(14.7)	23.6
55–64	1133	(9.7)	21.8
≥ 65	1087	(9.3)	30.0
Perceived health			
healthy	9607	(81.9)	32.8
reasonably healthy	1135	(9.7)	25.2
less healthy	988	(8.4)	27.3
Type of home			
apartment	5341	(45.5)	35.6
single family home	6389	(54.5)	28.3
Crowding			
crowded	2425	(20.7)	34.4
not crowded	3286	(28.0)	32.8
spacious	6019	(51.3)	29.9
Satisfaction with home			
satisfied	8224	(70.1)	30.6
neither satisfied nor dissatisfied	1924	(16.4)	31.4
dissatisfied	1582	(13.5)	37.4
Satisfaction with neighbourhood			
satisfied	7706	(65.7)	31.9
neither satisfied nor dissatisfied	1715	(14.6)	29.6
dissatisfied	2309	(19.7)	32.4

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Level of education was based on the highest achieved educational level and was categorised into three levels: up to lower secondary, higher secondary or medium vocational, and higher vocational or university. Those whose educational level was unknown ( $n = 99$ ) were assigned to the category “up to lower secondary”.

The expected household composition was classified using prospective information about the expected household situation after the intended move. It was coded into three categories: singles (one-person households and persons sharing an address with another person without a clear relationship), couples without children, and families with children (couples with children and one-parent families).

The migrant status of a respondent was based on the standard definition of Statistics Netherlands (see Aalders, 2001) and was categorised into native

Dutch, non-Western migrant, and Western migrant.

The preferred location was divided into three search regions within the Netherlands: the Randstad (core region), the surrounding intermediate zone, and the periphery of the Netherlands. The classification into three search regions was based on the method used by Van Oort (2003). For the classification, a gravity equation of the population size in all municipalities at the beginning of 2002 was used (496 in total). This gravity equation reflects approximate population density. Based on the gravity value of the municipality, all 496 municipalities were assigned to a region (for more information about the classification, see De Groot et al., 2011b).

The perceived health situation was measured using information about the respondents' opinion of their own health situation and was coded into three categories: healthy (which covers the categories "Good" and "Very good"), reasonably healthy, and less healthy (which covers the categories "Sometimes good, sometimes bad" and "Bad").

Crowding was calculated by dividing the number of rooms by the number of persons in the household. It was categorised in three levels: neutral (between one and two rooms per person in the household), crowded (one room or less per person in the household), and spacious (two or more rooms per person in the household). The classification of crowding (less than one room per person) is in line with the commonly used standard (Myers et al., 1996; see also Gray, 2001).

The degree of satisfaction with the home and the neighbourhood were both coded into three categories: satisfied (which refers to "Satisfied" and "Very satisfied"), neither satisfied nor dissatisfied, and dissatisfied (which refers to "Dissatisfied" and "Very dissatisfied").

### **2.3.3 Method**

The analyses in this study were partly based on the analyses of De Groot and colleagues (2008) and consisted of two parts. First, a descriptive analysis was performed to investigate the relationship between stated intentions to move and actual mobility behaviour while applying a longitudinal and cross-sectional approach. Furthermore, a comparison was made between the longitudinal approach and the cross-sectional approach. To correct for selective non-response, the HDS sampling weights were used in the descriptive analyses. Selective non-response may lead to biased results concerning the discrepancy between stated intentions and actual mobility behaviour, especially if the non-response group is large. For example, if natives are overrepresented in the survey and the realisation of stated intentions to move is selective with respect to ethnicity, the extent to which intentions to move result in actual mobility

behaviour might be over- or underestimated. Because the respondent was tracked over time and not the complete household, the sampling weights of persons were used. These weights are based on age, gender, marital status, country of origin, and household characteristics (Meeuwissen et al., 2003).

Second, a multivariate analysis was performed to gain insight into the characteristics and circumstances that hamper or stimulate the actual mobility behaviour of those intending to move. This analysis was restricted to those intending to move to another dwelling (that is, intended filterers). A logistic regression model was used because of the dichotomous character of the dependent variable. Logistic regression applies the maximum likelihood estimation after transforming the dependent variable into a logit (the natural log of the odds of the event occurring or not). The logistic regression model for  $k$  independent, or explanatory, variables ( $X$ ) is formally specified as follows (Allison, 1999):

$$\log \left[ \frac{p_i}{1-p_i} \right] = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 (X_1 X_2) + \dots + \beta_k X_k$$

In this model,  $\alpha$  is the intercept (or the constant term), and  $\beta_1, \dots, \beta_k$  are the logistic regression coefficients. The equation given above also includes an interaction term ( $X_1 X_2$ ). This term may be added to the model to examine whether the effect of  $X_1$  on the dependent variable varies with values of  $X_2$  (for more information about interaction terms, see Jaccard, 2001).

Table 2.3 presents logistic regression coefficients  $\beta_i$  and the exponent (antilogarithm) of the regression coefficients, the so-called odds ratios. The odds ratio for continuous independent variables represents the factor by which the odds of the event change for a one-unit change in the independent variable. For categorical independent variables, the odds ratio estimates how much more likely (or unlikely) it is for the outcome to be present among those belonging to one particular category than among those belonging to the reference category of the independent variable. To illustrate, the odds ratio of the urgency of the intention to move (presented in Table 2.3) estimates that a move is 3.7 times more likely to occur among those with an urgent intention to move than among those with a less urgent intention to move.

The logistic regression model was estimated without using sampling weights because these weights are roughly a function of independent variables included in the logistic regression model (and therefore, the selective non-response is directly controlled for). In such cases, unweighted regression estimates are preferred because they are unbiased, consistent, and have smaller standard errors than weighted regression estimates (Winship & Radbill, 1994).

## **2.4 Stated intentions to move and actual mobility behaviour: Results**

### **2.4.1 Descriptive results**

#### *Longitudinal analysis*

In 2002, 23 per cent of all HDS respondents stated an intention to move within the next two years. After two years, approximately one-third (31 per cent) had realised this intention to move. It is often assumed that intended starters (people intending to move to their first independent dwelling) especially have difficulties in finding a home (see, for example, Kruythoff, 1994; REA, 2006). Nevertheless, if stated intentions are compared with actual mobility behaviour, it becomes clear that intended starters move more frequently than intended filterers (people who intend to move from one independent housing situation to another). Of the starters in 2002, almost 44 per cent realised their intention to move within two years, compared with 31 per cent of the filterers in 2002. At the same time, a small proportion – approximately 6 per cent – of those who did not intend to move in 2002 moved within two years. These movers not only developed an intention to move after the interview but also succeeded in realising this intention in a relatively short period of time.

The longitudinal analysis shows a substantial gap between stated mobility intentions and actual mobility behaviour; most people with an intention to move have not realised this intention within two years and may instead have postponed or given up their initial intention to move. The results are in line with other longitudinal studies, which generally show a relatively large discrepancy between positive attitudes (e.g., desires, wishes, and intentions) towards moving and actual mobility behaviour. However, the results also show that intended movers relocate considerably more frequently than those with no intention to move. Despite the large gap between stated intentions and actual behaviour, intentions to move are important – although not perfect – predictors of actual mobility behaviour.

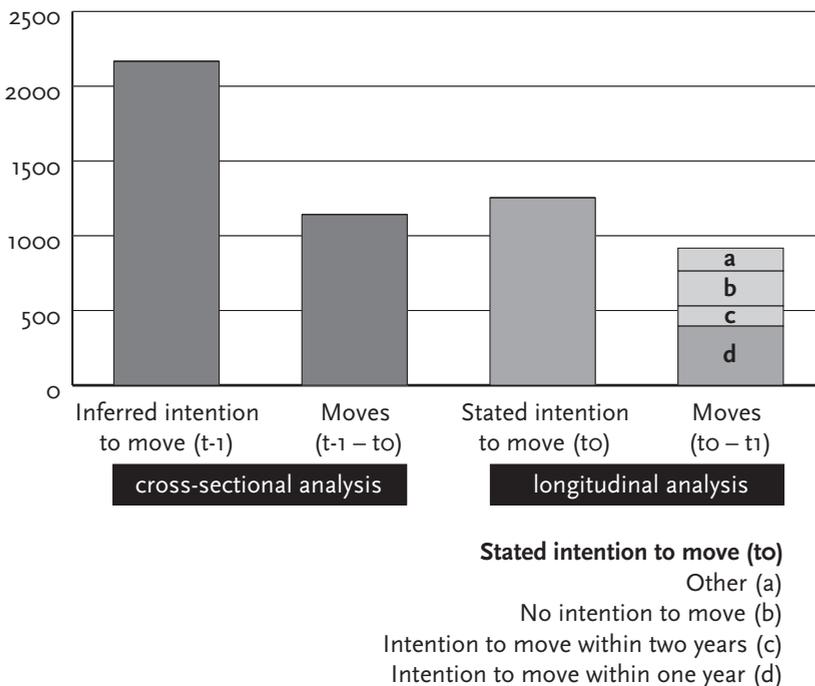
#### *Longitudinal versus cross-sectional approaches*

As with longitudinal studies, cross-sectional studies show a discrepancy between stated intentions to move and actual mobility behaviour (see Section 2.2.2). However, a comparison between the two approaches shows that the cross-sectional approach results in a different picture than the longitudinal approach (see Figure 2.1).

For the cross-sectional comparison, it is calculated that approximately 1.1 million people moved in the year preceding the time of interview, whilst approximately 1 million people were searching for a new residence for at least six months prior to the time of interview. Thus, of the total of approximately 2.1

million people who were supposedly searching for a home in the year preceding the interview (the people with an “inferred” intention to move in Figure 2.1), approximately 1.1 million changed residence. This results in an estimated rate of success of 53 per cent. However, the longitudinal analysis shows that of those who stated an intention to move within one year (third column in Figure 2.1), only 32 per cent moved within this period (note that the period differs from the period in the analysis presented in the previous section to make a proper comparison between the cross-sectional and longitudinal method).

The cross-sectional analysis seems to result in a smaller discrepancy between stated intentions and actual behaviour than the longitudinal analysis. This can be explained by the fact that the total number of actual moves in the year before the year of interview far exceeds the total number of moves made by people with a stated intention to move within one year. The longitudinal analysis makes clear that this is most likely related to the fact that a substantial part of the actual movers in a certain period had no intention to move at the start of the



**Figure 2.1** The discrepancy between intentions and mobility behaviour for a one-year period: cross-sectional versus longitudinal approach (x 1,000), weighted data

*Note:* The category “other” refers to the movers who expected an involuntary move (for example because of housing demolition or renovation), or who had not moved yet but had already found a new home at the moment of interview

period. The discrepancy between stated intentions to move and actual mobility behaviour is thus much larger on the level of individuals than on the aggregate level.

It seems that estimations of success rates derived from confrontations between aggregated data about stated intentions and aggregated data about actual moves are not without problems. On the one hand, the success rate might be overestimated because the actual moves include “sudden” moves of people who initially had no intention of changing residence. On the other hand, the success rate might also be underestimated because some people with an intention to move might not be in a hurry and, therefore, may not even have started searching for a new home. The actual probability of moving among those with an intention to move can thus only be determined using longitudinal data in which people with an intention to move are followed over time with respect to their actual mobility behaviour.

The cross-sectional approach not only results in a smaller discrepancy between stated intentions and actual behaviour, but it may also lead to other conclusions. A cross-sectional analysis by VROM (2007b) shows that the rate of success is especially low among people aged below 25: the number of people intending to move exceeds by far the number of people who have recently moved (see also Section 2.2.2). In contrast, most longitudinal studies show that people in this age group realise their positive attitude towards moving more often than those in older age groups (for example, see Duncan & Newman, 1976; Lu, 1999). Furthermore, a cross-sectional analysis in which the number of people with an urgent intention to move is compared with the number of people who have recently moved suggests that most people will find a home within one year (VROM, 2007c). In contrast, the longitudinal study of De Groot and colleagues (2008) shows that even people with an urgent intention to move often do not realise this intention within the stated period.

#### ***2.4.2 Multivariate results of the longitudinal analysis***

The logistic regression model shows the extent to which the relatively low realisation of intentions to move among filterers can be ascribed to the urgency of the intention to move, housing preferences, and resources and restrictions (see Table 2.3).

##### *The influence of characteristics of the intention to move and housing preferences*

One explanation for why so many intended filterers do not realise their intention to move can be attributed to the urgency of the intention to move. First, most filterers (79 per cent) have a less urgent intention to move, and those without an

urgent intention to move are less likely to realise their intention to move than those with an urgent intention to move. Second, most filterers intend to move for housing reasons (De Groot et al., 2008), and those intending to move because of housing have a lower probability of realising their intention than those who want to move because of demographic events.

The extent to which filterers realise their intention to move also depends on tenure preferences, but only in combination with the current tenure. Although the Nagelkerke  $R^2$  hardly changes after including the interaction term, the likelihood ratio test showed that the interaction effect contributes significantly to the multivariate model ( $Chi^2 = 10$ ;  $df = 1$ ;  $p = .001$ ) and should therefore be included. The main effect of having a preference for an owner-occupied home, as reported in Table 2.3, should be interpreted as the effect for current renters (because the interaction variable relates tenure preferences and current tenure, and “renter” is the reference category in the current tenure variable). The main effect shows that current renters with a preference to move to an owner-occupied home are 1.2 times more likely (see Table 2.3;  $e^{0.176}$ ) to move within two years than renters who intend to move within the rental sector (from rental to rental). The total effect of the main effects and interaction effect is illustrated in Figure 2.2. Homeowners with a preference to move to a rental home are estimated to be 1.4 times more likely to move within two years than renters who prefer to move to another rental home.<sup>1</sup> Renters who prefer to move within the rental sector of the housing market have the lowest probability of moving. This might be an indication of barriers in the social rental sector. Figure 2.2 also shows that homeowners with a preference for moving to a rental home are more likely to move within two years than homeowners who prefer to move to another owner-occupied home. This can be explained by the fact that homeowners usually do not move out of owner-occupied dwellings unless there is an urgent need to do so. Finally, among those preferring to move to an owner-occupied home, renters are as likely as homeowners to realise their intention to move within two years. At first sight, this seems to contradict the general thought that it is relatively difficult to move to an owner-occupied home for those who do not yet own a home. However, one should bear in mind that the model offers only an explanation for the extent to which people realise their intention to move and not for the extent to which people succeeded in moving to an owner-occupied home.

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<sup>1</sup> The total effect is the summation of the main effects and the interaction effect. For example, the total effect for homeowners (1) with a preference to move to a rental home (0):  $0.357*1 + 0.176*0 + -0.365*(1*0) = 0.357$ . The corresponding predicted odds ratio is 1.429 ( $e^{0.357}$ ).

**Table 2.3** Logistic regression of moving (ref: not moving) for intended filterers

	B	SE	Exp(B)
<i>Characteristics of intention to move and housing preferences</i>			
Urgent intention (ref: less urgent intention)	1.300***	0.051	3.668
Reason for moving (ref: demographic event)			
housing	-0.256***	0.069	0.774
work or education	-0.118	0.100	0.888
other reason	-0.150**	0.074	0.860
Wish to own (ref: wish to rent)	0.176***	0.065	1.193
Wish to own, homeowner (ref: wish to rent, renter)	-0.365***	0.114	0.694
Wish for single family home (ref: wish for apartment)	-0.034	0.057	0.966
Preferred search location (ref: national periphery)			
Randstad	-0.191***	0.056	0.826
intermediate zone	-0.120**	0.057	0.886
<i>Resources and restrictions</i>			
Income (ref: low)			
middle-low	-0.102	0.065	0.903
middle-high	0.066	0.074	1.069
high	0.103	0.084	1.109
Level of education (ref: up to lower secondary)			
higher secondary or medium vocational	0.030	0.055	1.030
higher vocational or university	0.105*	0.059	1.111
Not employed (ref: employed)	-0.044	0.061	0.957
Homeowner (ref: renter)	0.357***	0.102	1.429
Expected household composition (ref: single)			
couple without children	0.144**	0.066	1.155
family with children	-0.141*	0.079	0.869
<i>Other individual and housing characteristics</i>			
Age (ref: < 25 years)			
25–34	-0.188**	0.079	0.828
35–44	-0.595***	0.086	0.552
45–54	-0.780***	0.095	0.458
55–64	-0.872***	0.110	0.418
≥ 65	-0.539***	0.117	0.583
Migrant status (ref: native Dutch)			
non-Western background	-0.286***	0.073	0.752
Western background	-0.082	0.075	0.922
Perceived health (ref: healthy)			
reasonably healthy	-0.202**	0.080	0.817
less healthy	-0.186**	0.087	0.830
Single family home (ref: apartment)	-0.209***	0.053	0.811
Crowding (ref: neutral)			
crowded	-0.033	0.063	0.968
spacious	-0.212***	0.060	0.809
Satisfaction with home (ref: satisfied)			
neither satisfied nor dissatisfied	0.007	0.061	1.007

dissatisfied	0.182**	0.072	1.200
Satisfaction with neighbourhood (ref: satisfied)			
neither satisfied nor dissatisfied	-0.097	0.062	0.907
dissatisfied	-0.040	0.058	0.961
Constant	-0.174	0.134	0.840
Initial -2 log likelihood			14641
Model -2 log likelihood			13490
Improvement ( $Chi^2$ )		1151***; $df = 34$	
Nagelkerke $R^2$			0.131
$N$			11730

Note: 95% confidence intervals can be calculated as: parameter (B) minus 1.96 \* SE (lower boundary) and parameter plus 1.96 \* SE (upper boundary)

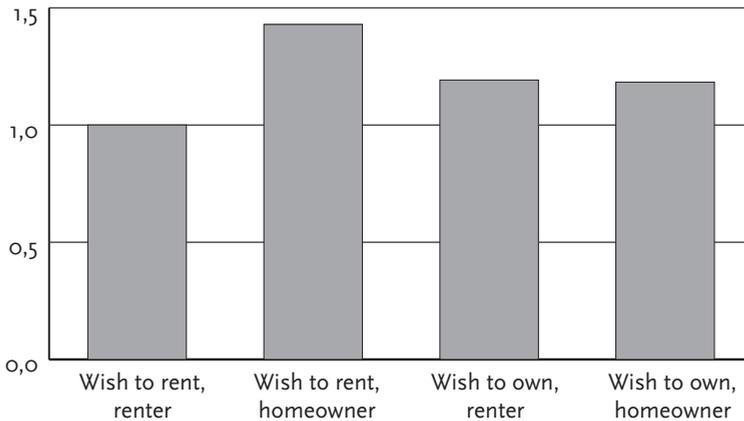
\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

Filterers who prefer a single family home do not have a significantly lower probability of realising their intention to move than those preferring an apartment. Although people who prefer a single family home might have fewer opportunities to realise their intention to move because of the relative scarcity of such homes in the Netherlands housing market compared to apartments (VROM, 2003; VROM, 2007a), this is not reflected in the probability of moving.

Furthermore, preferences concerning the search location play a significant role in the extent to which one acquires a new home within two years' time. As expected, filterers who stated a preference for a home in the Randstad – an area where the housing market is under great pressure – are 0.8 times as likely to move as those who intended to search for a home in the national periphery, an area where the pressure on the housing market is lower. Those who preferred to search for a home in the intermediate zone also have a lower probability of moving.

#### *The influence of resources and restrictions*

Somewhat surprisingly, financial resources – income, level of education, and employment situation – have hardly any effect on the mobility behaviour of filterers. Filterers with higher vocational or university education are 1.1 times more likely to move than those with low education, but the effect is only marginally significant. The absence of an income effect may indicate that less wealthy people prefer to move to other (more affordable) types of homes than wealthy people. Another explanation is that the income effect is fully mediated in the formation of mobility intentions. As De Groot and colleagues (2008) have



**Figure 2.2** Relative risk of moving for those preferring a rental home or an owner-occupied home by current tenure (based on the total effect of the main effects and interaction effect of “tenure preferences” and “current tenure” in Table 2.3)

shown, financial resources are taken into account when people state an intention to move to another dwelling. When people believe that they are unable to move because of a lack of financial resources, an initial positive attitude towards moving may not crystallise into a manifest intention to move. Subsequently, financial resources have hardly any impact on the extent to which an intention to move is realised.

The realisation of intentions to move among filterers is hampered by the household situation. As expected, singles have a greater probability of realising an intention to move than families. Conversely, their probability of moving is lower than that of couples. This cannot be attributed to the fact that singles often have lower incomes than couples because income differences were controlled for. It could be that singles tend to search in housing sectors in which the availability and affordability of dwellings is problematic.

Furthermore, the current housing tenure situation plays a role (see previous section). The main effect of current tenure in the model should be interpreted as the effect for those who prefer to move to a rental home (because the interaction variable relates current tenure to tenure preferences, and “preference to rent” is the reference category in the tenure preference variable). The main effect shows that homeowners who intend to move to a rental home are 1.4 times more likely to move within two years than renters who prefer to move within the rental sector. In the previous section, it was calculated that among those who prefer to move to an owner-occupied home, homeowners are about as likely as renters are to realise their intention to move within two years.

Although previous research has frequently shown that homeowners not only desire to move less often (for example, see Rossi, 1955) but that they also move less frequently than renters (for example, see Helderman et al., 2004), this study shows that if homeowners are willing to move, they do not necessarily encounter more obstacles in realising their intention to move than renters.

#### *The influence of other individual and housing characteristics*

In line with other studies, older people and people with a non-Western background have a smaller probability of realising their intention to move than do younger people and native Dutch (for example, see Kan, 1999; Lu, 1998). The probability of realising an intention to move is estimated to decrease with increasing age, up to the age of 65. People who perceive their health to be good have a greater probability of realising an intention to move than those who perceive their health to be poor or reasonably good.

The realisation of stated intentions to move is also affected by housing characteristics. Filterers living in either a spacious home or a single family home are estimated to be less likely to realise their intention to move within two years' time than those living in either a neutral crowding situation or an apartment. Although housing dissatisfaction is often seen as a trigger of positive attitudes (such as an intention) towards moving, it also has a subsequent effect on the extent to which the mobility intention is realised. Dissatisfaction with the current home gives an extra stimulus to realise an intention to move within a short period of time. In contrast, dissatisfaction with the neighbourhood does not have a significant effect on the probability of moving.

## **2.5 Conclusion and discussion**

In this study, the discrepancy between stated intentions to move and actual mobility behaviour was addressed. Using a unique data set in which survey data from a large-scale housing survey of the Netherlands were enriched with longitudinal register data, it was found that the relationship between intentions and behaviour is far from straightforward. Only one-third of those intending to move within the next two years realised this intention within this period. Intended filterers especially did not often behave according to their initial stated intention to move. If intended filterers cannot find a new home that meets their housing preferences, they might be more willing than intended starters to postpone or cancel their intention to move as opposed to accepting a home that does not meet their initial housing preferences. Furthermore, it was shown that in the

same period of time, 6 per cent of those without an intention to move did change residence.

The cross-sectional approach also showed a discrepancy between stated intentions to move and actual moves. However, a comparison between the longitudinal and cross-sectional approaches made clear that this discrepancy was much larger on the individual level than on the aggregate level because at the aggregate level, “unexpected” stays were partly counterbalanced by “unexpected” moves. Cross-sectional analyses are unable to show this underlying variation in the extent to which people behave according to their earlier stated intentions to move, and this can produce incorrect results (compare Davies & Pickles, 1985).

In contrast with cross-sectional studies, longitudinal studies can also provide more insight into the extent to which various determinants influence the mobility behaviour of those with an intention to move. The longitudinal analysis presented in this study revealed that the probability of moving was particularly influenced by the urgency of the intention to move. The discrepancy between intentions and behaviour is also partly attributable to the housing and household situation and to housing preferences. Those who preferred to move out of homeownership had a particularly high probability of realising their intention to move. People who preferred to search for a home in the densely populated Randstad area were less likely to translate intentions into action than those who preferred a home in the national periphery. This finding corresponds with the fact that the shortage of housing is especially problematic in the Randstad and stresses the relevance of contextual factors for the extent to which intentions to move will be realised. Socioeconomic characteristics (indicated by income, education, and employment situation) had hardly any effect on the probability of moving among intended filterers. However, related research has shown that these characteristics do affect the extent to which people intend to move to a different home (De Groot et al., 2008). This suggests that socioeconomic resources mainly have an indirect effect on the realisation of intentions to move, namely through the formation of mobility intentions.

Insight into the discrepancy between stated intentions to move and actual mobility behaviour can be very useful to policy makers because intentions to move are widely considered useful for the prediction of future migration flows (Yang, 2000) and, at least in the Netherlands, for housing demand estimations (Den Otter, 2007; VROM, 2007d). Although at the aggregated level, intentions to move may serve as an indicator for the approximation of the total moves (Van Hoorn, 2009), the use of stated intentions of individuals for housing demand estimations is certainly not without problems. Stated intentions to move or to stay are not perfect predictors of actual mobility behaviour, even more so

because the characteristics of “unexpected” movers do not always correspond with the characteristics of “unexpected” stayers (Everaers & Lamain, 1989).

A drawback of the data used in this study is that it was not possible to show to what extent the discrepancy between stated intentions to move and actual mobility behaviour can be ascribed to the fact that intentions might arise or fade due to unanticipated constraints and facilitators or the occurrence of unanticipated life events. Furthermore, the data did not include specific local housing market circumstances that may play a role in the realisation of mobility intentions. For this reason, future research should include detailed information regarding the local housing market conditions in the area where people intend to search for a home (for example, about the price per square meter or about the average waiting time needed for a social rental home) using a multilevel design.

Despite these limitations, the results presented in this study contribute to our understanding of why people do not behave according to their initial stated intentions to move. This research also makes clear that for insight into the relationship between prior stated intentions to move and actual mobility behaviour, the longitudinal research method is preferable to the cross-sectional research method. Further investigations of the individual characteristics and local housing market circumstances that may hamper or stimulate the realisation of stated intentions to move can be used to improve the effectiveness of housing assistance programs targeting particular population groups and to aid in the design of new programs (see also Lu, 1999).

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