

Occupation, educational level and gender differences in regional mobility

-Sweden 1998-2003

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Abstract: Research indicates that educational level affects men's but not so much women's regional mobility. This is often interpreted as if couples consider the man's education more worth relocating for than the woman's. Sex segregated labor markets makes it essential to focus also on occupations when studying these gender differences. This is the focus of the present study. Logistic regression models of migration events are applied to Swedish register data, covering Swedish dual-earner couples with common children in 1998-2003. Analyses reveal that men and women are regionally mobile in roughly the same occupations. The partner's occupation has a slightly stronger impact on women's mobility than on men's. Finally, even after controlling for occupations of men and women, it is still mainly the man's educational level that affects a couple's regional mobility. This gives support to the notion of couples considering the man's investment in a high education more worth relocating for than the woman's high education. It also indicates that women suffer the risk of becoming both tied movers and tied stayers.

INTRODUCTION

Research from several western countries has demonstrated how the gains from internal migration differ by sex. Men gain considerably more from being regionally mobile than women, both economically (see e.g. Åström and Westerlund 2007; Nilsson 2001; Jacobsen and Levin 2000) and occupationally (Mulder and van Ham 2005).

Most of the related research focus on differential effects of men's and women's educational level on the propensity to make a regional move, and the effect from such moves. Educational attainment is considered a proxy for various possibilities on the labor market, as well as for the possible gains one might experience from a move. It also relates to the bargaining power of one partner vis-à-vis the other. The educational attainment has been shown to affect men's and women's migration propensities differently. While a high education is associated with greater regional mobility for men, it has a less positive or no effect at all on women's migration propensities (see e.g. Lundholm 2007; Jacobsen and Levin 2000; Shihadeh 1991). The stronger effect of educational attainment on men's than women's propensity to move is viewed as evidence for the subordinate role that women's employment plays when couples consider a regional move.

This explanation might be insufficient however, because it only focuses on the internal gender order of the couple. When only considering the educational *level* attained one fails to acknowledge that men and women often are educated in, and hence also later work in, different fields (Charles and Grusky 2005). Regardless of educational level women and men work in different occupations, with the plausible consequence that men's and women's occupations contribute differently to their bargaining power as well as to their geographical mobility and the possible gains from this possible mobility. If this is the case, gender differences in educational effects on regional mobility might partly be due to the fact that men more often are educated in occupations which demand (or encourages) more regional mobility. Thus one reason for women not gaining as much as men from internal migration might be that they work in occupations where salaries do not differ as much by the geographical location.

With this as my starting point, I use Swedish register data for the years between 1998 and 2003 to study whether men's and women's occupation have a similar association with Swedish couples'

regional mobility. I also study if there remain any gender differences in the effect of educational level on migration propensities when I control for partners' occupation. If no gender differences remain, it would challenge previous research and imply that earlier findings are attributable to the fact that educational attainment leads to different occupations for women and men. If there still remain gender differences in educational effect, it would imply that Swedish couples do not regard the women and men's education equally important, and that couples' regional mobility also is the result of gender based bargaining power. Throughout the study I will focus and use data on couples' characteristics and behaviors, which is a great advantage to many other related studies.

Initially, I discuss theories on couple migration and couples' bargaining power, and proceed by connecting women's and men's bargaining power to sex segregation on the labor market. This is followed by a discussion on the importance of including occupation in research on tied moving, resulting in three research questions, which are addressed with logistic regression models applied to Swedish register data.

WHY DO COUPLES MOVE?

In general, people can be assumed to make long distance moves when they consider the benefits of their present region lower than the probable benefits of another region, and when there are enough economic and social preconditions available for a move to be possible (Lee 1966). Two different approaches to internal migration are possible to distinguish when studying couples. One can see couples as units of shared interests, who chooses what most benefits the couple as a whole (Mincer 1978), or one can focus on bargaining between the members of the couple and on how the distribution of power between the two partners affect migration decisions (see e.g. Lundberg and Pollak 2003; Bielby and Bielby 1992; Shihadeh 1991).

Mincer (1978) was one of the first to discuss couple migration. He claimed that if the couple's pooled benefits in their present region are lower than their pooled probable benefits in another region, a move will take place. Mincer sees the couple as a unit of shared interests, who shares all income and chooses

what most benefits the couple as a whole. Within Mincer's framework, a specific individual do not need to gain at all from a migration to have the willingness to move. It is the couple's combined utility, not the individual's, which affect the migration decision. And gender as such has nothing to do with it.

Mincer has however been widely questioned, because he sees the couple as a unit of shared interests and because he does not take the disagreement and bargaining within the couple into account (see e.g. Lundberg and Pollak 2003; Bielby and Bielby 1992; Shihadeh 1991). Lundberg and Pollak (2003) argue that even though a relationship might be seen as tied together by love and by the couple's mutual interest in each other's wellbeing, it is also an arena of constant bargaining, e.g. regarding childcare, paid work, the place to live and other everyday practices. The two partners therefore do not necessarily see their pooled income and wellbeing as their main interest. Rather, the income and wellbeing of each partner is the prime focus. Therefore the distribution of the bargaining power of the two partners becomes crucial to understand why couples act the way they do. And it is therefore the relative resources prior to the move, not the total outcome of the move, which are of importance for the migration decision. A couple's migration decision is on this perspective not only a utility maximizing process, but mainly the result of bargaining between the partners. The partner with the most bargaining power is the one who will decide where the couple will live and the other partner will become a tied mover/stayer, adapting to the more powerful partner's wishes (Lundberg and Pollak 2003). This approach has been tested against Mincer's (see e.g. Bielby and Bielby 1992) and gained empirical support. Probably both theories attribute jointly to the full explanation.

The bargaining power leading to couples' migration decisions can be seen as consisting of three kinds of resources; economic, social, and gender-ideological (Takahashi 2003). The distribution of power in the couple, and hence the outcome from disagreement, is the result of how much the man and the woman has of each resource.

Economic resources represent the monetary resources each partner has control over, whereas *social resources* include factors which are not monetary but which still work as a resource in bargaining,

such as education or social networks. Further, the gender order between men and women functions as a resource in couples' bargaining regarding migration decisions; let us call it a *gender ideological resource*. Hirdman (2004) argues that even though Sweden is as relatively gender equal society, women still have a subordinate position compared to men. She claims that a substantial part of the explanation for women's subordinate position can be found in the everyday separation between male and female spheres, in that men inhabit the high status public, paid sphere while women (although to a large extent they work in paid labor too) are more strongly connected to the low status private, unpaid, sphere (Hirdman 2004). In today's Sweden, women still do the bulk of the unpaid work at home, especially when there are children present (Ahrne and Roman 1997). Women take 80 percent of the total parental leave (Duvander et al. 2008) and more often than men work part time while their children are young (Sundström 1997). Takahashi (2003) argues that one essential component of bargaining power is gender ideology such as this, and that patriarchal gender ideology gives men more power in couple decisions while it decreases women's power in similar situations. For migration decisions, where both the man and the woman's labor market situation are likely to be affected by the outcome, the man's wishes are hence likely to be considered more important than the woman's.

THE SEX SEGREGATED LABOR MARKET

By way of summary, a couple's migration decision is the result of both the probable benefits at the new destination for one or both partners, and the distribution of resources among the partners. The gender ideological resources are bound to differ by sex. However, economic and social resources also often do so. One important reason for this is the sex segregated labor market.

Halfacree (1995) has discussed the importance of focusing on the sex segregation in the labor market when one studies internal migration. He argues that the common internal power perspectives (such as theories on bargaining power) are vital components for understanding women's tied moves, but that they need to be complemented with more structural analyses. Women do not adapt to their partners' migrational wishes only because they want to maximize the family's utility (as Mincer would claim).

Neither is this only due to traditional gender roles. Instead, Halfacree argues, it is the consequence of the sex segregated labor market and its inherent structures of patriarchal discrimination, that leaves women crowded in jobs which are detached from “the ‘geographical mobility occupational upward mobility’ linkage” (Halfacree 1995:177), common for jobs that men are crowded in (Halfacree 1995).

In Sweden, men and women in general have the same level of education ,which might imply equal levels of economic and (some kinds of) social bargaining power. This is however not the case, because the fields men and women are educated in differ widely. Men more often have degrees in engineering and other technical fields, while women more often have degrees in care related fields, and in teaching (<http://hsv.se>). These gender differences in educational field are the major reasons of Sweden’s sex segregated labor market (Bygren and Kumlin 2004). Sweden’s sex segregated labor market is evident from Table 1.

[Table 1: The sex segregation of Sweden’s labor market in 2003]

Both on the low and the high level, women are crowded in the care sector, in teaching, and in service occupations. The male dominated occupations have a greater diversity between high- and low level occupations. On the low level, men are mainly crowded in various kinds of production, transport, and construction occupations. On the high level they are overrepresented as managers, legislators, and engineers among others. These high level occupations are more often in the private sector than female dominated high level occupations. They are in general also more likely to have greater career opportunities compared to the high level occupations women are overrepresented in. The sex segregated labor market hence indicates that a high educational level for a man implies that he is working in a career oriented occupation, as a manager or an engineer, whereas for a woman it is likely to imply that she is working in the care sector or in teaching.

So what consequences might this have in respect to migration decisions and the bargaining power among the members of a couple? A notable pattern is that regardless of level, female dominated occupations are often similar to domestic work traditionally performed by women. This gives them a low status (Hirdman 2004). Their occupations are also often associated with low wages and low income trajectories compared to male dominated occupations with similar educational requirements (Gordon 1995). Male dominated low level occupations are often located in factories, which might imply skills that are harder to transfer to a new region compared to female dominated low level occupations. Female dominated occupations, on the other hand, often are located in the local and regional public sector (Statistics Sweden 2006), with the geographical ubiquity characterizing these kinds of occupations.

All these factors suggest that the sex segregation on the labor market easily has the consequence that women have less bargaining power in migration decisions, are less likely to benefit from regional mobility and are more likely to adapt to their partner, compared to men in an occupation at a similar level.

PREVIOUS RESEARCH

Educational level and regional mobility

Most research up until now has focused on differential effects of men's and women's educational level on the propensity to make a regional move. This is because education is assumed to measure the possibilities an individual has on the labor market, the possible gains an individual might experience from a move as well as the bargaining power an individual have vis-à-vis his/her partner. The focus is solely on educational *level*, not on *field*.

Analyses on American panel data from the Survey of Income and Program Participation, 1983-1989, show that it is only the man's (and not the woman's) age and educational level which have a significant impact on a couple's propensity to migrate (Jacobsen and Levin 2000). Similar results are

shown for Canada in the analyses of surveys answered by 1761 couples migrating to and from Alberta, Canada in 1987 (Shihadeh 1991). The results indicate that wives with greater educational level than their husbands only have a slightly higher propensity to take a dominant position in the migration decision compared to women with lower education than their partners. For men, the differences depending on educational level are considerably larger. Studies based on analyses on register data for the entire Swedish population in 1970 and 2001 report similar results as those found for the US and Canada (Lundholm 2007). Men with a high education have a considerably higher propensity to migrate than their female counterparts.

To focus on educational level is probably an efficient way to include the horizontal differences which exist between men and women. It probably also captures how men and women act on the man's career opportunities more than on the woman's. However, if it is not combined with the vertical segregation between men and women's occupations, with all the differences in possibilities and power this implies, it will not catch the whole picture. If women and men are crowded in different occupations, on the same educational level but with different mobility patterns, their educational level will have different effect on their migration propensities because of the different occupation their education has led to. To extract the real gender differences in migration propensities, it is therefore essential to include occupation in the model.

Occupational characteristics and regional mobility

To focus on the effect that occupational characteristics (both level and field) have on migration propensities instead of focusing solely on educational level is so far quite rare. One probable reason for this is the lack of register- and other data that include information on occupation (even in Sweden), as well as the large samples that are needed to enable the analyst to separate between wide ranges of occupational groups. In the Swedish context, to the best of my knowledge there are no studies including occupation.¹

Duncan and Perrucci (1976) found that the higher the man's occupational prestige, the greater is the probability that the family will migrate. Contrary, the woman's occupational prestige and contribution to family income does not affect the probability of couples' migration. Gordon (1995) found that in the UK individuals who work in occupations with a high proportion of females are more probable to make unsponsored moves, which means a migration where the old employer does not give any financial support to the migration. Furthermore, women were less likely to make sponsored moves compared to men. Shauman and Noonan (2007) study the prevalence of migration in each occupation, the earnings distribution, the relative tightness of the occupational labor market (by unemployment rates in each occupation) and the geographical ubiquity of an occupation. These aspects do have an impact on gains from migration but they have more so for men than for women. Similar results have been found by McKinnish (2008). Her results indicate that the mobility rate in both the man's and the woman's occupations affect couples' migration propensities. However, the man's occupation's mobility rate affect migration propensities considerably more.

To the best of my knowledge, the only study that explores the effects of occupational characteristics and educational level on migration propensities by using couple data is by Smits et al. (2003). They cover the Dutch context and focus on how the male dominance in migration decisions has changed over time. Analyses of data from the Dutch Labour Force Surveys (LFS) in 1977 and 1995/1996 show that in 1977, occupational prestige, measured by the U&S occupational prestige scale, had an impact on married/cohabiting men's migration propensities while it did not affect married/cohabiting

women's migration propensities. Furthermore, occupational sector had an impact on men's migration propensities, whereas it did not affect women's migration propensities. This shows that occupational characteristics affect women and men differently. Further, even after controlling for these occupational characteristics, educational level remained less important for women than for men. However, in 1995/1996 there were not any significant differences in how occupational prestige and occupational sector affected men's and women's migration propensities. Educational level also affected women and men similarly in 1995/1996, showing that migration has become more gender equal in the Netherlands over the period studied (Smits et al. 2003).

RESEARCH QUESTIONS

Theories of bargaining power suggest that in a couple's migration decisions, the partner with the most economic, social, and gender ideological resources will decide the couple's location, based on his/her preferences and his/her probable benefits from moving or staying.

Many scholars have interpreted the gender differences in how educational level affects migration propensities as if couples consider the man's career more important than the woman's, and have seen this pattern mainly as the result of gender ideological bargaining power. This interpretation is likely to have explanatory power. Because a long distance move is likely to have consequences on both the man's and the woman's labor market situation, and because the woman's occupation often risks being considered as secondary to that of the man, it is likely that the man in the couple will have a greater gender ideological resource in this kind of decisions, purely by being a man whose career is seen as essential for the couple.

I however question whether this covers the whole picture, and argue that educational level leads to different kinds of occupations for women and men, because of the sex segregation in the labor market. A high education is likely to be a greater resource in migration decisions for men than for women, because of the occupation it implies. If one wants to extract the full gender differences in migration,

and understand where the bargaining power is established, one needs to take the occupation into account.

In this study I examine how mobile individuals are in different occupations, and I study whether the man's and the woman's occupation have an equal impact on the couple's regional mobility. I proceed by studying whether some of the gender differences in educational level's effect on regional mobility found in earlier studies are due to the different occupations that an educational level leads to for men and women. If there are gender differences in how occupation and/or educational level affect regional mobility, this must imply that men and women have different gender ideological resources in bargaining for or against a migration. If all the effect from educational level diminishes are smaller when we control for occupation, this indicates that the sex segregated labor market plays an important role in producing the gender differences found in previous research.

The research questions I aim to answer are;

- (1) Are men and women in the same occupation equally mobile?
- (2) Is the mobility of men in a given occupation affected by the partner's occupation as much as vice versa?
- (3) Is the reason for the gender differences often shown in the effect of educational level on migration propensities in reality that men and women work in different occupations?

DATA AND METHODS

Data selection

To understand the interplay between occupation, gender and geographical mobility it is crucial to have a large dataset. This is necessary both because people (and especially couples with children) do not migrate often and because the inclusion of occupation is likely to lead to a small number of observations in each occupation.

In line with these considerations, we have data from a data base called “Sweden in Time: Activities and Relations” (STAR). The STAR database is a collection of data extracted from several Swedish official registers. It includes information on e.g. migration, civil status (as well as links to partners), children, parental leave, income, occupation and unemployment for the whole Swedish population. The data covers the years between 1968 and 2003. The data used in the present investigation however at the most covers the years between 1997 and 2003 at the most, to make it possible to get comparable estimates of the different variables.²

The data include all cohabiting or married individuals who have at least one common child with their partner, and where both partners were aged between 16 and 65 in any of the years 1997-2002. Both partners must be registered as working in the month when Statistics Sweden collects information on occupation in the individual’s sector (September for the private and the national public sector, and November for the local and regional public sector). A couple will appear in the dataset in more than one year, if they satisfy these conditions in more than one year.

The reason for only including individuals who have a common child with their present partner is that this is the only way to detect non-married cohabiting couples in Swedish register data, and for us it is important that married couples and cohabitants appear in the data set on the same conditions.

Moreover, this is interesting from a gender perspective as well, because of the traditionalizing impact the birth of a child has been shown to have on couples’ gender role attitudes as well as on their distribution of unpaid labor in the household (Ahrne and Roman 1997).

The availability of data for both partners in a couple is of great advantage when studying gender differences in regional mobility. It makes it possible to define whether the partner’s occupation affects women and men similarly, or if the partner’s occupation has a greater impact on the effect of women’s occupation than vice versa. It also makes it possible to discover whether any gender differences in the effect that educational level has on the migration propensity remain even when controlling for both partner’s occupation.

We exclude all couples the year they make a separation move, meaning a move where both partners' end up in different municipalities. After this, the data set consist of 3,422,916 person years, or 1,711,458 couple years.

Logistic regression

Because the main aim of this study is to compare characteristics of couples who move with couples who stay, a useful approach is logistic regression, separating between two outcomes; (0) Both partners stay, (1) Both partners move together. Couples who experience a separation move are as mentioned above excluded.

The estimates are exponentiated and presented as odds ratios. The odds ratios represent the propensity for an individual in a certain category to move with his/her partner, compared to an individual from the reference category, controlling for all other included variables (Long and Freese 2003).

Variables

Migration The dependent variable, migration, is measured in December each year between 1998 and 2003, using the Swedish total population register. If the home municipality has changed between December year t-1 and December year t, and the new municipality is in a new local labor market, we count this as if a migration has taken place (see definition of local labor markets below). Two events are distinguished; (0) both partners stay, (1) both partners move together.

The definition of local labor markets is based on the level of commuting into and from a municipality, and is re-defined yearly by Statistics Sweden. See Figure 1 for the boundaries of the local labor markets in 2005. The process to determine local labor markets goes as follows. Initially, all the local centers in Sweden (called type 11 municipalities) are identified as municipalities which (1) have less than 20 percent of the working population commuting to outside the municipality, and (2) have less than 7.5 percent of the working population commuting to one single municipality. The municipalities

which do not fulfill these criteria are defined as type 20 municipalities (if the municipality has its largest stream of out commuting to a type 11 municipality), type 30 municipalities (if the municipality has its largest stream of out commuting to a type 20 municipality), or type 50 municipalities (if the municipality has its largest stream of out commuting to a type 30 municipality). The municipalities which are connected to each other, i.e. share a local center (a type 11 municipality), form a local labor market (<http://www.scb.se>). In 1995 the number of local labor markets in Sweden was 106, and in 2003 the number had decreased to 87, because of increased commuting.

Occupation Some of the most important independent variables are the ones measuring occupation. These are based on the SSYK (Standard for Swedish Occupational Characterization) codes from the earnings structure statistics. The SSYK codes categorize occupations both due to type of work being performed, and due to the qualifications which are normally needed for the occupation. This makes the measure independent of what education a person actually has. Only the qualifications assumed to be needed for the occupation, and the occupational characteristics are included.

One difficulty with the registers that include the SSYK codes is that the occupations in different sectors are collected at different points in time. The SSYK codes for employees in the private and the national public sector are collected in September and the SSYK codes for employees in the local and the regional public sector are collected in November. This makes it difficult to distinguish between those who have changed their occupation between these points in time and those who have had all occupations at both points in time. Here, I've dealt with the problem by always letting occupations in the local and the regional public sector (which are collected at the later point in time) dominate over occupations in the private and the national public sector. If an individual is registered in the private or the national public sector in September, and in the local or the regional public sector in November, I hence choose the occupation from November, assuming that the individual has changed work between these two points in time. For multiple occupations in any of these two categories, I've chosen the occupation which the respondent works most in. All the occupations have been categorized into 40 broader categories.

The two partners' educational levels Educational level is included as a combination variable between the man's and the woman's education.³ It is measured in June each year as the highest achieved education up until then. I distinguish between primary and lower secondary education (low), upper secondary education or post-secondary education less than two years (medium), and post-secondary education, two years or longer (high).

Additional control variables The sample consists of cohabiting and married individuals; all of the control variables are at the couple level.

The age of the oldest common child is measured by a variable distinguishing between (1) 0 years, (2) 1 years, (3) 2-3 years, (4) 4-6 years, (5) 7-10 years, (6) 11-17 years, and (7) 18 years or older.

Civil status is defined as (0) Unmarried (i.e. cohabiting), and (1) Married. The sample does not include single (lone) persons.

Type of municipality is included because couples living in some areas might have better possibilities for dual careers in the present region than couples living in other areas. The variable is based on the local labor market definition, as measured in December each year, and separates between (11) Local centers, (20) Municipality with largest stream of commuting to local center, (30) Municipality with largest stream of commuting to a type 20 municipality, and (50) Municipality with largest stream of commuting to a type 30 municipality.

Age of woman and age of man are both included, because age is probable to affect both career possibilities and migration propensities. The variables are categorical, separating between (1) less than 30 years, (2) 30-39 years, (3) 40-49 years, (4) 50-59 years, and (5) 60 years and older.

Unemployment is an important variable when studying the impact of occupation on migration. This is both because people often change region to find job and because the unemployment of one partner might make the migration for the sake of the other partner easier. Unemployment will be based on unemployment codes from the Swedish Public Employment Service, and everyone who at any time during the year has been coded as unemployed of any kind will be categorized as unemployed. Hence

it does not matter whether the individual has received unemployment benefits or not. The variable is categorized as (1) No one has been unemployed during the year, (2) The woman has been unemployed during the year, (3) The man has been unemployed during the year, and (4) Both have been unemployed during the year.

A variable measuring whether any of the partners have used any *parental leave* days during the year is constructed from information collected from the Swedish National Social Insurance Agency. This variable is also categorized as (1) No one has used parental leave during the year, (2) The woman has used parental leave during the year (but not the man), (3) The man has used parental leave during the year (but not the woman), and (4) Both have used parental leave during the year.

Finally, a variable measuring whether any of the partners have received *any study grants* during the year is constructed, as (1) No one has studied during the year, (2) The woman has studied during the year, (3) The man has studied during the year, and (4) Both have studied during the year.

The model

To keep track of the order of events, all the independent variables are measured in year $t-1$, while migration is measured as a change in local labor market between December year $t-1$ and December year t . Each two years for each individual looks like the illustration in Figure 2. This leaves me with studying migration for the years 1998-2003, and measuring the independent variables in 1997-2002.

[Figure 1: Years $t-1$ and t]

Notes on data

As we have noted, the SSYK codes that are used to construct the variable measuring occupation are collected in different months for different sectors. The way I have dealt with this problem (see

discussion above) makes it likely to give occupations in the local and the regional public sector a somewhat disproportional importance over occupations in the private and the national public sector. Even though this is important to keep in mind, there are no good alternative ways of dealing with this problem.

Furthermore the SSYK codes, or mainly the earnings structure statistics, have the problem that for private companies with less than 50 employees, the SSYK codes are collected on employees of a randomized sample of work places. This means that employees at small workplaces are somewhat underrepresented in the data set. An example is medical doctors. Medical doctor work both in large and small companies. Many work in large hospitals, but many others are private general practitioners. In this dataset, medical doctors working at large scale hospitals (i.e. with more than 50 employees) will be overrepresented, because of the sampling procedure, and the estimates of mobility of medical doctors will risk being more representative of this group.

The measure of migration is defined as “crossing the borders of a local labor market border”, instead of moving a certain distance. If a person lived close to the local labor market border and moves 1 km over to the other side, it will count as a migration. However, to base migration on moved distances instead would also have been problematic, because of how a given distance means different things in different parts of Sweden. Moving 200 km would not necessarily mean needing to change your workplace in parts of Sweden with a good infrastructure, while it would do so in other parts of Sweden. With local labor markets, I adjust the measure of migration to commuting patterns in the area, and am hence somewhat controlling for this potential problem.

One possible negative implication by using register data for studying migration is the risk of inconsistency in reporting moves to the Swedish National Tax Board, something which has been shown to be especially common for moves out of a parental home (National Tax Board 2006). However, because the focus here is co-residing couples with children, who therefore are most probable to have quite stable housing arrangements (Mulder 2006) this problem should not be too severe.

RESULTS

Occupation, gender and regional mobility

My first research question is: *Are men and women in the same occupation equally mobile?*

In Table 2 I present estimates for the interaction between occupation and sex for the propensity to move with one's partner.

[Table 2: Logistic regression of migration propensities, interactions between occupation and sex]

Table 2 shows that couples where either the man or the woman works as a religious (associate) professional, legislators/senior government official, as a medical doctor or related, or in the army, are more mobile than others. Both men and women are also mobile when they work as managers/senior officials. Almost all the most mobile occupations are high level male dominated or sex integrated occupations. Further, the pattern is roughly the same for both men and women. This is evident from the resemblance of the most mobile occupations for men and women. Due to the interaction effects, we can also examine whether women and men in the same occupations are equally mobile. There are no significant gender differences between the mobility of men in the most mobile occupations and that of women in the same occupation, even if the tendency is towards a somewhat greater mobility for men working as legal professionals, legislators, and managers than for women in the same occupations. These differences might be somewhat in favor of men, because these are occupations where it is likely to be beneficial to relocate for career reasons.

Couples where the man works in a low level male dominated occupation are the least prone to make a couple migration. This is the case for couples where the man is working as a processing-plant operator, miner, construction laborer, or as an animal and crop producer or related. Couples are also immobile when the woman works in a low status occupation, regardless of female or male dominance, or if the woman works as a social science or linguistics professional.⁴

Concluding, the pattern hence seems to be that men and women have high mobility in roughly the same kinds of occupations, whereas the occupations in which they are least mobile differ by sex.

The importance of partner's occupation for regional mobility

The second research question is: *Is the mobility of men in a given occupation affected by the partner's occupation as much as vice versa?*

To study this, I start with estimating models separately by sex without controlling for the partner's occupation. I then compare these estimates to the ones where I do control for the partner's occupation. If the estimates change from the first to the second alternative, I interpret this as if the mobility of the certain occupational group to some extent is due to the partner's occupation.

[Table 3: Logistic regression of men's migration propensities]

Table 3 shows how the estimates of regional mobility for men in different occupations change when I add a control of the partner's occupation in the model. The estimates do not really change at all. This indicates that the mobility for men in a given occupation is not much influenced by the fact that these men often are partnered with women who have their own regional occupational mobility pattern.

[Table 4: Logistic regression of women's migration propensities]

We now move to the converse issue for women (Table 4). Many of the estimates now display minor, non-significant changes. Even though the estimates fluctuate more for women, only two of the estimates change significantly, namely those for religious (associate) professionals and those for medical doctors and related occupations. For these occupations, the odds ratios decrease significantly when I've added the partner's occupation to the model. This indicates that female religious professionals/associate professionals and female medical doctors and related occupations are mobile, but this mobility is to a large extent due to these women often being cohabiting or married with a partner with a mobile occupation.

Men and women are hence differently affected by their partners' occupation, with women to a somewhat larger extent adapting to their partner's occupation than vice versa.

The impact of educational level on couple's migration propensities

The final question, which is the core question for this paper, is as follows: *Is the reason for the gender differences often shown in the effect of educational level on migration propensities in reality that men and women work in different occupations?*

These analyses are, as the ones above, performed on couple level. I compare a model only including the man's and the woman's educational levels and the control variables with a model where both partners' occupations are added. If the gender differences in the effect which educational level has on migration propensities disappear when I add occupation, I interpret this as if the earlier measured gender differences are due to the fact that high education means different things for women and men, because it leads to different kinds of occupations.

In Table 5 the odds ratios for couples' migration propensities, without and with control for occupation, are presented. In tables 6 to 9, I have changed the reference categories from Table 5, to give a better view of the gender differences without and with a control of occupation.

[Table 5: Educational level's effect on couple's mobility, without and with control for occupation]

[Tables 6 and 7: Extracts from Table 5, without control for occupation]

Tables 6 and 7 show that when not controlling for occupation, educational level has a somewhat different impact on the couple's mobility, depending on whether it is the man or the woman who is more or less educated. The differences between the three levels of women's education, in Table 6, are considerably less than the differences between the three levels of men's education, in Table 7.

If the man for instance has low education, the couple's migration propensities change from 1 to 0.89 to 1.15 if the woman has low, medium respectively high educational level. The couple hence remains quite immobile, regardless of the woman's educational level. If the woman on the other hand has low education, the couple's migration propensities change from 1 to 1.16 to 1.91 if the man has low, medium respectively high educational level. Similar patterns exist for all educational levels. The pattern hence is towards larger differences in mobility depending on the man's educational level than the woman's.

[Tables 8 and 9: Extracts from Table 5, with control for occupation]

When controlling for occupation, the differences between the educational levels for both women and men decrease, probably because the variable measuring occupation to some extent also include level. The gender differences in the effect from educational level however remain. This is especially evident in how none of the differences depending on the woman's educational level, in Table 8, are significant. The man's educational level continues having a substantial larger effect on the couple's

propensity to relocate, whereas the woman's educational level keeps having a secondary role in affecting the couple's migration propensities.

If the man for instance has low education, the couple's migration propensities change from 1 to 0.90 to 1.05 if the woman has low, medium respectively high educational level. The couple hence remains almost exactly as immobile, regardless of the woman's educational level. If the woman on the other hand has low education, the couple's migration propensities change from 1 to 1.06 to 1.39 if the man has low, medium respectively high educational level.

If the man has a high education, the couple's migration propensities change from 1 to 1.02 to 1.25 if the woman has low, medium respectively high educational level. None of these changes are significant. If the woman on the other hand has high education, the couple's migration propensities change from 1 to 1.15 to 1.66 if the man has low, medium respectively high educational level. Here, the difference between a man with low education and high education is significant.

The pattern hence remains, the man's educational level continues affecting the couple's migration propensities substantially more than the woman's, even after controlling for occupation.

DISCUSSION AND CONCLUSIONS

Men and women are regionally mobile when working in roughly the same kinds of occupations.

Individuals who work as religious (associate) professional, legislators/senior government official, as a medical doctor or in related occupations, in the army, or as managers are more prone to move to a new region with their partner than others are. Even when women are in these kinds of occupations, they are mobile, and their partner move with them. For all we know the move could be initiated because of the woman's own career.

However there are considerably fewer women than men that work in this kind of male dominated high level occupations. The total number of women working in these occupations and experiencing a move (and the potential gains from it) is therefore fewer than the total number of men. The absence of clear

gender differences between the occupations is therefore interesting, because it indicates that when women early in their life decide on their occupation (something that also is affected by gender structures), they also choose whether they will have an occupation which makes it possible to adapt to their partner's occupation or not. This is supported by the pattern of the few women who have chosen to work in a high level male dominated occupation, and who have roughly the same mobility patterns as the men in these occupations. This further support Halfacree (1995) by emphasizing the notion that tied moving must be seen from a structural perspective, on the patriarchal structures of the labor market, and not only as a process within the couple.

Even though men and women are geographically mobile in roughly the same kind of occupations, some gender differences remain. The partner's occupation has a somewhat larger effect on the mobility of women than on men, especially for women working as medical doctors or as religious professionals/associate professionals. This indicates that women adjust more to their partner's occupational mobility than vice versa, and that gender ideological bargaining power operates within the couple, with the man's occupation affecting the couple's mobility more than the woman's.

The gender difference in the effect educational level has on regional mobility remains after controlling for occupation. After controlling for occupation, it is still mainly the man's educational level that affects the couple's mobility. From their educational level, it therefore seems as if women with low education, living with a partner with high education suffer the risk of becoming a tied mover. It also seems as if highly educated women, living with a partner with low education, suffer the risk of being a tied stayer. And the pattern is not due to the fact that women and men are educated in, and later on work in, different fields. Instead, this indicates that couples may consider a man's investment in a high education more worth relocating for than a woman's high education.⁵ It is hence likely to be a question of gender ideological resources operating within the couple, in favor of the man.

SUGGESTIONS FOR FUTURE STUDIES

Couple migration and tied moving remains a complex topic and seems to be the result of both gender typical occupational choices as well as gender ideological bargaining power within the couple. The results presented in this study suggest that some of the reason of women not benefiting from regional mobility is that they work in other occupations than men, and that these occupations do not have regional mobility as a natural part and/or that working in these occupations does not function as bargaining power in the couple. However, this is not the whole explanation, because high educational level continues having effect on regional mobility only if it belongs to a man. Further, not all high level male dominated occupations are regionally mobile. It hence seems as if there are other characteristics than level and male/female dominance in occupations that are affecting the regional mobility of the individuals working in them. These might be wage trajectories, unemployment rates, and geographical ubiquity, which are distinctions which would be interesting to include in future studies of the topic. Further, to take the destination of the move into account, with all the differences in possibilities for dual-earner couples over the country, would be an important expansion of the study.

More insight in the field would be given if one focused more on these specific characteristics within certain occupations, and developed the analyses by looking at interaction effects between the man's and the woman's occupational characteristics. It is also essential to focus more on the actual gains and losses a long distance move have for women and men in different occupations and with different educational level. By this, it would be possible to gain knowledge in whether men and women in the same occupation gain equally (economically and/or socially) from their regional mobility. Or if the reason for the high regional mobility of women in some high level male dominated occupations still is that they are cohabiting or married with men in the same occupation, and that the move is initiated by the man anyway.

ENDNOTES

1. However Lundholm (2007) and Hedberg (2005) address the need for such studies
2. Because some municipality borders were redefined in 1997, and because information on occupation only exists from this year, this was a necessary limitation.
3. The addition of an interaction term between both partner's educational level does not add anything to a model only containing the man's educational level and the woman's educational level. The analyses which focus on educational level are however on couple level, and to be able to distinguish gender differences in how educational level affects regional mobility, I have chosen to include education as a combined variable.
4. It is important to acknowledge the small number of women in many of the male dominated occupations, as well as the small number of men in many of the female dominated occupations. This makes it difficult to get any significant differences between the two groups. However, the interaction between occupation and sex do add to the likelihood of the model, compared to a model with the plain effect of both variables ($p=0.000$).
5. Another option is that highly educated men get offered more possibilities of relocation than highly educated women, and that the result hence is a consequence of some kind of statistical discrimination against women.

REFERENCES

- Ahrne, G. and Roman, C. (1997). Hemmet, barnen och makten –Förhandlingar om arbete och pengar i familjen. Rapport till Utredningen om fördelningen av ekonomisk makt och ekonomiska resurser mellan kvinnor och män. Arbetsmarknadsdepartementet, SOU 1997.
- Bielby, W. T. and Bielby, D. D. (1992). I Will Follow Him: Family Ties, Gender-Roles Beliefs and Reluctance to Relocate for a Better Job. *The American Journal of Sociology*. Vol. 97(5):1241-1267.
- Bygren, M. and Kumlin, J. (2004). Hur kommer det sig att män anställs på vissa arbetsplatser och kvinnor på andra? pp. 249-282 in Bygren, M., M. Gähler, and M. Neramo (eds.) *Familj och arbete – vardagsliv i förändring*. Stockholm: SNS Förlag.
- Charles, M. and Grusky, D. B. (2005). *Occupational Ghettos: The Worldwide Segregation of Women and Men*. California: Stanford University Press.
- Crompton R. (2002). Employment, Flexible Working and the Family. *British Journal of Sociology*. Vol. 53(4): 537-558.
- Duvander, A-Z., Lappegård, T., Andersson, G. (2008). Family Policy and Fertility: Fathers' and Mothers' Use of Parental Leave and Continued Childbearing in Norway and Sweden. *Stockholm Research Reports in Demography* 2008:6.
- Gordon, I. (1995). Migration in a Segmented Labour Market. *Transactions (Institute of British Geographers), New Series*. Vol. 20(2):139-155.
- Halfacree, K. H. (1995). Household Migration and the Structuration of Patriarchy: Evidence from the USA. *Progress in Human Geography*. Vol. 19(2):159-182.
- Hedberg, C. (2005). Geografiska perspektiv på arbetsmarknadsrörlighet. *CiND research paper* 2005:1.
- Hirdman, Y. (2004). *Genus –om det stabila föränderliga former*. 2nd edition, Malmö: Liber.

- Jacobsen, J. P. and Levin, L. M. (2000). The Effects of Internal Migration on the Relative Economic Status of Women and Men. *Journal of Socio-Economics*. Vol. 29:291-304.
- Jans, A-C. (2005). Family Relations, Children and Interregional Mobility, 1970 to 2000. Swedish Institute for Futures Studies, working paper 2005:12.
- Jürges, H. (2006). Gender Ideology, Division of Housework, and the Geographic Mobility of Families. *Review of Economics of the Household*. Vol. 4:299-323.
- Lee, E. S. (1966). A Theory of Migration. *Demography*, 3(1):47-57.
- Long, J. S. and Freese, J. (2003). *Regression Models for Categorical Dependent Variables using STATA*. Revised edition, Texas: Stata press.
- Lundberg, S. and Pollak, R. A. (2003). Efficiency in Marriage. *Review of Economics of the Household*. Vol. 1:153-167.
- Lundholm, E. (2007). Are Movers Still the Same? Characteristics of Interregional Migrants in Sweden 1970-2001. *Tijdschrift voor Economische en Sociale Geografie*. Vol. 98(3):336-348.
- Markham, W. T. and Pleck, J. H. (1986). Sex and Willingness to Move for Occupational Advancement: Some National Sample Results. *The Sociological Quarterly*. Vol. 27(1):121-143.
- Mincer, J. (1978). Family Migration Decisions. *Journal of Political Economy*. Vol. 86(5):749-773.
- Mulder, C. H. (2006). Home-ownership and family formation. *Journal of Housing and Built Environment*, Vol. 21:281-298.
- Mulder, C. H., and van Ham, M. (2005). Migration Histories and Occupational Achievement. *Population, Space and Place*. Vol. 11:173-186.
- National Tax Board, 2006. *Kartläggning av folkbokföringsfelet*. Stockholm: National Tax Board.
- Nilsson, K. (2001). Migration, Gender and the Household Structure: Changes in Earnings Among Young Adults in Sweden. *Regional Studies*. Vol. 35(6):499-511.

Shihadeh, E. S. (1991). The Prevalence of Husband-Centered Migration: Employment Consequences for Married Mothers. *Journal of Marriage and the Family*. Vol. 53(2):432-444.

Smits, J., Mulder, C. H., and Hooimeijer, P. (2003). Changing Gender Roles, Shifting Power Balance and Long-distance Migration of Couples. *Urban Studies*. Vol. 40(3):603-613.

Statistics Sweden (2006). På tal om kvinnor och män. Lathund om jämställdhet 2006. Stockholm: Statistics Sweden.

Sundström, M. (1997). Managing Work and Children: Part-Time Work and the Family Cycle of Swedish Women, pp.272-288 in Blossfeld, H-P., and C. Hakim (eds.) *Between Equalization and Marginalization. Women Working Part-Time in Europe and the United States of America*. Oxford: Oxford University Press.

Takahashi, M. (2003). Gender Dimensions in Family Life. A Comparative Study of Structural Constraints and Power in Sweden and Japan. *Acta Universitatis Stockholmiensis*. Stockholm: Almqvist & Wiksell International.

Åström, J. and Westerlund, O. (2007). Who is the Tied Mover? Third draft version 2007 08 03. Department of Economics, Umeå University.

Internet sources

http://hsv.se/nu_jamyrk?struts.portlet.action=/nudev/urval&frageTyp=2&frageNr=230, May 4th 2009, 17:06.

http://www.scb.se/Pages/Standard____161699.aspx, May 5th 2009, 13:31

Table 1: The sex segregation of Sweden's labor market in 2003

	Male dominated	Sex integrated	Female dominated
High level	Managers	Legal professionals	Nursing professionals
	Legislators	Medical doctors	Teaching professionals
	Engineers		
Low level	Construction laborers	Finance and sales associate professionals	Teaching associate professionals
	Machine operators	Police officers, detectives etc.	Health and nursing associate professionals
	Processing plant operators etc.		Restaurant workers

Source: Swedish register data, authors own calculations.

Figure 1: Years t-1 and t

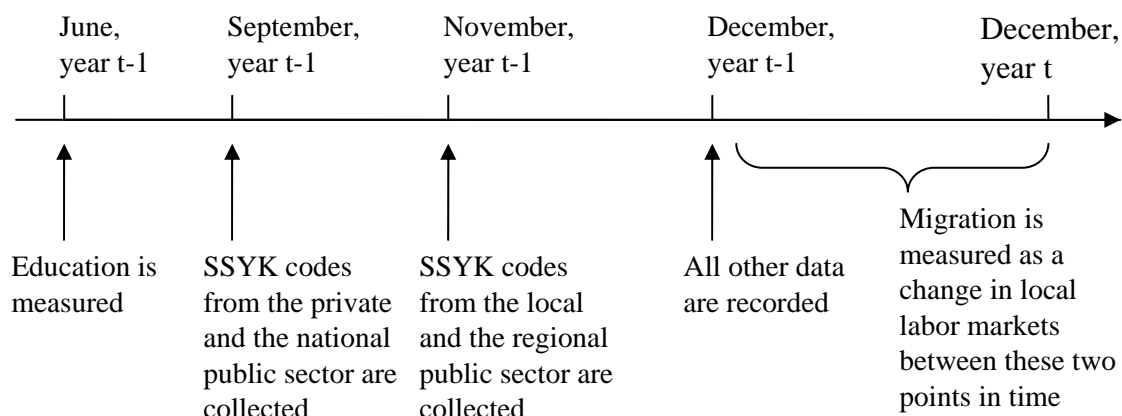


Table 2: Logistic regression of migration propensities, interactions between occupation and sex

Organized by most mobile occupation, separately for each sex. Reference category: male teaching professionals.

Controlled for calendar year, civil status, type of region, whether on parental leave, whether in studies, unemployment, age of man, age of woman, age of oldest common child, and educational level for man and woman.

n = 3422916
LL= -142553.33

Man	OR	p	CI	Woman	OR	p	CI
Religious professionals/ associate professionals	4.97	0.000	4.34 5.70	Religious professionals/ associate professionals	4.89	0.000	3.93 6.08
Legislators and senior government officials	2.36	0.000	1.69 3.30	Medical doctors. dentists. veterinarians. pharmacists. speech therapists	2.00	0.000	1.80 2.21
Medical doctors, dentists, veterinarians, pharmacists, speech therapists	2.04	0.000	1.87 2.23	Armed forces	1.93	0.011	1.17 3.20
Armed forces	1.71	0.000	1.52 1.92	Legislators and senior government officials	1.67	0.181	0.79 3.52
Legal professionals	1.60	0.000	1.33 1.93	Ship and aircraft controllers and technicians	1.49	0.177	0.84 2.65
Managers, senior officials, directors	1.54	0.000	1.43 1.66	Other personal and protective services workers	1.39	0.004	1.11 1.74
Ship and aircraft controllers and technicians	1.53	0.001	1.19 1.96	Managers. senior officials. directors	1.35	0.000	1.21 1.51
Restaurant services workers, helpers, housekeepers and related	1.27	0.038	1.01 1.59	Assemblers. manufacturing laborers	1.35	0.000	1.15 1.58
Psychologists, social work and related professionals	1.26	0.012	1.05 1.52	Psychologists. social work and related professionals	1.33	0.000	1.18 1.50
Social science and linguistics professionals (except social work professionals)	1.20	0.413	0.77 1.88	Legal professionals	1.31	0.031	1.03 1.68
Archivists, librarians and related information professionals	1.18	0.305	0.86 1.61	Police officers and detectives. customs. tax and related government associate professionals...	1.28	0.001	1.11 1.48
Physicists, chemists, mathematicians, statisticians, life science professionals	1.16	0.107	0.97 1.38	Architects. engineers and related professionals	1.26	0.012	1.05 1.52
Finance and sales associate professionals, business services agents and trade brokers	1.14	0.011	1.03 1.26	Archivists. librarians and related information professionals	1.25	0.041	1.01 1.54
Assemblers, manufacturing laborers	1.13	0.046	1.00 1.28	Health and nursing associate professionals	1.24	0.000	1.14 1.34

Administrative professionals and associate professionals	1.13	0.028	1.01	1.25	Writers and creative or performing artists. artistic. entertainment and sports associate professionals	1.21	0.046	1.00	1.47
Writers and creative or performing artists, artistic, entertainment and sports associate professionals	1.11	0.245	0.93	1.34	Drivers and mobile-plant operators	1.20	0.341	0.82	1.75
Other personal and protective services workers	1.10	0.231	0.94	1.29	Metal molders. blacksmiths and related	1.19	0.364	0.82	1.74
Health and nursing associate professionals	1.10	0.255	0.94	1.28	Nursing and midwifery professionals	1.17	0.016	1.03	1.32
Cashiers, tellers, client information, demonstrators, vendors	1.08	0.429	0.90	1.30	Teaching professionals	1.15	0.000	1.06	1.23
Architects, engineers and related professionals	1.06	0.290	0.95	1.18	Physicists. chemists. mathematicians. statisticians. life science professionals	1.14	0.284	0.90	1.46
Office clerks in occupations which demands secondary school at most	1.06	0.379	0.93	1.20	Physical and engineering science technicians. safety and quality inspectors. optical and electronic equipment operators	1.13	0.123	0.97	1.31
Police officers and detectives, customs, tax and related government associate professionals...	1.05	0.454	0.93	1.17	Business professionals	1.11	0.121	0.97	1.26
Teaching professionals (ref.)	1				Agricultural. animal and crop producers. forestry technicians. fishery workers and laborers	1.11	0.591	0.77	1.59
Life science technicians	0.99	0.980	0.51	1.92	Machine operators	1.10	0.212	0.95	1.28
Physical and engineering science technicians, safety and quality inspectors, optical and electronic equipment operators	0.99	0.829	0.91	1.08	Finance and sales associate professionals. business services agents and trade brokers	1.10	0.114	0.98	1.23
Business professionals	0.98	0.712	0.87	1.10	Administrative professionals and associate professionals	1.07	0.223	0.96	1.18
Helpers, cleaners, garbage collectors, other services elementary occupations	0.97	0.735	0.79	1.18	Miners. builders and construction laborers	1.05	0.819	0.71	1.54
Handicraft workers, precision workers in metal and related materials, potters, glass-makers, garment, leather and shoemaking trades workers	0.94	0.720	0.69	1.30	Computing professionals and associate professionals	1.02	0.838	0.86	1.20
Personal care and related workers	0.94	0.339	0.83	1.07	Cashiers. tellers. client information. demonstrators. vendors	1.00	0.941	0.90	1.13
Nursing and midwifery professionals	0.93	0.668	0.66	1.30	Transport laborers. freight handlers. deliverers. mail carriers and related	0.98	0.849	0.79	1.21
Computing professionals and associate professionals	0.92	0.130	0.83	1.02	Machinery. electrical and electronic equipment mechanics and fitters	0.97	0.876	0.70	1.36

Drivers and mobile-plant operators	0.89	0.085	0.79	1.02	Office clerks in occupations which demands secondary school at most	0.97	0.483	0.88	1.06
Teaching associate professionals	0.83	0.017	0.71	0.97	Life science technicians	0.93	0.542	0.73	1.18
Machine operators	0.79	0.000	0.70	0.89	Restaurant services workers, helpers, housekeepers and related	0.92	0.214	0.81	1.05
Metal molders, blacksmiths and related	0.78	0.002	0.66	0.91	Teaching associate professionals	0.89	0.008	0.81	0.97
Transport laborers, freight handlers, deliverers, mail carriers and related	0.74	0.000	0.63	0.87	Personal care and related workers	0.87	0.000	0.81	0.94
Machinery, electrical and electronic equipment mechanics and fitters	0.67	0.000	0.59	0.77	Social science and linguistics professionals (except social work professionals)	0.86	0.601	0.48	1.52
Agricultural, animal and crop producers, forestry technicians, fishery workers and laborers	0.66	0.001	0.51	0.85	Helpers, cleaners, garbage collectors, other services elementary occupations	0.85	0.031	0.74	0.99
Miners, builders and construction laborers	0.57	0.000	0.51	0.64	Handicraft workers, precision workers in metal and related materials, potters, glass-makers, garment, leather and shoemaking trades workers	0.60	0.059	0.35	1.02
Processing-plant operators and related	0.45	0.000	0.38	0.54	Processing-plant operators and related	0.54	0.002	0.37	0.80

Table 3: Logistic regression of men's migration propensities

I compare estimates of men's occupation's effect on couple's regional mobility when not controlling for partner's occupation and when adding control.

Reference category: teaching professionals.

Controlled for calendar year, civil status, type of region, whether on parental leave, whether in studies, unemployment, age of man, age of woman, age of oldest common child and educational level for man and woman.

n = 1711458

LL (without control for partner) = -71008.07

LL (with control for partner) = -70896.14

	Without control				With control			
	OR	p	CI		OR	p	CI	
Armed forces	1.73	0.000	1.54	1.94	1.74	0.000	1.54	1.96
Legislators and senior government officials	2.41	0.000	1.72	3.36	2.35	0.000	1.68	3.29
Religious professionals/ associate professionals	5.04	0.000	4.40	5.77	4.37	0.000	3.78	5.06
Managers, senior officials, directors	1.48	0.000	1.37	1.59	1.48	0.000	1.37	1.60
Physicists, chemists, mathematicians, statisticians, life science professionals	1.15	0.134	0.96	1.37	1.13	0.177	0.95	1.35
Social science and linguistics professionals (except social work professionals)	1.19	0.445	0.76	1.86	1.19	0.444	0.76	1.86
Legal professionals	1.61	0.000	1.34	1.94	1.59	0.000	1.32	1.93
Architects, engineers and related professionals	1.03	0.552	0.93	1.15	1.03	0.638	0.92	1.14
Medical doctors, dentists, veterinarians, pharmacists, speech therapists	2.06	0.000	1.88	2.25	1.86	0.000	1.69	2.04
Nursing and midwifery professionals	0.94	0.708	0.67	1.31	0.94	0.736	0.67	1.32
Psychologists, social work and related professionals	1.26	0.014	1.05	1.51	1.23	0.029	1.02	1.48
Archivists, librarians and related information professionals	1.17	0.339	0.85	1.59	1.16	0.364	0.84	1.59
Administrative professionals and associate professionals	1.09	0.099	0.98	1.22	1.10	0.098	0.98	1.22
Business professionals	0.95	0.422	0.84	1.07	0.96	0.473	0.85	1.08
Computing professionals and associate professionals	0.87	0.013	0.78	0.97	0.88	0.021	0.79	0.98
Writers and creative or performing artists, artistic, entertainment and sports associate professionals	1.06	0.511	0.89	1.28	1.06	0.566	0.88	1.27
Teaching professionals	1				1			
Teaching associate professionals	0.80	0.004	0.69	0.93	0.83	0.020	0.71	0.97
Health and nursing associate professionals	1.10	0.257	0.94	1.28	1.10	0.262	0.93	1.29
Life science technicians	0.96	0.893	0.49	1.85	0.95	0.891	0.49	1.85
Physical and engineering science technicians, safety and quality inspectors,	0.91	0.048	0.83	1.00	0.92	0.067	0.84	1.01

optical and electronic equipment operators									
Ship and aircraft controllers and technicians	1.48	0.002	1.15	1.90	1.46	0.004	1.13	1.89	
Finance and sales associate professionals, business services agents and trade brokers	1.05	0.365	0.95	1.16	1.06	0.293	0.95	1.17	
Police officers and detectives, customs, tax and related government associate professionals...	1.05	0.376	0.94	1.18	1.04	0.519	0.92	1.17	
Restaurant services workers, helpers, housekeepers and related	1.11	0.361	0.88	1.40	1.14	0.265	0.91	1.44	
Cashiers, tellers, client information, demonstrators, vendors	0.95	0.587	0.79	1.15	0.96	0.703	0.80	1.16	
Office clerks in occupations which demands secondary school at most	0.95	0.395	0.83	1.08	0.96	0.541	0.84	1.09	
Personal care and related workers	0.84	0.006	0.74	0.95	0.86	0.027	0.76	0.98	
Other personal and protective services workers	0.98	0.783	0.83	1.15	0.98	0.810	0.83	1.15	
Agricultural, animal and crop producers, forestry technicians, fishery workers and laborers	0.60	0.000	0.46	0.77	0.60	0.000	0.47	0.78	
Machinery, electrical and electronic equipment mechanics and fitters	0.60	0.000	0.52	0.68	0.60	0.000	0.53	0.70	
Handicraft workers, precision workers in metal and related materials, potters, glass-makers, garment, leather and shoemaking trades workers	0.83	0.261	0.61	1.15	0.87	0.383	0.63	1.19	
Metal molders, blacksmiths and related	0.68	0.000	0.58	0.81	0.67	0.000	0.57	0.80	
Assemblers, manufacturing laborers	0.99	0.912	0.87	1.13	0.96	0.567	0.85	1.10	
Miners, builders and construction laborers	0.50	0.000	0.44	0.56	0.51	0.000	0.45	0.58	
Machine operators	0.69	0.000	0.61	0.78	0.68	0.000	0.60	0.77	
Processing-plant operators and related	0.40	0.000	0.33	0.47	0.41	0.000	0.35	0.50	
Drivers and mobile-plant operators	0.79	0.000	0.69	0.90	0.80	0.001	0.70	0.91	
Transport laborers, freight handlers, deliverers, mail carriers and related	0.66	0.000	0.56	0.78	0.67	0.000	0.57	0.79	
Helpers, cleaners, garbage collectors, other services elementary occupations	0.85	0.109	0.70	1.04	0.87	0.182	0.71	1.07	

* Indicates that the 95% confidence interval (CI) does not overlap the CI of the same occupation when we do not control for partner's occupation.

Table 4: Logistic regression of women's migration propensities

I compare estimates of women's occupation's effect on couple's regional mobility when not controlling for partner's occupation and when adding control.

Reference category: teaching professionals.

Controlled for calendar year, civil status, type of region, whether on parental leave, whether in studies, unemployment, age of man, age of woman, age of oldest common child and educational level for man and woman.

n = 1711458

LL (without control for partner) = -71507.09

LL (with control for partner) = -70896.14

	Without control				With control			
	OR	p	CI		OR	p	CI	
Armed forces	1.71	0.038	1.03	2.83	1.19	0.508	0.71	1.98
Legislators and senior government officials	1.44	0.335	0.68	3.05	1.27	0.528	0.60	2.69
Religious professionals/ associate professionals	4.29	0.000	3.45	5.32	2.18*	0.000	1.72	2.75
Managers, senior officials, directors	1.19	0.002	1.07	1.32	1.16	0.008	1.04	1.29
Physicists, chemists, mathematicians, statisticians, life science professionals	1.00	0.985	0.79	1.28	1.00	0.976	0.79	1.28
Social science and linguistics professionals (except social work professionals)	0.75	0.328	0.42	1.33	0.75	0.326	0.42	1.33
Legal professionals	1.15	0.256	0.90	1.48	1.04	0.770	0.81	1.34
Architects, engineers and related professionals	1.11	0.242	0.93	1.34	1.14	0.160	0.95	1.37
Medical doctors, dentists, veterinarians, pharmacists, speech therapists	1.74	0.000	1.57	1.92	1.40*	0.000	1.26	1.56
Nursing and midwifery professionals	1.03	0.674	0.91	1.16	0.97	0.682	0.86	1.10
Psychologists, social work and related professionals	1.16	0.011	1.04	1.31	1.11	0.086	0.99	1.25
Archivists, librarians and related information professionals	1.08	0.476	0.88	1.33	1.07	0.555	0.86	1.32
Administrative professionals and associate professionals	0.93	0.199	0.84	1.04	0.92	0.128	0.83	1.02
Business professionals	0.97	0.677	0.86	1.10	0.96	0.549	0.85	1.09
Computing professionals and associate professionals	0.90	0.224	0.76	1.07	0.92	0.335	0.78	1.09
Writers and creative or performing artists, artistic, entertainment and sports associate professionals	1.06	0.515	0.88	1.29	1.01	0.906	0.84	1.23
Teaching professionals	1				1			
Teaching associate professionals	0.79	0.000	0.73	0.86	0.82	0.000	0.75	0.89

Health and nursing associate professionals	1.10	0.012	1.02	1.18	1.07	0.079	0.99	1.15
Life science technicians	0.82	0.105	0.64	1.04	0.82	0.114	0.65	1.05
Physical and engineering science technicians, safety and quality inspectors, optical and electronic equipment operators	1.00	0.974	0.86	1.16	1.02	0.761	0.88	1.19
Ship and aircraft controllers and technicians	1.32	0.346	0.74	2.35	1.09	0.783	0.60	1.96
Finance and sales associate professionals, business services agents and trade brokers	0.97	0.627	0.87	1.09	0.96	0.447	0.85	1.07
Police officers and detectives, customs, tax and related government associate professionals...	1.13	0.079	0.99	1.31	1.17	0.032	1.01	1.36
Restaurant services workers, helpers, housekeepers and related	0.83	0.006	0.72	0.95	0.88	0.059	0.77	1.00
Cashiers, tellers, client information, demonstrators, vendors	0.90	0.091	0.80	1.02	0.93	0.213	0.82	1.04
Office clerks in occupations which demands secondary school at most	0.85	0.001	0.78	0.94	0.86	0.003	0.78	0.95
Personal care and related workers	0.78	0.000	0.72	0.85	0.84	0.000	0.77	0.91
Other personal and protective services workers	1.25	0.054	1.00	1.56	1.22	0.084	0.97	1.53
Agricultural, animal and crop producers, forestry technicians, fishery workers and laborers	0.99	0.968	0.69	1.43	1.10	0.611	0.76	1.59
Machinery, electrical and electronic equipment mechanics and fitters	0.89	0.505	0.64	1.25	1.01	0.948	0.72	1.42
Handicraft workers, precision workers in metal and related materials, potters, glass-makers, garment, leather and shoemaking trades workers	0.54	0.024	0.32	0.92	0.57	0.036	0.33	0.96
Metal molders, blacksmiths and related	1.10	0.623	0.75	1.61	1.25	0.250	0.85	1.84
Assemblers, manufacturing laborers	1.24	0.010	1.05	1.47	1.30	0.002	1.10	1.55
Miners, builders and construction laborers	0.96	0.820	0.65	1.41	1.11	0.608	0.75	1.63
Machine operators	1.02	0.848	0.87	1.19	1.16	0.072	0.99	1.36
Processing-plant operators and related	0.50	0.000	0.34	0.74	0.67	0.043	0.45	0.99
Drivers and mobile-plant operators	1.10	0.614	0.75	1.61	1.18	0.406	0.80	1.72
Transport laborers, freight handlers, deliverers, mail carriers and related	0.89	0.274	0.71	1.10	0.98	0.839	0.79	1.22
Helpers, cleaners, garbage collectors, other services elementary occupations	0.78	0.001	0.67	0.91	0.87	0.076	0.75	1.01

* Indicates that the 95% confidence interval (CI) does not overlap the CI of the same occupation when we do not control for partner's occupation.

Table 5: Educational level's effect on couple's mobility, without and with control for occupation

Controlled for calendar year, civil status, type of region, whether on parental leave, whether in studies, unemployment, age of man, age of woman, and age of oldest common child

n = 1711458

LL (without control for both partners' occupations) = -71730.65

LL (with control for both partners' occupations) = -70896.14

		Without occupation				With occupation			
		OR	p	CI		OR	p	CI	
Education	Both low	1				1			
	Woman med, man low	0.89	0.106	0.78	1.02	0.90	0.153	0.79	1.04
	Woman high, man low	1.15	0.135	0.96	1.39	1.05	0.592	0.87	1.28
	Woman low, man med	1.16	0.045	1.00	1.34	1.06	0.444	0.92	1.22
	Both med	1.09	0.164	0.97	1.23	0.99	0.914	0.88	1.12
	Woman high, man med	1.52	0.000	1.34	1.72	1.21	0.005	1.06	1.39
	Woman low man high	1.91	0.000	1.56	2.35	1.39	0.002	1.13	1.72
	Woman med, man high	2.01	0.000	1.78	2.28	1.42	0.000	1.24	1.63
	Both high	2.93	0.000	2.61	3.30	1.74	0.000	1.52	1.99

Tables 6 and 7: Extracts from Table 5, without control for occupation
 Woman low education resp. man low education as reference categories

Table 6

		Woman		
		Low	Medium	High
Man	Low	1	0.89	1.15
	Medium	1	0.94	1.31*
	High	1	1.05	1.53*

Table 7

		Woman		
		Low	Medium	High
Man	Low	1	1	1
	Medium	1.16*	1.22	1.32
	High	1.91*	2.26*	2.55*

* Indicates that the 95% confidence interval (CI) is not overlapping the reference category

Tables 8 and 9: Extracts from Table 5, with control for occupation
 Woman low education resp. man low education as reference categories

Table 8

		Woman		
		Low	Medium	High
Man	Low	1	0.90	1.05
	Medium	1	0.93	1.14
	High	1	1.02	1.25

Table 9

		Woman		
		Low	Medium	High
Man	Low	1	1	1
	Medium	1.06	1.10	1.15
	High	1.39*	1.58*	1.66*

* Indicates that the 95% confidence interval (CI) is not overlapping the reference category