Distance to parents and geographical mobility

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Introduction

Proximity between parents and children is beneficial to providing care and maintaining regular face-to-face contact between them. Living close (or moving closer) to the parents or the children is particularly appealing in situations of a greater need or desire for contact. For example, when the adult children become parents themselves, geographical proximity between generations allows the grandparents to meet their grandchildren regularly, and to provide childcare easily when necessary. When a decline in health or the death of the spouse takes place, older parents will attach increasing importance to proximity to their children or to at least one of their children.

The importance of family ties may lead people to move closer to parents or children, but also to refrain from moving further away from them. During the life course there are many potential triggers for moving, related for example to educational attainment, the labor market career and the household career. This is particularly true of young and middle-aged adults. It is likely that in the relocation or migration decision of these adults, the residential location of the parents is taken into account. The individual and family dimensions of the life course are thus connected, and individual choices oriented towards reaching personal goals might compete or interfere with the desire to maintain family solidarity (Bengtson, 2001).

In the research on residential relocation and migration, much attention has been devoted so far to identify the triggers for different kind of moves (short versus long distances) and the resources and constraints hampering or facilitating such moves (Mulder, 1993). Despite the general acknowledgement of the importance of geographical proximity between parents and children for provision of care and more in general for the exchange of support and contact, the scarce research on convergence between parents and children has mainly focused on moves of the parents towards their children (Litwak & Longino, 1987; Silverstein, 1995; Rogerson *et al.*, 1997; Van Diepen & Mulder; 2005). The location of parents has rarely been investigated directly as a factor influencing migration decisions of their children. This influence might be important: family ties are particularly strong between parents and children (Rossi & Rossi, 1990), and the exchange of support is fairly strong. Thus, focusing on migration decisions of young and middle-aged adults, we can expect two kinds of possible influences of the residential location of the parents. On the one hand, current proximity to the parents might discourage moving away from them. On the other hand, migrations might be pursued with the aim of moving closer to the parents, especially in relation to changes in the need for support or contact. This may occur for instance when the parents become old, or when the children experience divorce.

The aim of this paper is therefore to consider the influence of the location of the parents on the residential decisions of adults. The research question we want to answer is: *Which factors influence the likelihood of moving and the direction of moves with respect to the parents' residential location?* We address this question using rich administrative individual data for the Netherlands, derived from the Social-Statistical Database, and multinomial logistic regression models.

Theoretical background

To develop arguments for the theoretical background we start from the migration literature and the literature on family support. While the first source identifies general triggers for moving, the latter emphasizes the role of the family in contact and support and enables us to specify the conditions under which convergence or divergence to or from the parents is more likely. We may expect certain factors to enhance migration regardless of whether convergence or divergence occurs, others to affect the likelihood of moves over short distances for which no change in proximity to the parents occurs, and still others to encourage a decrease in distance between the generations.

Distance to the parents
The presence of family members (in particular the parents) constitutes part of the location specific capital (Da Vanzo, 1981) attached to a particular place. The greater the specific capital of the current location, especially compared to the specific capital of alternative locations, the smaller the probability of moving. Moving is costly, and a decision to move will be undertaken only if the benefits exceeds the costs. Otherwise, inertia prevails (Huff and Clark, 1978). This argument leads to the hypothesis that current proximity to the parents discourages moving away from them. Dawkins (2006) indeed found that local kinship ties deterred inter-neighbourhood mobility. For those who have moved away from their parents in the past, or whose parents have moved away, the presence of family members is expected to be an attraction factor: we expect that the greater the distance to the parents, the greater the likelihood of moving towards them. It should be noted, however, that those who already live close have few opportunities to move even closer, whereas those who already live far away have few opportunities to move even farther. If we find an effect of distance on convergence or divergence, therefore, this will be partly due to ceiling and floor effects.

Distance might be valued in different ways by migrants and non-migrants. Several migrant categories, particularly those from non-western countries, are known to attach greater importance to the family than people from western countries, to have larger family networks, and/or to have more fluid household situations (for Bangladeshi in England: Khanum, 2001). Furthermore, migrants from certain non-western countries have stronger norms of family solidarity than the native-born in western countries (Rosenthal, 1986; for the Netherlands: Liefbroer & Mulder, 2006). Most of the current foreign-born people living in the Netherlands are from non-western countries. We therefore expect foreign-born to be less likely to move away from their parents, and more likely to move towards them.

The need for support
The literature on family support emphasized the important role of geographical distances in support exchange: proximity facilitates contact and support (Bian et al., 1998; Bengtson and Roberts, 1991; De Jong Gierveld & Fokkema, 1998; Grundy & Shelton, 2001; Knijn & Liefbroer, 2006; Rossi & Rossi, 1990). It is therefore likely that the cost of living far away from the parents is higher when the need for support or the preference for contact with the

parents is greater. Having children, being divorced and being widowed constitute typical household situations in which the need for support is particularly great. The help of grandparents with childrearing is generally welcome, especially in dual earner families, and is often eagerly provided. Beyond providing support, grandparents usually desire to spend time with their grandchildren and to participate in their lives. The health, economic and social consequences of divorce or separation might be quite dramatic (Kietson & Morgan, 1990; Amato, 2000), and one of the natural reactions can be turning to the family of origin as a support network. This may also happen after widowhood.

People may also move or refrain from moving in reaction to their parents' need for support. Old age or widowhood of a parent usually leads to a greater need for support from (at least one of) the children (Longino et al., 1991). This may also be true of divorce of the parents. We therefore hypothesize that having elderly, widowed or divorced parents decreases the likelihood of moving away from them, and increases the likelihood of moving towards them. Again, selection mechanisms might render these effects relatively small.

When formulating hypotheses on geographical mobility in reaction to a need for support, it is important to distinguish between the events leading to situations associated with a greater support need and situations that have existed for some time. Events associated with an increase in support needs may act as a trigger for moving closer to the parents. This is particularly likely whenever the event implies a move by definition.

Divorce and separation are events that imply at least one move. As a consequence of the union dissolution, one of the two ex-partners will have to move out in a very short time, while the other faces the difficulty of affording alone what was previously afforded benefiting of pooled resources. As a possible solution to the housing problem, but also to other practical or emotional problems, divorcees might decide to return to live with the parents (Dieleman & Schouw, 1989), to move closer to them, or not to move farther away. We therefore expect a strong positive influence of the events of divorce and separation on the likelihood of short-distance moves and moves towards the parents, but a negative effect (or at least a smaller positive effect) on moving away. A similar hypothesis can be formulated for becoming a widow or widower, although the effect is likely less strong because widowed people usually have the choice to remain in the same home.

Becoming a parent or having an additional child does not imply a move by definition. However, having children or anticipating so is frequently associated with residential adjustment (Deurloo, Clark & Dieleman, 1994; Mulder & Wagner, 1998): foreseeing or experiencing the birth of a child brings about a change in housing needs, which might trigger a move. If this is the case, couples might consider moving closer to their parents, who can offer support and enjoy the company of the offspring. We therefore expect childbirth to increase the likelihood of short distance moves and moves towards the parents, and decrease the likelihood of moving away from them. In the exact year of childbirth, the likelihood of moving might not be that great, because moving too closely in time to the birth is not convenient. For some, therefore, there might be a few years' time lag between the birth and the move triggered by the birth.

Likewise, the death of one parent leading to widowhood of the other may lead to an increase in the need for support by a parent but do not imply a move of the child. So, we expect this event to increase the likelihood of moving towards the parents, and decrease the likelihood of moving away from them in a few years' time after the event. The consequences of a divorce of the parents are not easily predictable. On the one hand, a divorce of the parents might lead to a greater support need. At the same time, research has shown that divorced parents receive only marginal help from their children, regardless of whether they have a new partner or not (De Jong Gierveld & Dykstra, 2002). Finally, an additional parental

characteristic associated with the need of support is age: we expect children of older parents to refrain from moving farther away and to be encouraged to move closer.

Formulating hypotheses on the influence of events leading to a greater support need on geographical mobility was quite straightforward, but this is not the case when situations of support need have already existed for some time. Even if we believe that proximity is particularly important when support needs are great, we must take into account the potential effect of selection mechanisms. Part of those who need support or whose parents are in need may already have moved closer because of this support need, or their parents may have done so. If there would be no selection mechanisms, we would expect that when individuals have children, are divorced, or are widowed, the likelihood of moving away from the parents is smaller, whereas the likelihood of moving closer is greater. We would expect that the hampering effect of the presence of children on the likelihood of moving in general (Long, 1972) is stronger for moves increasing the distance to the parents than for other moves. Divorcees, who according to Feijten and Van Ham (2006) are more mobile than never-married singles, even when the move implied by the separation is excluded, would be expected to be particularly likely move towards the parents. However, selection mechanisms may diminish the strength of these effects or prevent them from showing up.

Other factors influencing residential mobility and migration
Married couples with children have been shown to move less frequently than those without children, and less than singles and cohabitants (Long, 1972; Mulder, 1993). The events of marriage and starting cohabitation are associated with high mobility, particularly at short distances (Grundy & Fox, 1985; Mulder & Wagner, 1993). If a long-distance move takes place upon partnership formation, it does not seem particularly likely that couples take into account the consequences for changes in proximity to the parents. This probably holds particularly for women: the migration literature suggests that it is more likely that the female partner moves to the place of residence of the husband than the other way around (Boyle, Halfacree & Robinson, 1998; Mulder & Wagner, 1993). Furthermore, some of those who marry will do so after a period of cohabitation. For them marrying does not imply a move by definition, so we expect much weaker effects on geographical mobility than for those who marry directly.

Housing factors and location are important as well: the duration of residence, home-ownership and the degree of urbanization of the current location are all likely to be associated with the likelihood of moving. The usual argument about duration of residence is that longer durations are associated with greater accumulation of location-specific capital (DaVanzo, 1981) and therefore with a smaller likelihood of moving. At the same time, people who only just moved might be unlikely to move again, since every housing change requires an investment in terms of both money and time. Homeowners are much less likely to move than renters, as empirical evidence has shown for the Netherlands and many other countries (Courgeau, 1985; Dieleman, 2001; Helderman, Mulder & Van Ham, 2004; Helderman, Van Ham & Mulder, 2006; Speare, Goldstein & Frey, 1975). It is also important to account for degree of urbanization: dwellings in highly urbanized areas are often small apartments, which makes adjustment moves more likely. Moreover, those living in urban areas are likely to have moved there for educational or work reasons, and so to have a history of moving long distances, away from the parents.

Highly educated people are likely to move long distances, for example for finding a job capable of giving adequate returns to their investment in the human capital (Sjaastad, 1962). Specialized jobs requiring high-level skills, moreover, are usually concentrated in big cities and not as geographically widespread as less specialized jobs. Unfortunately, no information about level of education is available in our data. We do have information about income, and

we might expect the influence of education to show up as an income effect. At the same time, after accounting for level of education, income effects found in previous studies tend to be U-shaped (Clark, Deurloo & Dieleman, 1986; Mulder, 1993). It is therefore not obvious beforehand what influence of income should be expected.

It is also important to account for age, because from around age 20, age is invariably found to be negatively associated with the likelihood of residential mobility and migration. This age differentiation is steepest at young ages and tapers off at older ages (Rogers, 1988). We also account for gender, even though usually no great gender differences are found in the likelihood of geographical mobility.

Data and methods

The empirical analyses are based on rich administrative dataset, the Social Statistical Database (SSD). SSD contains individual register data for all inhabitants of the Netherlands for the period 1999-2003. Record linkage between parents and children allows reconstructing family networks. For each individual, basic personal information (gender, marital status, age, position in the labour market, tax income) and household characteristics (household type, age of the youngest and oldest child) are available. Unfortunately, no information on the level of education is available.

In the analyses, we focused attention on the moves taking place between 2002 and 2003. Our research population consists of individuals who were living independently from the parents in 2002, were between 20 and 50 years old, had been living in the Netherlands for at least three years and remained in the Netherlands up to 2003. The reason for excluding recent newcomers from the analysis was that their moving behaviour differs markedly from that of the resident population (Zorlu & Mulder, 2007) and that for them information about events that happened before the move is not available. For those emigrating from the Netherlands, no complete information is available about life events occurring between 2002 and 2003 and about the location after the move. For the same reason, at least one of the parents has to live in the Netherlands in both 2002 and 2003. After these selections, the number of individuals in the analysis exceeds 4.5 million (4628155).

The dependent variable distinguishes four different alternatives: not moving, moving without a substantial change in distance (less than 10 kilometres), moving and converging to the parents, moving and diverging from the parents. The place of residence in 2002 and 2003 is known at the neighbourhood level. Changes of address within the neighbourhood can also be distinguished. Geographical coordinates of the centroid of each neighbourhood are used to calculate the distance to the parents and the possible change in distance after a move. If the distance to the father is different from the one to the mother, the minimum distance is considered. About 10% of the adult children has moved between 2002 and 2003 (Table 1). The greatest part of such moves took place within the neighbourhood, or covered very short distances. 80% of moves occurred within 10 kilometres, and the remaining 20% are equally distributed among convergences and divergences.

In the analyses, we include covariates reflecting both the situation of the individual at 2002 and the events occurring between 2002 and 2003 (see Table 2 for descriptive statistics). The geographical *distance* between generations is included in the analysis as the logarithm of the number of kilometres separating parents and children. For those who are living in the same neighbourhood, the distance was set at 0.01 kilometres. In the cases in which only the parents have moved between 2002 and 2003, we used the distance in 2003, assuming that the plans of the parents were already known in advance. To distinguish between migrants and non-migrants we considered whether individuals are *foreign-born*.

As relevant events in the life courses of individuals, occurring between 2002 and 2003, we included: *divorcing, separating, marrying* (distinguishing direct marriage or marriage following cohabitation), *starting cohabitation* and *having a child*. It was not possible to consider *becoming widowed*, because of the small number of cases. *Living arrangement* has five categories: single, married or in a registered partnership, cohabiting unmarried, divorced and without a partner, widowed and without a partner. *Presence of children* distinguishes between no children, recent birth (which means that the youngest child is younger than three) and older children.

Parental living arrangement has been categorised as: two parents living together, parents divorced fewer than three years ago, parents divorced three years ago or more, parent has become widowed fewer than 3 years ago, other widowed parent, other (a remaining category for which there is information on one parent only, mostly consisting of cases in which one parent lives abroad). As *age of the parents* we considered the age of the oldest parent.

As control variables, we further considered gender and age (both a linear and a quadratic term). The economic situation is described via both the position in the labour market – employees or self employed, enrolled in education, receiving some kind of benefit or non-employed – and individual tax income before taxation (in quartiles). Housing tenure and whether the individual has moved in the past three years represent important characteristics of the housing situation. The degree of urbanization was measured as the address density of the residential location categorized in five levels (fewer than 500 addresses per square kilometer; 500-1000; 1000-1500; 1500-2500; more than 2500).

In choosing the model we had to face the classical trade off between tractability and flexibility of the specification (Weeks, 1997). The multinomial logit model provides for a convenient closed form probability estimator, but imposes restrictions on the covariance matrix of disturbance terms. As an alternative, the multinomial probit model is extremely flexible in terms of specification but often fails to be computationally tractable and is not easily identifiable, which limits its potential use in applications (see for instance Dow and Endersby, 2004). Our study profits of an unusually large amount of available data, which renders multinomial probit models an unrealistic option. A different strategy would consist in estimating multinomial probit models on small samples of the dataset, but we would pay the gained flexibility with renouncing to use all existing information at once.

Next to the parameters of the multinomial logit model, we also estimated marginal effects evaluated at the means of the independent variables, and their statistical significance. These marginal effects have been estimated in Stata via the command *margeff* provided by Bartus (2005). They are shown in the Appendix. A marginal effect should be read as the increase or decrease in the probability of a certain outcome compared with all other outcomes together when the independent variable increases by one unit, for a hypothetical individual who has the mean score on all other independent variables. For each independent variable, the marginal effects for the four outcomes sum up to zero.

Technically, the data are not derived from a sample but from a complete population. However, we believe it still makes sense to pay attention to significance levels because the data can be regarded as a one-moment sample from a theoretical population of many time points.

Results

The results from the multinomial logistic regression (with not moving as reference outcome) are presented in Table 3. The last column reports the sign and the significance level of the parameters for divergence when convergence is the reference outcome.

As expected, an increase in the distance to parents corresponds to a greater likelihood of convergence and a lower likelihood of divergence, probably as result of the influence the location of the parents has on residential decision of adults combined with ceiling and floor effects. Also as expected, foreign-born are less likely to move away from their parents than native-born, and more likely to move towards them.

The occurrence of events associated with an increasing need for support has a very strong influence on the likelihood of convergences and divergences. The dissolution of a union, which often implies a move, favours getting closer to the parents more than getting further away. People who divorce are estimated to be more than seven times (exp(2.02)=7.51) more likely to move further from their parents compared with not moving than those who do not experience this kind of event, and eleven times more likely to relocate. At the same time, they are also sixteen times more likely to move closer to their parents. So, the enhancing effect on converging versus not moving is considerably greater than the effect of diverging versus not moving. In terms of the marginal effects on probabilities, this leads to the observation that people who divorce, compared with those who do not, have a higher probability of relocating or moving towards the parents, and a smaller probability of diverging. An analogous finding holds for separating. In contrast, starting a union, either by direct marriage or by cohabitation, which also implies a move by definition, enhances the likelihood of relocating or moving further away much more than it does moving closer, compared with not moving. In terms of marginal effects, it enhances divergence and relocations, but it decreases convergence and not moving). Interesting is also the effect of marrying after having lived together: compared with not moving, convergence and relocations are stimulated much more than divergence. In terms of marginal effects, only relocations and convergences are stimulated. Parameters associated with the current household situation reveal similar patterns, although differences between convergences and divergences are far less evident. The expected greater mobility of divorcees is confirmed in our model, and to a lesser extent also of widowed people, but no significant differences are found comparing moves in opposite directions with respect to the parental location. Being in a union (either cohabiting or married) rather than single decreases the odds of moving compared with not moving. This particularly holds for moves towards the parents, while it has almost no impact on short-distance relocations.

The likelihood of converging versus diverging also varies according to the presence of children in the household. Having a child or having recently experienced a birth discourages divergences and slightly decreases the likelihood of relocation, but not of convergence. Afterwards, the hampering effect of the presence of children prevails, particularly as for long distance moves (both convergences and divergences). However, divergences are discouraged considerably more than convergences.

As far as parental characteristics are concerned, we find only weak empirical support for our expectations. Widowhood has only a temporary effect, encouraging moves towards the parents, while having divorced parents does not especially discourage moves that bring generations farther away. On the contrary, children of divorced parents show a greater mobility than others, especially when the distance between the generations increases as a consequence of the move. Furthermore, when the parents get older, the negative impact on moving is stronger for convergences.

Most of the results on control variables are in line with previous findings. Somewhat surprisingly, those who moved recently are found to be less likely to move again, especially over long distances. We might think that the costs of moving might discourage subsequent moves, or that two characteristics of the data influence this result. First of all, moves are derived from residential locations at two points in time separated exactly one year, so multiple moves in one year are not recorded. Secondly, only the moves for which the mover has informed the population register are recorded. Some movers who already know their stay at the new address is temporary might postpone registration until they have moved to their definitive address. Owning a home creates ties with the current location and the home itself, discouraging in particular relocations and to a lesser extent also moves away from the parents. The chances of relocating compared with not moving increase when the degree of urbanization rises, and this holds for divergences as well, albeit less strongly. At the same time, convergences become less likely. The greater probability among those living in cities of having a history of migration away from the parental location is apparently associated with a greater likelihood of moving even further.

The importance of the economic situation is confirmed. First, the higher the income the lower the probability of relocating and moving closer to the parents, whereas the likelihood of moving away from the parents tends to be U-shaped. Likely, people in better economic situation are on the one hand more prone to move to increase their returns to their investment in the human capital and on the other hand less in need of maintaining proximity to the parents. At the same time, a very low income might increase the returns of a move further away. Second, differences are found according to the position in the labour market. Self employed people are less likely to move over long distances compared with employees, while their likelihood of relocating is greater. The opposite holds for those who are on benefit or inactive: they are less likely to relocate and more likely to move over long distances. Students, finally, appear to have a greater propensity to increase the distance to the parents but are far less likely to move towards them or to relocate. These findings are in line with the costs of moving for different categories: self employed need to maintain contacts with their clientele, and this constitutes a strong tie with current location. Those who do not have a job (even if this situation is only temporary) will hardly move, unless finding a job constitutes the reason for moving (likely over a long distance). Students living independently are probably enrolled in high education and their labour market will be concentrated in big cities. It is surprising that students are found to have a small likelihood of moving locally, because their housing situation is frequently poor. However, the small number of moves by students might be due to under-reporting of short-term stays in the population register.

Females are more likely to move further from their parents than males, and less likely to relocate or to move closer (the coefficients are however small though significant). This gender difference is probably due to location choices at the time of marriage or of families: females are more likely to move to the place of residence of the husband than *vice versa* and to be tied movers. The effect of age is almost linear in the age range we consider: the older the individual, the less likely he or she moves. In particular, relocations and moves towards the parents are hampered more strongly by aging.

Discussion

In most previous work on residential relocation and migration, the identification of triggers, resources and constraints of specific kinds of moves (short or long distance) was the main topic of analysis. This paper is one of the few in which the direction of the move with respect to the parental location is considered explicitly.

Many of our results suggest that the parental location might play a role in the residential choices of adult children. First, a longer distance to the parents encourages moving in their direction and discourages moving farther away. Second, events leading to a greater need of support increase the likelihood of moving closer. Divorce and separation particularly stimulates moves towards the parents, while having young children particularly hampers moving farther away. In addition, our findings imply that losing a parent might also constitute a trigger for a child's move, even if this effect is quite weak. Also in line with our expectations, foreign-born are less likely to move away from their parents than native-born, and more likely to move towards them. These findings strengthen the idea that family networks are important in shaping individual residential decisions. It is also interesting to note that family ties not only decrease migration rates. On the contrary, they might constitute a trigger for moves aimed at decreasing the distance to the parents.

However, we need to be careful interpreting the findings. Even though many findings are in line with an interpretation that moving closer to the parents is a possible strategy in response to a need or desire for support or contact, we have to be aware that we cannot be certain this is the case, because we did not directly observe the decision process underlying the move. In many cases, the residential location of the parents is a location to which people have other ties as well: it is likely also the location of friends, acquaintances, current or former employers and a familiar residential environment. With the data at hand, we had no opportunity to distinguish between locations where the child had also lived for a longer time and locations where the parents had moved later. Better opportunities to make this distinction will arise when the number of years of observation in the Social Statistical Database grows.

In addition, only weak support has been found for the idea that parental needs might constitute a trigger for their children's mobility. This might be associated with the fact that proximity to one of the children is sufficient to respond to parental needs: to reach this goal, it would be sufficient that only one of the children lives close or moves closer, or that the parents themselves move to one of the children. This second alternative is not analysed in our model, but might well be the case. Indeed, it might be possible that the person in greater need has less bargaining power and has to personally afford the (social) costs of moving towards other family members, who will afterwards provide support. If personal needs prevail over the needs of other family members, the needs of others might not constitute a sufficient motivation for moving. To test this hypothesis, a closer look at elderly mobility towards their children is advisable.

The Social-Statistical Database has a number of limitations. The amount of individual information is limited. Particularly the lack of information about educational attainment is potentially problematic, because level of education is known to be decisive to migration behaviour and also to the distance between parents and children (Mulder & Kalmijn, 2006). The measurement of need for support is obviously incomplete: there is no information about health or impairments. After the second wave of the Netherlands Kinship Panel Study (Dykstra et al., 2005) becomes available, that dataset will contain much of the necessary information to perform more refined analyses. However, a very important advantage of the SSD – also compared with NKPS – is the enormous number of individuals available for analysis, and the accompanying great statistical power. For the type of analyses we were aiming at, such great numbers are indispensable: we analyse not too frequent behaviour, affected by not too great effects. With smaller datasets, particularly effects on the contrast between divergence and convergence do not easily become significant. This has to do with the fact that for the majority of these moves, the distance to the parents is likely not considered in the decision where to move.

Despite the limitations of the data and the caution we have to maintain in interpreting the findings, our analyses have provided indications that the distance to parents matters in adult children's residential location decisions.

Acknowledgement

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Table 1. Selected sub population, by residential mobility between 2002 and 2003.

	Number of cases	Percentage
Not moving	4167078	90.04
Moving without changing distance	357188	7.72
Moving and converging	52737	1.11
Moving and diverging	51152	1.14
Total	4628155	100.00

Table 2. Descriptive statistics of independent variables (N=4628155)**.**

	Number of cases	Percentage
Distance		
Being foreign born (ref. no)	236136	5.10
Personal situations associated with need of support		
Divorcing (ref. no)	44738	0.97
Separating (ref. no)	76413	1.65
Marrying-direct (ref. no)	25935	0.56
Marrying-cohabiting (ref. no)	79343	1.71
Starting a cohabitation (ref. no)	135488	2.93
Having children (ref. no)	282009	6.09
Living arrangement		
Single	888690	19.20
Married or in registered partnership	2605548	56.30
Cohabiting unmarried	909137	19.64
Divorced without partner	208218	4.50
Widowed without partner	16562	0.36
Presence of children		
No children	2041485	44.11
Recent birth	784000	16.94
Older children	1802670	38.95
Parental living arrangement		
Parents together	2758968	59.61
Recently divorced parents	353011	7.63
Other divorced parents	194340	4.20
Recently widowed parent	910866	19.68
Other widowed	233070	5.04
Other alone	177900	3.84
Other control variables		
Females (ref. males)	2381581	51.46
Position in labour market		
Employees	3417796	73.85
Self-employed	305490	6.60
Studying	369992	7.99
Receiving some kind of benefit	151033	3.26
Inactive	383844	8.29
Income (euros per year)		
<8605	1157048	25.00
8606-18151	1157056	25.00
18152-26567	1157034	25.00
26568-35238	1157017	25.00
Owning a home (ref. renting)	2894887	62.55
Recent move (ref. no)	1029105	22.24
Degree of urbanization		
<500 addresses x km2	867299	18.74
500-1000	897389	19.39
1000-1500	904315	19.54
1500-2500	1015355	21.94
>2500	943797	20.39

	Mean	Std. Dev.
Logarithm of distance	1.16	2.80
Age	35.97	7.79
Age of the parents	65.87	9.62

Table 3. Parameters and significance level of the multinomial logistic regression of relocating, diverging or converging (ref = not moving) and (last column) sign and significance level of the parameters for divergence when convergence is the reference outcome.

	Relocations		Divergences		Convergences		Sign[1]	
Distance								
Logarithm of distance	0.0044	**	-0.0350	**	0.8563	**	-	**
Being foreign born (ref. no)	0.0505	**	-0.0532	*	0.1002	**	-	**
Personal events								
Divorcing (ref. no)	2.4037	**	2.0167	**	2.7658	**	-	**
Separating (ref. no)	1.6509	**	1.4038	**	2.3320	**	-	**
Marrying-direct (ref. no)	1.3892	**	2.1242	**	1.0265	**	+	**
Marrying-cohabiting (ref. no)	0.2211	**	0.1627	**	0.3597	**	-	**
Starting a cohabitation (ref. no)	1.8009	**	2.4732	**	1.3471	**	+	**
Having children (ref. no)	-0.0461	**	-0.1979	**	-0.0092		-	**
Personal situations associated with need of support								
Living arrangement (ref. single)								
Married	-0.0297	**	-0.1240	**	-0.4453	**	+	**
Cohabiting unmarried	-0.0480	**	-0.1265	**	-0.6221	**	+	**
Divorced without partner	0.4589	**	0.5458	**	0.5182	**	+	
Widowed without partner	0.1434	**	0.3273	**	0.2665		+	
Presence of children (ref. no children)								
Recent birth	-0.2224	**	-0.6841	**	-0.5892	**	-	**
Older children	-0.0566	**	-0.3901	**	-0.0474	*	-	**
Parental living arrangement (ref. parents together)								
Recently divorced	0.1121	**	0.2026	**	0.1063	**	+	**
Other divorced	0.1318	**	0.2746	**	0.1077	**	+	**
Recently widowed parent	0.0236	**	-0.0005		0.0074		-	
Other widowed	0.0350	**	-0.0087		0.0822	*	-	
Other alone	0.0775	**	0.2409	**	-0.0751	*	+	**
Age of parents	-0.0057	**	-0.0027	*	-0.0173	**	+	**
Other control variables								
Females (ref. males)	-0.0751	**	0.0420	**	-0.1152	**	+	**
Age	-0.1262	**	-0.0501	**	-0.1540	**	+	**
Age2	0.0010	**	-0.0001		0.0011	**	-	**
Position in labour market (ref. employee)								
Self-employed	0.0368	**	-0.1743	**	-0.0685	*	-	*
Studying	-0.0101		0.0560	*	0.0200		+	
Receiving some kind of benefit	-0.2564	**	0.1510	**	-0.3142	**	+	**
Inactive	-0.0797	**	0.2204	**	0.2417	**	-	
Income (ref. low income)								
Middle-low income	-0.0700	**	-0.2209	**	-0.2035	**	-	
Middle-high income	-0.0969	**	-0.1163	**	-0.2798	**	+	**
High income	-0.0762	**	0.1923	**	-0.2621	**	+	**
Owning a home (ref. renting)	-0.3027	**	-0.2663	**	-0.1983	**	-	**
Recent move (ref. no)	-0.0913	**	-0.2810	**	-0.4397	**	+	**
Degree of urbanization (ref. <500 addresses x km^2)								
500-1000	0.1567	**	0.0739	**	-0.0218		+	**
1000-1500	0.2319	**	0.1801	**	-0.0566	*	+	**
1500-2500	0.3221	**	0.2218	**	-0.0784	**	+	**
>2500	0.4155	**	0.2263	**	-0.2928	**	+	**
Constant	0.8996	**	-2.4111	**	-1.2532	**	-	**

N = 4628155
Log likelihood = -1564576
Pseudo R2   =   0.1397

[1] This last column reports the sign and the significance level of the parameters for divergence when convergence is the reference outcome.
Significance level: ** p<0.001; * p<0.01

Appendix. Marginal effects derived from multinomial logistic regression (N=4628155).

	Relocations		Divergences		Convergences		No move	
Distance								
Logarithm of distance	-0.0394	**	-0.0024	**	0.0589	**	-0.0172	**
Being foreign born (ref. no)	0.0074	**	-0.0021	**	0.0047	*	-0.0100	**
Personal events								
Divorcing (ref. no)	0.1728	**	-0.0032	**	0.0613	**	-0.2309	**
Separating (ref. no)	0.1072	**	-0.0021	*	0.0973	**	-0.2024	**
Marrying-direct (ref. no)	0.1534	**	0.0371	**	-0.0103	**	-0.1803	**
Marrying-cohabiting (ref. no)	0.0281	**	-0.0004		0.0148	**	-0.0426	**
Starting a cohabitation (ref. no)	0.1835	**	0.0356	**	-0.0136	**	-0.2054	**
Having children (ref. no)	-0.0075	**	-0.0035	**	0.0019		0.0091	**
Personal situations associated with need of support								
Living arrangement (ref. single)								
Married	0.0128	**	-0.0017	**	-0.0243	**	0.0132	**
Cohabiting unmarried	0.0141	**	-0.0013	*	-0.0316	**	0.0188	**
Divorced without partner	0.0629	**	0.0046	**	0.0123	**	-0.0798	**
Widowed without partner	0.0133		0.0053		0.0115		-0.0302	**
Presence of children (ref. no children)								
Recent birth	-0.0059	**	-0.0068	**	0.0000		0.0127	**
Older children	-0.0208	**	-0.0091	**	-0.0245	**	0.0544	**
Parental living arrangement (ref. parents together)								
Recently divorced	0.0170	**	0.0029	**	0.0015		-0.0215	**
Other divorced	0.0201	**	0.0044	**	0.0005		-0.0250	**
Recently widowed parent	0.0051	*	-0.0004		-0.0006		-0.0041	**
Other widowed	0.0041		-0.0009		0.0041		-0.0074	**
Other alone	0.0170	**	0.0049	**	-0.0088	**	-0.0130	**
Age of parents	-0.0004	**	0.0001	*	-0.0009	**	0.0013	**
Other control variables								
Females (ref. males)	-0.0128	**	0.0024	**	-0.0044	**	0.0147	**
Age (combined)	0.0015	**	0.0019	**	-0.0048	**	0.0014	**
Position in labour market (ref. employee)								
Self-employed	0.0140	**	-0.0040	**	-0.0060	**	-0.0040	*
Studying	-0.0041		0.0014	*	0.0018		0.0009	
Receiving some kind of benefit	-0.0496	**	0.0090	**	-0.0096	**	0.0502	**
Inactive	-0.0352	**	0.0065	**	0.0226	**	0.0061	*
Income (ref. low income)								
Middel-low income	-0.0040		-0.0034	**	-0.0097	**	0.0172	**
Middle-high income	-0.0086	**	-0.0008		-0.0133	**	0.0227	**
High income	-0.0096	**	0.0067	**	-0.0136	**	0.0164	**
Owning a home (ref. renting)	-0.0590	**	-0.0014	**	0.0006		0.0597	**
Recent move (ref. no)	0.0007		-0.0040	**	-0.0219	**	0.0252	**
Degree of urbanization (ref. <500 addresses x km^2)								
500-1000	0.0351	**	-0.0007		-0.0088	**	-0.0256	**
1000-1500	0.0511	**	0.0006		-0.0142	**	-0.0375	**
1500-2500	0.0702	**	0.0001		-0.0191	**	-0.0511	**
>2500	0.0963	**	-0.0011	*	-0.0323	**	-0.0628	**

Significance level: ** p<0.001; * p<0.01