Demography (2013) 50:285–310
DOI 10.1007/s13524-012-0142-8

Your Place or Mine? On the Residence Choice of Young Couples in Norway

Katrine V. Løken · Kjell Erik Lommerud · Shelly Lundberg

Published online: 11 September 2012

Abstract Norwegian registry data are used to investigate the location decisions of a full population cohort of young adults as they complete their education, establish separate households, and form their own families. We find that the labor market opportunities and family ties of both partners affect these location choices. Surprisingly, married men live significantly closer to their own parents than do married women, even if they have children, and this difference cannot be explained by differences in observed characteristics. The principal source of excess female distance from parents in this population is the relatively low mobility of men without a college degree, particularly in rural areas. Despite evidence that intergenerational resource flows, such as childcare and eldercare, are particularly important between women and their parents, the family connections of husbands appear to dominate the location decisions of less-educated married couples.

Keywords Marriage · Gender · Residential location

Introduction

The geographic proximity of parents and adult children has important implications for intergenerational contacts; transfers; and, potentially, emotional ties (Lawton et al. 1994). Considerable research has examined the determinants and consequences of

K. V. Løken · K. E. Lommerud · S. Lundberg (✉)
Department of Economics, University of Bergen, Bergen, Norway
e-mail: lundberg@econ.ucsb.edu

K. V. Løken
e-mail: katrine.loken@econ.uib.no

K. E. Lommerud
e-mail: kjell.lommerud@econ.uib.no

S. Lundberg
Department of Economics, University of California, Santa Barbara, CA, USA

physical distance between elderly parents and their children (Hank 2007), but less attention has been devoted to the early location decisions of the young. Young adults, when they leave school and establish independent households, must decide where to live. Residential location can be a decisive life choice, rivaled in importance only by the choice of a partner and a career and often closely connected with those decisions. Migration from a childhood home by young men and women in search of job opportunities or marriage partners means forgoing the benefits of proximity to parents and other kin, and relinquishing the economic and social value of hometown networks.

These individual decisions become more complex when young adults form couples and bear children. Married and cohabiting partners who come from different places must make a joint decision about where to settle: near the place where he has family and social ties, near her place of origin, or far from both. This choice can affect the relative well-being of the two partners and may have important consequences for how services flow in the extended family. In particular, grandparents who live nearby will be more involved in the upbringing of grandchildren, and in return may receive more visits and care in old age. In addition, location decisions might also influence relative labor supply and labor market opportunities, even though they may not be the direct reason for the location.

In this article, we use Norwegian registry data to investigate the location decisions of a recent full population cohort of young adults as they complete their education, establish separate households, and form their own families. We find that for both men and women, labor market and family influences are important determinants of an individual's distance from parents. College-educated men and women move farther from their parents than the non-college-educated, as do those with parents living in a rural, relative to an urban, location. Young adults who are likely to have greater family responsibilities (i.e., those with fewer siblings and an earlier birth order) also have stronger ties to their place of origin.

We also find that married men, on average, live significantly closer to their parents than do married women, even if they have children, and that this difference cannot be explained by differences in education, age at marriage, or other characteristics. At age 34, married men are 8.36 percentage points more likely to live in the same neighborhood as their parents than married women and 5.54 percentage points less likely to live in another region of the country. Because caregiving ties across generations tend to be stronger on the maternal side (Cox 2003; Sweetser 1963), this evidence of relative patrilocality in a modern society such as Norway is surprising. Although young men, on average, tend to leave the parental home at a later age than do young women (Chiuri and Del Boca 2010), studies using data from other countries such as the United States have found that adult women live closer to their parents than do adult men (Compton and Pollak 2009).

Disaggregating the sample, we show that the principal source of excess female distance from parents among married couples is the relatively low mobility of men who have not attended college, particularly in rural areas. Ordered logit models of individual distance from parents indicate that young women without a college education whose parents live in a rural area are 62 % more likely to live in a farther "distance from parents category" than a young man with a similar background. We find that this pattern is probably due to the importance of local networks and

inheritance of occupational capital in the earnings prospects of less-educated men. Although wife's education does have significant effects on joint location decisions in Norway, these results are consistent with the conclusion of Compton and Pollak (2007) that men's employment opportunities are more important determinants of a couple's location.

We also find, for the non-college-educated group, that the family ties of married men have more weight in location decisions than those of married women. For women and college-educated men, more siblings are associated with greater distance from parents, presumably because they provide substitute filial services and thus reduce the costs of migrating for job-related or other advantages. The siblings of non-college-educated married men, however, do not conform to this pattern and either have no effect or increase proximity to his parents. Because dense local family networks are likely to be of more value to a blood relative than to a spouse, this suggests that the husband's preferences may dominate the residence choice.

The location decisions of young couples are important mediators of the flow of services between generations. Intergenerational care patterns tend to be matrilineal, with daughters providing more care to parents than sons, and maternal grandparents having more contact with children. If power relations in the family or other factors—such as father-son economic ties—bring about patrilocal residence patterns for the families of non-college-educated men, this could weaken such ties and increase the family's reliance on outside care services for children and the elderly. In a welfare state such as Norway, families may not bear the full economic consequences of their location choices, and this raises the question of whether the presence of substantial public subsidies for care influences location decisions and intergenerational family transfers.

This article is structured as follows. The next section provides a review of related literature, followed by an overview of mobility in Norway and the administrative registry data. The fourth section develops a simple model of couple location, and in the fifth section, we present the results of ordered logit models of individual distance from parents and multinomial logit models of relative distance for married couples. The final section provides a discussion of the results and concludes.

Intergenerational Ties and the Location Decisions of Young Couples

Aging populations have increased social scientists' interest in intergenerational transfers, and thus in intergenerational proximity, which plays an important role in facilitating frequent contacts and hands-on care between generations. Much of the literature has focused on adult children and elderly parents and on the provision of care to parents who may be widowed and in poor health. These studies have found that geographic distance is related to less frequent intergenerational contact (Greenwell and Bengtson 1997; Lawton et al. 1994). Using microdata for 10 European countries from the 2004 Survey of Health, Ageing, and Retirement (SHARE) in Europe, Knoef and Kooreman (2011) found that the amount of informal care provided to parents dwindles when parent–child distance exceeds 50–100 km.[1]

[1] Rainer and Siedler (2012) use the same data to examine the effects of order and number of siblings on proximity to parents.

Also using the SHARE data, Hank (2007) found strong regional differences in both average proximity between older adults and their closest child, and in the relationship between proximity, contact, and the characteristics of children and parents. Parents in the "strong family" Mediterranean countries are more likely to coreside with and to live near to adult children than parents in northern European countries, and the correlation between proximity and contact is weaker in the South. Hank showed that relationship quality is more closely related to proximity in the South than in the "weak family" North, in which leaving home is a cultural norm, and a comprehensive welfare state reduces parental dependence on support from children.[2] Pettersson and Malmberg (2009) also emphasized the significance of the welfare state in patterns of intergenerational proximity in Nordic countries, finding that as Swedish parents age from "young-old" to "old-old," they become less likely to move closer to their children. They interpreted this as a consequence of public institutions that provide care for the frail elderly in Sweden and substitute for direct care by children.

Other researchers have focused on the other end of the intergenerational proximity life cycle: the leaving-home decisions of adolescents and young adults (McElroy 1985). The closer family ties of southern European countries are reflected in substantially later average ages of leaving the parental home (Iacovou 2001), but in all countries, daughters leave home earlier than sons. Chiuri and Del Boca (2010) found that the home-leaving decisions of young women are more responsive to labor and mortgage market conditions but less responsive to education than are those of young men. Young single women also tend to be more concentrated in urban areas than young men and, with continuing rural-urban migration, this will tend to increase the relative distance of daughters from parents. Edlund (2005) argued that cities offer women both job opportunities and access to more attractive men, in terms of earning power and status.[3] This movement of single individuals in response to labor and marriage market conditions implies that distance from parents will depend on urban-rural origin and on human capital, and that these effects may be different for men and women.

A third decision point for intergenerational proximity patterns occurs when a couple marries and chooses where to establish a household and raise children. In many traditional societies, this is not a choice at all because there are customary rules concerning the residence of newly formed couples. Cross-cultural databases (e.g., Murdock 1967) show that about three-quarters of societies with identified residence rules are patrilocal—that is, couples live with or near patrilineal kinsmen of the husband—and 13 % are matrilocal.[4] The causes and consequences of these intergenerational residence traditions have been the subject of much research, particularly in anthropology. In contrast, modern societies tend not to have fixed rules regarding proximity to or coresidence with kin, and residence of a young couple will generally be independent of both sets of relatives ("neolocal residence").

[2] On the other hand, Bordone (2009) found that sociodemographic variables have similar effects on intergenerational proximity and contact in Italy and Sweden, and cannot fully explain the substantial North-South gap in these behaviors.

[3] Her model yields a Harris-Todaro type "wait unemployment" result, wherein single women cluster in the big cities trying to capture Prince Charming.

[4] Although *patrilocality* in anthropology is associated with strong rules and norms that a couple should live with or close to his parents, we use the term to refer to situations in which young couples choose where to live but where these choices tend toward greater proximity to his parents.

Economists Baker and Jacobsen (2007) constructed a model of optimal postmarital residence rules in which location norms help to mitigate contracting problems that can, in the absence of rules concerning the location of newly married couples, inhibit premarital human capital investments. These investments can be location-specific, as in knowing how to farm a particular plot of land, respond to adverse weather shocks, or locate migratory game. They show that patrilocality will dominate matrilocality when the husband's human capital is relatively location-specific compared with the wife's, and explain the increasing prevalence of neolocal flexibility with economic development as a natural outcome of the growth of formal labor markets and the decline of household-based production, which reduces the location-specificity of male and female human capital.[5]

Historical studies of the geographical dispersion of sons and daughters in rural, agricultural societies are consistent with this model, given a gender division of labor in which land cultivation is the province of men, and property is bequeathed to sons. In rural populations in northern Sweden and in New England, sons were substantially more likely than daughters to stay in the same community as their fathers (Egerbladh et al. 2007). Sons inherited the ancestral farm, while daughters moved away to marry or to work as domestic servants. Given men's ties to the land, female dispersal can be seen as a strategy in traditional societies to avoid inbreeding or to provide insurance to the extended family (Rosenzweig and Stark 1989).

There are several reasons to expect that patrilocal residence patterns might be associated with female disadvantage. If daughters live with their in-laws, they will not be available to care for their own parents in old age, and the expected return to educational and other investments in girls will be lower than the expected returns to investing in boys. Also, geographical isolation makes it difficult for a woman's family to monitor and protect her well-being after marriage. In societies in which husbands and their families have coercive power over wives, cultural practices such as bride exchange have emerged that reduce the threat of mistreatment of wives residing with their husband's family (Jacoby and Mansuri 2010). Women appear to reap health benefits from remaining in their mothers' homes rather than joining their husbands' household, and so do children (Leonetti et al. 2007). Patrilocal residence patterns, by separating women from their birth families, can lead to a form of geographic oppression of women in the absence of offsetting cultural mechanisms. Even in high-income and neolocal societies such as Norway, it is possible that location and the ability to maintain maternal family ties have implications for child well-being.

Research on the location decisions of couples in high-income societies has emphasized the role of men's higher earnings and relatively greater attachment to the labor market in generating a different type of geographic disadvantage for women. When wives are secondary earners, they will tend to be "tied movers" who may experience decreases in their own employability when the family moves to maximize total earnings (Mincer 1978). The literature on so-called power couples—in which both partners have high levels of education and establish careers—also examines the influence of human capital and job markets on the location decision. Costa and Kahn (2000) hypothesized that educated couples are increasingly located in large metropolitan areas because it is easier to find two jobs commensurate with their skills in large labor markets. Compton and Pollak (2007), however, found no support for this

[5] The model found in Rammohan and Robertsen (2012) has similar traits.

co-location hypothesis. Instead, they found that the education of only the husband matters for location and that observed patterns are better explained by higher rates of power-couple formation in metropolitan areas. More recently, Compton and Pollak (2009) found that although most Americans live within 25 miles of their mothers, individuals with college degrees are much less likely to live with or near their mothers. They also found, in contrast to our results with Norwegian data, that married women in the United States live closer to their mothers, on average, than do married men.

Siblings and birth order may also affect location and proximity to parents. Brothers and sisters can share the burden of caring for elderly parents, but they may also be involved in a strategic struggle to avoid responsibility. Konrad et al. (2002) showed that older siblings in Germany move farther away from their parents than younger ones, even after the higher education and earnings of first-born children are controlled for. An explanation might be that older siblings, although concerned for their parents' well-being, are able to shift the burden of taking care of elderly parents to their younger siblings through their first-mover advantage in a location game. Rainer and Siedler (2009) found that it is not only the birth order of siblings that matters but also their presence: children with siblings move farther away from their parents than only children. Compton and Pollak (2009) also found that only children and first-born children are more likely to live near their mother in the United States.

Although the effects of child characteristics and parent characteristics on intergenerational proximity have been extensively studied, this outcome has not been studied for couples, with its implied conflicts. In this article, we examine the location decisions of a full population cohort of young couples who need to trade off not only the competing claims of one individual's family of origin and outside opportunities but also those of his or her spouse as well.

Location Choices of Young Adults in Norway: A First Look at the Data

Since 1950, Norway has experienced a slow process of urbanization, despite policy efforts to stem the flow and relatively low unemployment in rural as well as urban areas.[6] However, Norwegian society is not very mobile: individuals, particularly men, show a strong attachment to the communities where they lived as a child. The expected number of moves during a lifetime is 2 (compared with an estimated 4.4 lifetime moves in the United States; calculations based on the 2007 American Community Survey), and these moves occur rather early in life (Sørlie 2008). Statistics Norway has constructed mobility histories of five cohorts from age 15 until age 40 (Sørlie 2008) that document both residential stability and gender differences in mobility. At age 40, 70 % of Norwegian men and women are in the municipality in which they or their partner resided at age 15, and many of those who move remain very close to their original municipality. Women are much more likely than men to be in their partner's place of origin at age 40 (23 % vs. 15 %) rather than their own (47 % vs. 55 %).

Both employment opportunities and family ties are important as reported motivators for those who migrate between municipalities, although the relative significance of employment has declined over time. A 1972 survey found that labor market issues

[6] During the financial crisis of late 2009, Norwegian unemployment increased to only 3.1 %.

were reported by 37 % of migrants as the principal cause of relocation, and family ties were less important (13 %). In a recent survey, only 20 % of migrants cited labor market issues as the main motivator of relocation, compared with 27 % who specified family ties. A search for better housing conditions and quality of life are now cited more frequently than jobs as reasons for moving.[7]

In this study, using administrative registry data through 2006,[8] we follow a full cohort of Norwegian men and women born between 1967 and 1972 from age 20 to 34. Registry data permit us to link individuals with their spouse and with both sets of parents and to measure their distance from parents (from mothers if information on the father is not available or the parents live apart) each year.[9] Our measure of distance is a five-category variable, where 0 represents living in the same postcode (neighborhood) as parents, 1 is the same municipality (but different neighborhood), 2 is the same county (but different municipality), 3 is the same region (but different county), and 4 is farther away.

Norway is divided into five regions and 19 counties, and the counties contain 430 municipalities. Municipalities vary in size and population, with those in the sparsely populated North being larger in area and with smaller populations. Counties, with the exception of Oslo, are at least 4,000 square km, with an average area of 17,000 square km. Although Norway has a small population (4.6 million), it is a big country with a mountainous and fjord-riven terrain that produces long travel distances between population centers. Location decisions can have substantial consequences for the costs of spending time with family members. Visiting parents and friends who live in another major city can require air travel or a very long car ride: driving from Bergen (in the West) to Oslo (in the East) takes 7 to 8 hours on relatively bad mountain roads. Travelling by car from Kristiansand (on the southern tip of Norway) to Kirkenes (close to the Russian border, in the North) is a journey of approximately 3,000 km, which is a little less than the highway distance from Seattle to Chicago (or a flight from Madrid to Moscow).

The location decisions of young men and women in Norway are made in the context of a society that has emphasized gender equality and provided a comprehensive social safety net for its citizens. The labor market participation of women in Norway is very high; in 2005, 70 % of all women age 16–74 and 82 % of women age 25–54 were employed (Statistics Norway 2005). In addition, women are able to maintain consistent job attachment because of generous parental leave (46 weeks with full coverage, or 54 weeks with 80 % coverage) and the increased availability, over the last few decades, of high-quality childcare at subsidized prices. There has also been a substantial expansion in public nursing homes for the elderly (even though access is rationed), and this is likely to have reduced family responsibilities for eldercare, which are disproportionately borne by women. Thus, the employment opportunities of women may be relatively important in determining couple location in

[7] This breakdown of relocation motives is very similar to that in 2002–2003 Current Population Survey (CPS) data for the United States.

[8] See Møen et al. (2004) for an overview of the variables in the administrative data sets. Also see Online Resource 1 for a full description of the data and variable construction.

[9] Mothers are a natural choice of reference. First, the fathers may be missing from the register data, while mothers are always linked to the child at birth. Second, children mostly reside with mothers if parents divorce. Because only 7.69 % of parents were divorced by 1980, for most of our sample, parents are in the same distance category.

Norway, and publicly provided care for children and the elderly may have weakened the links between women and their mothers.[10] The Norwegian labor market is nevertheless marked by substantial gender differences: more than 40 % of women work part-time, and they tend to cluster in a few sectors of the economy, notably in nursing and education.

Among countries in the Organization for Economic Cooperation and Development (OECD), Norway's population is relatively rural, and this may be related to policy measures, such as heavy agricultural subsidies, intended to stem urbanization. Some tertiary training programs, such as nursing and teaching colleges, can be obtained across the country, but major universities are all located in the biggest cities (and are state run, without tuition fees). Many young people must therefore move considerable distances to obtain an education, and this may affect future location decisions.

The gender difference in mobility highlighted in the Statistics Norway study is reflected in our recent cohorts of young adults. Figure 1 shows the fraction of the total sample of men and women from the 1967–1972 birth cohorts (N = 417,590) in discrete categories of distance from parents at age 20 and at age 34. At age 20, most young men and women live relatively close to home, but men are more likely to live in the same neighborhood as their parents than are women. At age 34, men are more likely than women to live in the same neighborhood as their parents, and women are more likely than men to live in a different municipality or farther away. All differences shown in Fig. 1 are statistically significant.

Marriage and Location

Table 1 presents distance from parents and other characteristics for the 1967–1972 birth cohorts for men and women who were legally married by age 34 and for those who were unmarried. We can link individuals only if they are legally married. Although nonmarital cohabitation has increased in Norway,[11] almost all women who will eventually marry have married by age 34.[12] Most first births in Norway are to cohabiting couples, but most higher-order births occur within marriage (Perelli-Harris et al. 2012). Completed fertility in Norway is 1.9 children and has been fairly stable since the mid-1970s (Hoel 2009). The gender difference in distance from parents, albeit particularly pronounced for unmarried men and women, persists in the married sample. Married women, on average, live farther away from parents and are substantially less likely to live in the same neighborhood as their own parents than are married men. They are also much more likely to live in a different municipality or even a different county.[13]

[10] Konrad and Lommerud (1995) emphasized that in a model of a noncooperative family, public provision of childcare and eldercare can drive out corresponding services produced within the family, and this can increase women's labor supply and improve women's economic situation. Here we suggest another possible effect of public care provision: it may free the family to locate away from the grandparents on the female side, which might disadvantage women.

[11] By 2005–2007, about one in four couples were cohabiting rather than married legally.

[12] Statistics Norway estimated in 2002 that by age 50, about 37 % of men and 34 % of women remain unmarried. By age 34, 51 % of men and 39 % of women in our sample are not married. In our main analysis, we focus on married women by age 34 and their respective husbands (without age restriction). Thus, we include a large majority of married couples.

[13] Malberg and Pettersson (2007) found that adult children in Sweden who are female, well-educated, and childless are more likely to live in a different region than their elderly parents.

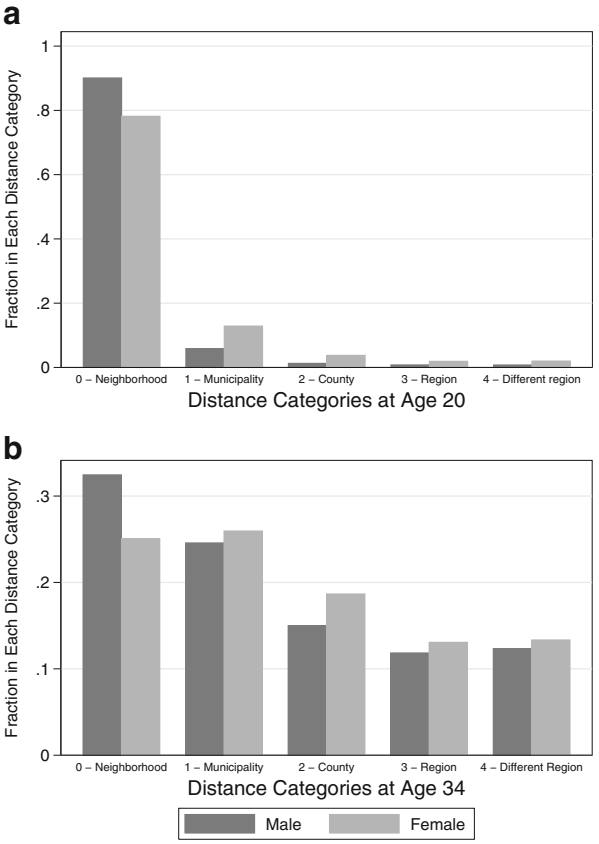

Fig. 1 Distance from parents at age 20 and age 34: Total 1967–1972 Norwegian birth cohorts

Because age at marriage is higher for men than women, married women in our sample are slightly more likely to have children by age 34 than are married men.[14] Women are more likely than men to have attended college, and this is consistent with overall gender differences in college attendance in Norway.[15] The average age at the completion of education is about 25 years.[16] Although men are less likely to attend college, their school completion is delayed by compulsory military service. These cohorts are more educated than their parents: only 17 % to 20 % of fathers and 9 % to 10 % of mothers of these young adults have attended college.

Considerable rural-urban migration is still occurring in Norway, and more than one-third of young adults in these cohorts whose parents were in a rural area when the child was age 20 are in urban locations by age 34. Married men and women have

[14] Registry data link children to their mothers, so the number of children for married men at age 34 is constructed by linking married men to their spouses. Because we cannot link unmarried men to their wives, we do not know whether they have children.

[15] Statistics Norway reports that 60 % of college attendees are female (Andreassen 2008).

[16] The data on age of completion of education also contain post-qualifying education, which drives up the average age. The majority of these cohorts do not attend college and will end their education at age 16 (with 9 years of education) or 19 (with 12 years of education).

Table 1 Distance from parents and descriptives for the 1967–1972 cohorts by marital status at age 34

	Married Men	Unmarried Men	Married Women	Unmarried Women
Distance From Parents at Age 34				
Average distance	1.53	1.38	1.62	1.63
Distance From Parents at Age 34 (%)				
0: Same neighborhood	.297	.370	.253	.271
1: Same municipality, different neighborhood	.265	.248	.274	.265
2: Same county, different municipality	.178	.138	.210	.173
3: Same region, different county	.126	.121	.131	.143
4: Different region	.134	.124	.133	.147
Individual and Family Characteristics				
Age at marriage	28.11	—	26.41	—
Have children by age 34	.78	—	.85	.52
Education				
Attended college	.35	.28	.43	.41
Age at completion of education	25.13	24.79	25.49	25.96
Mother attended college	.10	.09	.10	.09
Father attended college	.20	.17	.19	.17
Family size				
No siblings	.05	.06	.05	.06
1 sibling	.34	.36	.34	.37
2 or more siblings	.61	.58	.61	.57
Birth order				
Firstborn	.40	.40	.40	.39
Second born	.32	.31	.31	.32
Third born or later	.29	.29	.29	.29
Urban residence at age 34				
If rural origin (parents rural when child was age 20)	.368	.321	.386	.403
If urban origin	.963	.963	.951	.953
N	88,068	107,803	108,818	79,682

almost the same likelihood of migrating from rural to urban areas, but there is a large gender discrepancy in the mobility of the unmarried. While 32 % of unmarried men at age 34 with a rural origin move to an urban location, the same applies for about 40 % of unmarried women. This pattern is consistent with Edlund's (2005) finding that in most European and American countries, there is a surplus of young women in urban areas and a shortage of them in rural regions.

To investigate whether excess female distance at age 34 for the married sample is the consequence of early moves away from parents by young women (to distant colleges, for example, where they meet their eventual husbands), we also measured distance from parents during the final year of education for the individuals who are married by age 34. The location of the school is used as the cohort member's location because many students who are in fact resident at colleges will be registered at their parents' address. In Fig. 2, we see that at school completion, there is no excess female distance from parents. In fact, at school

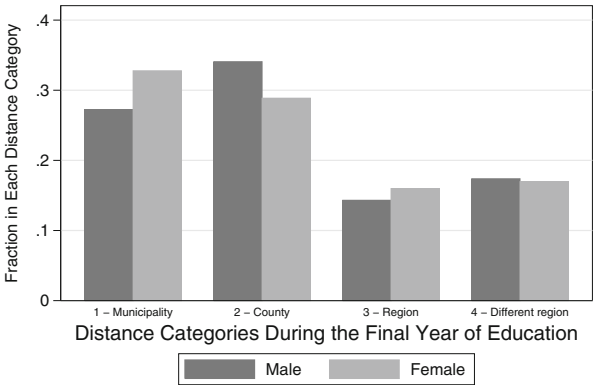

Fig. 2 Distance from parents during the final year of education: 1967–1972 Norwegian birth cohorts married by age 34

completion, females tend to live closer to parents than males do (more females in category 1 and more males in category 2), and there is no statistically significant gender difference in distance categories 3 and 4.[17]

Couples

We now focus on the joint location decisions of married couples: in particular, those couples for whom location presents a potential conflict (i.e., couples whose parents do not live near each other). We restrict the sample to women who are married at age 34[18] and link them to husbands with no restriction on his age. Most couples cohabit before marriage, and we use the postcode location of each partner to establish the year in which a particular couple probably began cohabiting. If cohabiting couples who never marry have preferences or opportunities that differ systematically from those of ever-married couples, then our results may not be representative of all coresidential couples. Table 2 shows parental distance and other characteristics for both the full sample of couples and the analysis sample of couples whose parents live in different municipalities.[19] Studying the average distance from parents at two points in time, during the year after beginning cohabitation and at age 34, shows a very similar pattern: wives live farther away from parents than do husbands. The gender difference in distance from parents persists within couples in both samples, and these differences in location are all statistically significant. The analysis sample of couples with parents who live in different municipalities and therefore have a potential location conflict (about 50 % of all couples) is, not surprisingly, more educated and more distant from parents than the full sample. This is a selected sample of couples who have married despite growing up far apart, and who are therefore likely to be more mobile and perhaps less attached to their parents than the average.

[17] Distance category 0 is unobserved because location of school is measured at the municipality level.

[18] This is because we can only follow the individuals to 2006, when our selected cohorts were 34–39. As shown herein, we include most of the first marriages by focusing on women married by age 34. We obtain very similar results if we construct the symmetric sample focusing on males married by age 34 and their wives.

[19] We have also defined this sample as couples with parents in different counties, and we get similar results.

Table 2 Distance from parents and descriptives for 1967–1972 cohorts of women and their husbands: Total sample and analysis sample with parents in different municipalities

	Total Sample			Parents Do Not Live in the Same Municipality		
	A Wife	B Husband	Diff. (A – B)	C Wife	D Husband	Diff. (C – D)
Distance From Parents When Wife Is Age 34 (%)						
0: Same neighborhood	.253	.319	–.066** (.002)	.149	.218	–.069** (.002)
1: Same municipality	.274	.259	.015** (.002)	.131	.140	.009** (.002)
2: Same county	.210	.178	.032** (.002)	.323	.270	.058** (.003)
3: Same region	.131	.119	.012** (.002)	.193	.180	.013** (.002)
4: Different region	.133	.126	.007** (.002)	.199	.191	.008** (.002)
Individual and Family Characteristics						
Age at marriage	26.43	29.33	−2.87** (.019)	26.76	29.12	−2.36** (.025)
Attended college	.428	.330	.098** (.002)	.482	.389	.093** (.003)
Mother attended college	.097	.088	.008** (.001)	.111	.107	.003† (.002)
Father attended college	.187	.177	.010** (.002)	.208	.206	.002 (.002)
No siblings	.049	.047	.002* (.001)	.046	.042	.003** (.001)
One sibling	.343	.310	.034** (.002)	.350	.320	.030** (.003)
Two or more siblings	.607	.643	–.036** (.002)	.604	.638	–.033** (.003)
Firstborn	.401	.377	.024** (.002)	.409	.403	.005† (.003)
Second born	.311	.320	–.009** (.002)	.314	.325	–.010** (.003)
Third born or later	.289	.304	–.015** (.002)	.277	.272	–.005† (.003)

† Significant at 10 %; *significant at 5 %; **significant at 1 %

Figure 3, panel a shows the relative distance to parents for these couples when the wife is age 34. The figure shows that more couples live closer to his parents than her parents: approximately 45 % of couples live relatively closer to his parents, 35 % are closer to her parents, and 20 % live in the same distance categories to both sets of parents. Panel b, which splits the sample by his college status, shows that the tendency to patrilocal residence choice is confined to the non-college-educated subsample. For couples in which the husband has attended college, there is no significant distance in relative distance to their respective parents. This result implies that education and labor market opportunities play a key role in couple location.

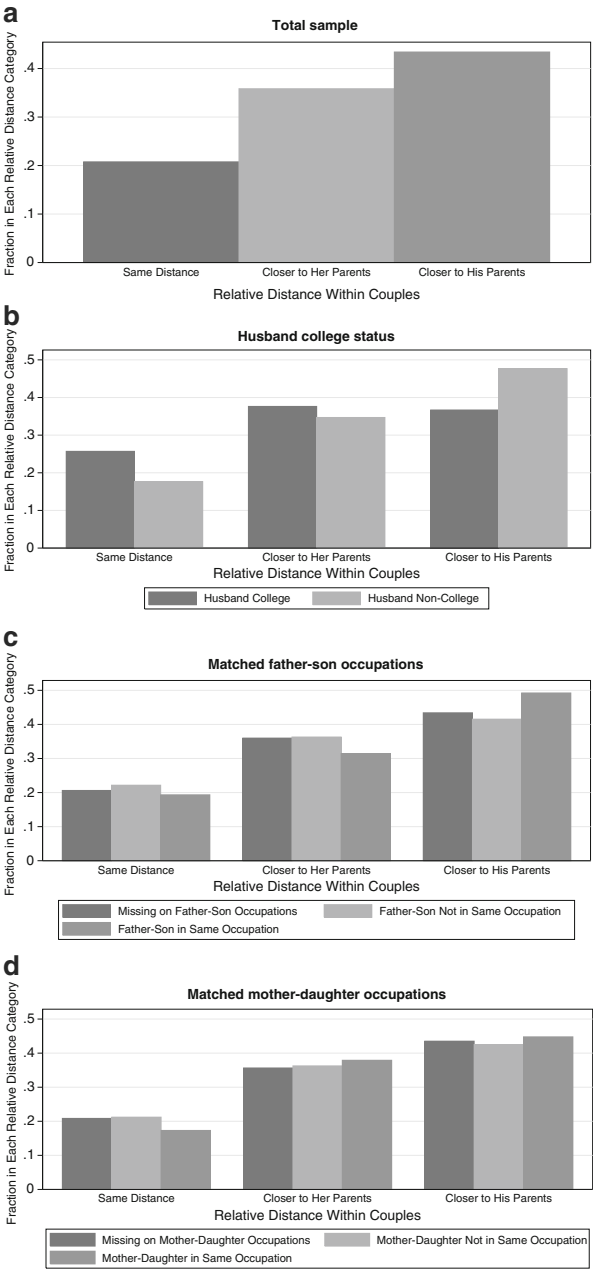

Fig. 3 Relative distance to parents when wife is aged 34 for 1967–1972 cohorts of married women and their husbands: Analysis sample with parents in different municipalities

Place or Parents?

Moving close to one's childhood home can offer two advantages: closer interaction with parents and access to other social ties, such as a network of old friends. For a subsample of individuals in the 1967–1972 birth cohorts, we can separate these

effects because parents have moved to another county after the child turned age 20 (5.4 % of the sample). We find evidence that the principal attraction is to the parents, although childhood home also matters. For women, 33 % live closer to their childhood home, and 46 % live closer to their parents. For men, the picture is roughly the same, but they are slightly more likely to live closer to their childhood home (38 %) and less likely to live closer to their parents (41 %). The gender difference is statistically significant. It is possible that the potential service exchange within the extended family is more valuable to women, while the social or occupational networks of men's original childhood place are more important.

A Model of Couple Location Decisions

Norway is a modern, postindustrial economy where young couples tend to establish independent households rather than coresiding with either set of parents. However, distance from parents may still influence employment opportunities, household resource flows, and intergenerational social interactions, and these factors must be taken into account when choosing place of residence. We outline a simple model of location choice and its testable implications, which are presented more formally in Løken et al. (2011).

First, we consider individual location choice and parental proximity. An agent chooses a location that maximizes his or her well-being, but individual well-being also depends on how his or her children and parents fare. We expect that location choices will often involve a tradeoff between employment opportunities and family ties. Location affects the agent's income—and therefore the consumption of private goods—because job opportunities vary across space, and pursuing them will often require moving away from home. Higher levels of education will increase expected distance from parents because the labor markets for more highly skilled jobs are geographically larger, and this education effect on distance may be larger if the parents are in a rural location, given that high-skill jobs are concentrated in urban areas. On the other hand, parental proximity may itself increase employment opportunities if parents provide access to job networks or to capital, such as a farm or family business. If this home networks effect is stronger for men than for women, then it may be the source of a patrilocal residence pattern.[20]

The well-being of children and parents will be enhanced by inputs of family time, affection, and other services. The cost of supplying these inputs will result from increasing distance from family members and will depend on family size and other characteristics. For example, geographic proximity to one's parents will reduce the cost of grandparent-provided care for one's children, or of providing help for parents as they age, but siblings may provide substitutes for both services and reduce the value of choosing a location close to parents.

In sum, we expect that the choice to live near or far from parents will depend on the individual's education, parental location, and family characteristics. Individuals

[20] Kramarz and Skans (2007) found that family networks have an important influence on the transition from school to work in Sweden, and particularly for less-educated men, who tend to follow their fathers into jobs.

may suffer an earnings penalty if they decide to stay close to home rather than go where the returns to one's human capital is highest, but we expect that such earnings penalties are higher for those with higher and more specialized education, and lower for those for whom "home" is in an urban area with a greater concentration of skilled jobs.

In general, we expect an individual to move far from his or her parents if the utility of the expected increase in income exceeds the value of the lost family services. With this simple picture of individual mobility, the probability of moving away will be a positive function of education and a negative function of the family services lost to moving, and the education effect will be larger if the parents are in a rural location.[21] The marginal value of family services lost because of distance will depend on family characteristics, such as family size and wealth,[22] and on the presence of young children in the household.

A two-person household consisting of a man and a woman whose parents live in different locations will face a joint location decision that consists of choosing among three locations: his home, her home, or away. The simplest way to think about a couple's joint location decision is in a unitary family framework in which the couple jointly maximizes a goal function subject to the family's pooled resource constraint. The family's goal function depends on his and her individual private well-being and the well-being of their children, but also on the well-being of both sets of parents. Both the husband's and wife's employment opportunities and family characteristics will affect their joint location decision.[23] Thus, the couple's distance to both sets of parents will be jointly determined, with the education of both partners pulling the couple outward, toward the principal urban centers, while each parental location exerts a gravitational pull whose force depends on the value of family exchanges and of local employment opportunities. The probability of living farther from her parents than from his will be increasing in her education and decreasing in his, increasing in his family services and decreasing in hers, increasing in his parent's urban location and decreasing in hers. If the relationship between education and earnings is identical for men and women, then the education effects on relative location will also be symmetric. However, because men tend to work more hours than women, men's education may have a greater weight in household income and, therefore, on location decisions. Similarly, if matrilineal ties across generations are closer, then the presence of children (and own-family characteristics) may exert a stronger pull toward the wife's family of origin.

As an alternative to this unitary model, we can treat joint location as a bargaining problem in which the husband and wife have different preferences (Lundberg and Pollak 1996): for example, each may have different levels of concern

[21] If the earnings returns to moving away are larger for rural-origin workers with low education as well as those with high education, then the probability of moving will also directly depend on parent's location.

[22] Family wealth would seem to have an ambiguous effect on location; greater parental resources increase the attractiveness of staying home near wealthy parents, but may also reduce the costs of distance by making travel and communication more economically feasible.

[23] For simplicity, we assume that the couple takes for granted the location of both sets of siblings, so strategic interaction among siblings is neglected. The formulation of the welfare function is general enough to include the possibility that an individual considers the utility a sibling gets from higher utility for common parents, but this is not our central focus

for one's own parents' well-being versus one's in-laws' well-being. We can treat the couple as though they are maximizing a weighted average of their individual utilities, wherein bargaining power decides how much his utility weighs relative to hers. We expect that one's own earnings potential or parental wealth are factors that help determine bargaining power also will affect relative distance from parents. Established gender roles that prescribe that his location preferences are more important than hers will, of course, also be a factor that shapes bargaining power. In this non-unitary framework, a patrilocal residential pattern may result from the greater bargaining power of husbands combined with a preference for locating close to one's own family, and could represent a form of geographic oppression of women.

If we assume that each partner prefers to locate closer to his or her own family, then the bargaining framework allows for some results that would be inconsistent with the unitary model. Given the evidence that mother-daughter ties in the provision of care services are stronger, for example, if we find that family characteristics have a stronger impact on proximity to his parents rather than hers, this may reflect the stronger influence of his preferences on a bargained outcome and the presence of skewed bargaining power. Similarly, if education brings individuals closer to his family of origin, rather than pushing the whole family farther away in pursuit of employment options, this may indicate that potential earnings are strengthening an individual's influence, relative to his spouse's, on joint location.

Results

The administrative registry data described in the third section can be used to explore the determinants of intergenerational residence patterns, including the relative distance from parents of young married couples. The effects of employment opportunities and family characteristics on distance from parents is examined here with two different empirical models: an ordered logit model of individual distance from parents for all married men and women in the birth cohorts 1967–1972, and a multinomial logit model of relative distance from parents for married couples whose parents live far apart.

We see the two empirical strategies as complements. The first investigates the determinants of distance to parents for individuals, with a focus on differences between men and women with the same characteristics. The second strategy investigates relative distance to parents for couples for whom location presents a potential conflict because his parents and her parents live far apart. By excluding couples whose parents live in the same municipality, we are left with a selected subsample of (possibly more mobile) young men and women. However, we can observe the decisions, conditional on parental location, of couples who need to balance competing demands for parental proximity.

Individual Distance to Parents

Table 3 reports the estimated coefficients from an ordered logit model of distance category from parents for the pooled population of married males

Table 3 Ordered logit model of distance from parents at age 34 (odds ratios): Married men and women from the 1967–1972 cohorts

	Full Sample	Married Women	Married Men
Female	1.164** (0.010)	—	—
College	1.651** (0.017)	1.412** (0.020)	2.031** (0.033)
Rural Origin	0.900** (0.012)	1.031† (0.019)	0.769** (0.015)
Rural × College-Educated	1.734** (0.037)	1.452** (0.040)	2.220** (0.074)
No Siblings (relative to two or more)	0.900** (0.021)	0.842** (0.025)	0.976 (0.034)
One Sibling (relative to two or more)	0.976* (0.010)	0.944** (0.013)	1.01 (0.016)
Firstborn (relative to third or later)	0.985 (0.012)	0.959* (0.016)	1.024 (0.019)
Second Born (relative to third or later)	1.003 (0.012)	0.989 (0.016)	1.024 (0.019)
No Children	1.589** (0.019)	1.664** (0.028)	1.523** (0.025)
Mother's Education (college)	1.283** (0.020)	1.310** (0.028)	1.240** (0.029)
Father's Education (college)	1.369** (0.017)	1.325** (0.022)	1.398** (0.026)
Age at Marriage	1.018** (0.001)	1.030** (0.002)	1.003 (0.002)
1968 (relative to 1967)	0.987 (0.014)	0.980 (0.019)	0.997 (0.0022)
1969 (relative to 1967)	0.965* (0.014)	0.934** (0.018)	1.007 (0.022)
1970 (relative to 1967)	0.942** (0.014)	0.905** (0.018)	0.990 (0.022)
1971 (relative to 1967)	0.928* (0.014)	0.892* (0.018)	0.978 (0.022)
1972 (relative to 1967)	0.908* (0.014)	0.847* (0.017)	0.989 (0.023)
N	176,442	98,048	78,394

Note: We report odds ratios that can be interpreted as follows: for a one-unit increase in explanatory variable x_k, the odds of a lower outcome compared with a higher outcome are changed by the factor $\exp(-\beta_k)$, holding all other variables constant.

†Significant at 10 %; *significant at 5 %; **significant at 1 %

and females from the 1967–1972 birth cohorts. We report odds ratios that can be interpreted as follows: for a one-unit increase in explanatory variable x_k, the odds of a lower outcome compared with a higher outcome are changed by the factor $\exp(-\beta_k)$, holding all other variables constant.

The first column shows that the gender effect on distance persists in a model with individual and family controls: the odds of living in farther distance categories from

parents at age 34 is 16 % larger for females than for males.[24] Also as expected, attending college drives a child away from parents, and this effect is even larger for the college-educated whose parents live in rural areas. For the non-college-educated group, however, rural parents are associated with greater proximity.

Family characteristics also matter. Having no siblings or one sibling (compared with two or more siblings) moves a child closer to parents, but there are few significant effects of birth order.[25] The odds of living in a farther distance category from parents are 60 % larger for couples with no children. This is consistent with the expectation that children increase the value of family connections and pull a child toward his or her parents. Having a college-educated mother or father also increases distance. This may be because parental wealth reduces the effective cost of maintaining family ties over longer distances; alternatively, parental education may be correlated with the completed education or professional qualifications of children and therefore with the returns to a central location.

Columns 2 and 3 show the distance model estimated separately by gender. The most interesting differences are in the effects of college attendance and rural-urban origin. Attending college increases parental distance more for men than for women, and the interaction effect of college and rural parents is also much larger for men. For the non-college-educated, rural parents increase distance for women and reduce distance for men. The relative immobility of non-college-educated, rural men is striking.

Table 4 reports the size of the gender effect alone for four separate ordered logits with the sample split by college attendance and rural-urban origin. This shows that the patrilocal residence pattern of young couples is driven solely by the non-college-educated group and especially by the non-college-educated group with rural parents. The odds of living in farther distance categories from parents at age 34 is 62 % larger for females than males in the non-college-educated and rural parents group and 32 % larger for the non-college-educated and urban parents group. In the college-educated samples, irrespective of rural-urban origin, there is a modest tendency toward matrilocality.

Given these results, it seems important to model the behavior of the college-educated and non-college-educated groups separately and examine how the determinants of parental distance vary between men and women. In Table 5, the ordered logit model is estimated separately for four groups: college-educated men, college-educated women, non-college-educated men, and non-college-educated women. For three of these groups, the effects of family characteristics on distance are very similar, but the determinants of distance for the male, non-college-educated group are very different—in some cases, different even in sign. Rural parents drive all women and college-educated men away from parents, but are associated with greater proximity for non-college-educated men. Also, having more siblings increases

[24] When we use earlier measures of distance to parents, such as year after cohabitation, the gender effect is even larger. Also, when we run the ordered logit without any individual or family controls, we obtain an almost identical gender coefficient.

[25] This is consistent with the findings of Rainer and Siedler (2009) and Compton and Pollak (2009). This result is not directly comparable with Konrad et al. (2002), who found that older siblings tend to move farther away from parents. The latter consider only the elder and younger sibling in two-children families, but we do not keep family size constant in this way.

Table 4 Ordered logit model of distance from parents at age 34: Odds ratios on female dummy subsamples of married men and women from the 1967–1972 cohorts, by education and urban/rural origin

	Female Dummy Variable	*N*
College-Educated/Urban Origin	0.911** (0.015)	54,105
College-Educated/Rural Origin	0.857** (0.025)	16,565
Non-College-Educated/Urban Origin	1.315** (0.017)	80,318
Non-College-Educated/Rural Origin	1.620** (0.039)	25,454

Notes: Dummy variables for number of siblings, birth order, children, mother's education, father's education, birth cohort, and age at marriage are included in all specification. We report odds ratios that can be interpreted as follows: for a unit increase in explanatory variable x_k, the odds of a lower outcome compared with a higher outcome are changed by the factor $\exp(-\beta_k)$, holding all other variables constant.

**Significant at 1 %

distance from parents for all women and for college-educated men, but siblings bring non-college-educated men closer to their family of origin. Birth order has few significant effects. The fact that men's family ties exert a stronger gravitational effect among the less-educated than do women's indicates that either family ties have a

Table 5 Ordered logit model of distance from parents at age 34 (odds ratios): Married men and women from the 1967–1972 cohorts, by education

	Married Women		Married Men	
	College-Educated	Non-College-Educated	College-Educated	Non-College-Educated
Rural Origin	1.444** (0.030)	1.044* (0.020)	1.615** (0.043)	0.781** (0.016)
No Siblings (relative to two or more)	0.812** (0.036)	0.871** (0.036)	0.832** (0.046)	1.082* (0.040)
One Sibling (relative to two or more)	0.923** (0.019)	0.963† (0.018)	0.939* (0.024)	1.060** (0.021)
Firstborn (relative to third or later)	0.922** (0.012)	0.992 (0.022)	1.002 (0.031)	1.028 (0.024)
Second Born (relative to third or later)	0.982 (0.025)	0.991 (0.021)	0.997 (0.032)	1.029 (0.023)
No Children	1.651** (0.038)	1.603** (0.041)	1.581** (0.040)	1.459** (0.032)
Mother's Education (college)	1.251** (0.031)	1.440** (0.062)	1.227** (0.035)	1.275** (0.052)
Father's Education (college)	1.245** (0.028)	1.239** (0.034)	1.301** (0.031)	1.522** (0.042)
N	42,476	55,572	28,194	50,200

Notes: Cohort dummy variables and age at marriage are included in all specifications. We report odds ratios that can be interpreted as follows: for a unit increase in explanatory variable x_k, the odds of a lower outcome compared with a higher outcome are changed by the factor $\exp(-\beta_k)$, holding all other variables constant.

†Significant at 10 %; *significant at 5 %; **significant at 1 %

different impact on couple well-being for this group, or that men's preferences for family proximity have more influence on the couple's location decisions.

These results help us to establish a robust first finding. On average, married men in Norway live much closer to their parents than do married women, and this difference is present at all stages in a couple's early location decisions through age 34.[26] This difference is not explained by other observed characteristics, but allowing for heterogeneous gender effects shows that this apparent patrilocality is limited to the subpopulation who have not attended college.

Relative Distance to Parents for Couples

We turn now to a within-couple estimation in which we examine the effects of both partners' characteristics on their relative distances to his and her parents. We restrict attention to couples who have a potential geographical conflict so that couples in which both sets of parents live in the same postcode are excluded. This means that our estimates are conditional on parent's location, and thus on the matching of husbands and wives. Our basic specification is a multinomial logit model in which the base outcome is that couples live equally distant (i.e., in the same distance category) from his parents and her parents, and the alternatives are that the couple lives farther from her parents than from his parents or that the couple lives farther from his parents than from hers. More specifically, we have the following multinomial logit model:

$$\ln\ \Omega_{m|b}(x) = \ln \frac{\Pr(y = m|x)}{\Pr(y = b|x)} = x\beta_{m|b} \text{ for } m = 1, 2, \tag{1}$$

where b is the base outcome and m = 1,2 are the alternative outcomes. We compute marginal effects of each covariate evaluated at the mean of all the other variables. A Hausman test of independence of irrelevant alternatives comparing the three-outcome full model with restricted models fails to reject independence.

Marginal effects from the multinominal logit model, evaluated at the means of the independent variables, are reported in Table 6.[27] Education, rural origin, family size, and the presence of children all have substantial and significant effects on relative location; and the results are, for the most part, consistent with those of the individual distance models. College attendance by either the husband or the wife is associated with the couple being less likely to live closer to own parents, relative to the same distance or closer to spouse's parents, but the effects of husband's education are several times larger than the effects of wife's education. An urban-origin woman who has attended college is 1.9 % less likely to live close to her parents than one who has not, but an urban-origin man who has attended college is 8.1 % less likely to live closer to his parents. The interaction effects between college and rural parents reinforce this contrast: college has a stronger distancing effect from rural parents, and the size of this effect is much stronger for husbands. For the non-college-

[26] Estimates at different life cycle points yield similar results. The gender differences are largest during the year after cohabitation.

[27] We obtain very similar results when estimating the same models with distance measured at year after cohabitation and year after having first child as the dependent variables.

Table 6 Multinomial logit model of couple's relative distance from parents: Married women from the 1967–1972 cohorts at age 34 and their husbands (marginal effects)

		Same Distance (base outcome)	Closer to Her Parents	Closer to His Parents
College-Educated	Wife	.016**	–.019**	.003
		(.005)	(.006)	(.006)
	Husband	.042**	.039**	–.081**
		(.005)	(.006)	(.006)
Rural Origin	Wife	–.006	–.121**	.127**
		(.007)	(.007)	(.008)
	Husband	–.016*	.084**	–.068**
		(.006)	(.008)	(.007)
Rural Origin × College-Educated	Wife	.037**	–.029**	–.008
		(.010)	(.011)	(.011)
	Husband	.065**	.032**	–.097**
		(.010)	(.011)	(.011)
No Siblings (relative to two or more)	Wife	.005	.069**	–.073**
		(.010)	(.012)	(.012)
	Husband	–.014	–.070**	.084**
		(.010)	(.012)	(.013)
One Sibling (relative to two or more)	Wife	–.004	.027**	–.023**
		(.005)	(.006)	(.006)
	Husband	.005	–.033**	.027**
		(.005)	(.006)	(.006)
Firstborn (relative to third or later)	Wife	.002	.014*	–.015*
		(.006)	(.007)	(.007)
	Husband	–.001	.003	–.003
		(.005)	(.006)	(.007)
Second Born (relative to third or later)	Wife	.003	.002	–.005
		(.006)	(.007)	(.007)
	Husband	–.005	.011*	–.006
		(.005)	(.006)	(.007)
No Children		.046**	–.018**	–.029**
		(.006)	(.007)	(.007)
Mother's Education	Wife	.018**	.005	–.023**
		(.007)	(.008)	(.008)
	Husband	.014**	–.019*	.006
		(.007)	(.008)	(.009)
Father's Education	Wife	.008	.000	–.009
		(.005)	(.006)	(.007)
	Husband	.016**	.011†	–.027**
		(.005)	(.006)	(.007)

Notes: $N = 46{,}100$ couples. Controls for wife's and husband's birth cohort and age at marriage are included in all specifications.

†Significant at 10 %; *significant at 5 %; **significant at 1 %

educated sample, rural parents have a distancing effect; if both spouses are of rural origin, however, the couple will tend to live closer to his parents.

Family ties have effects on relative distance that are consistent with the individual distance results. Couples with children are more likely to live either closer to his parents or closer to hers, relative to living the same distance away. His and her number of siblings also exhibit roughly symmetric effects on relative distance: if she has fewer siblings, the couple lives closer to her parents; if he has fewer siblings, the couple lives closer to his parents.

We know from previous results that the gender difference in distance to parents is particularly pronounced in the non-college-educated group and that the determinants of individual distance from parents are distinctly different for less-educated men. We therefore estimate the relative distance model separately for samples in which the husband has attended college (see the results presented in Online Resource 1).[28] In the individual distance model, we find that family ties, measured by number of siblings, have a different effect on location for non-college-educated men than for women or college-educated men. For this group, having more siblings reduced, rather than increased, distance from parents, and we speculated that family and social networks may be of higher value to non-college-educated men. In the relative distance model, we find that a couple tends to locate closer to the parents of the partner with few siblings, although the effect of siblings for non-college-educated men is much smaller (one-half the size) than for college-educated men. A possible explanation is that men who place a higher value on family and local social ties are also more likely to marry a hometown girl and thus to be excluded from the relative distance sample.

Both the individual distance model and the relative couple distance model confirm the basic patrilocality result. Married couples move closer to his parents, a finding that is basically driven by the non-college-educated group. Having more siblings is a much stronger push factor away from his parents for couples with a college-educated male than for those with a non-college-educated male. Because patrilocality seems to be so closely associated with the families of the non-college-educated men, especially for those with rural parents, it is possible that father-son economic ties are stronger for this group. We turn to this question in the final section of this article.

Robustness Tests

We estimated a number of alternative specifications of our model (results available upon request). Different sets of controls do not affect any of the main results on patrilocality and the importance of family ties. For example, including a dummy variable for whether your parents work in agriculture (which is a proxy for whether your parents own a farm) does not affect the results, nor does the inclusion of dummy variables for agricultural employment for husband or wife. The exclusion of some counties that are likely to have distinct individual migration and couple location patterns (such as Oslo, which is the capital and is both a municipality and a county, or the three northern counties that have experienced substantial outmigration) also does not affect our results.

[28] The results are evaluated at the mean of the independent variables for the two groups separately. However, they are roughly comparable: we tested the effects for the two groups while giving them the characteristics of the other group, and this does not significantly change the coefficients.

Discussion and Further Analysis

One possible explanation for excess female distance from parents among married couples could be that the husband's labor market prospects dominate the location decision of married couples, and that local social networks and family ties are particularly important for the job opportunities of less-educated men.[29] The gender asymmetry in this story requires either that more weight be placed on male employment prospects than those of the wife, or that family ties are more important in men's job placement. In the latter case, this effect may be more pronounced for men who work in male-dominated occupations, where they are likely to follow their fathers into work in a particular industry or even for a particular employer. Alternatively, a son may join and later inherit his father's business; farming is one example in which this is common.

The Living and Moving Survey asks whether the respondent's family owns "productive capital," which includes farms, fishing vessels, and various small businesses. Of all respondents, 14 % answer yes to this question; this percentage is slightly higher for men than for women. The importance of productive capital is higher in more peripheral areas, where 27 % report that they own such capital; among people living in the periphery and who never moved, the figure increases to 37 %. Formally, men and women have the same inheritance rights to this type of capital, but if men are more likely to take over and utilize these assets, this may explain why rural, less-educated men seem to be more tied to their place of origin than other groups.

For about 30 % of our observations, an individual's occupation can be matched with parental occupations.[30] We can test the family employment ties hypothesis by comparing the gender differences in location when the son is (or is not) in the same occupation as his father and when the daughter is (or is not) in the same occupation as her mother. We separate the sample into male-dominated occupations (managers, agriculture/fishery/forestry, industry, and crafts) and female-dominated occupations (health, services, and office workers) and compare relative distance to parents for three groups: same-sex parent and child are in the same occupation, not in the same occupation, or occupation is missing.[31] Panel c in Fig. 3 shows that for all three father-son groups, couples are more likely to live closer to his parents, but the difference is much larger for couples when the father and son are in the same occupation. For this subsample, nearly 50 % of couples live relatively closer to his parents, and 30 % live relatively closer to her parents. For the two other groups, these proportions are approximately 40 % and 35 %, respectively. As shown in panel d, in the three groups based on mother-daughter occupational ties, more couples live closer to his parents, but there are no significant differences across subsamples.

Table 7 shows the results of the multinomial logit model for relative distances. Model 1 shows that a father and son in same male-dominated occupation is positively

[29] This would be consistent with the Swedish school-to-work transition results of Kramarz and Skans (2007) and also the findings of Sørlie (2008).

[30] Unfortunately, we do not have data on occupations for everyone, especially parents. We tested whether this is a highly selected sample and found that the gender results and the characteristics of distances are very similar to the results for the total sample.

[31] This classification is based on registry data for the total sample of 1967–1972 cohorts and group occupations according to whether the occupation has more than 75 % of either males or females. The occupation data do not distinguish between types of jobs within the different occupations.

Table 7 Effect of father-son occupational match on relative distance from parents for married women from the 1967–1972 cohorts at age 34 and their husbands, with father-son occupations nonmissing: Multinomial logit (marginal effects)

	Same Distance (base outcome)	Closer to Her Parents	Closer to His Parents
Model 1			
Father-son in same occupation (same)	–.012	–.051**	.063**
	(.011)	(.013)	(.013)
Model 2			
Same	–.007	–.033*	.040*
	(.015)	(.017)	(.018)
Same × Rural origin	.015	–.107**	.093**
	(.029)	(.028)	(.035)
Same × College-educated	–.024	.010	.014
	(.022)	(.028)	(.029)

Note: N = 7,972 couples. Dummy variables for both her and his number of siblings, birth order, children, mother's education, father's education, birth cohort, and age at marriage are included in all specifications.
*Significant at 5 %; **significant at 1 %

associated with a couple location that is closer to his parents. Interacting the father-son dummy variable with rural origin and college status (Model 2), we find that this is mainly driven by father-son occupational ties when the parents are rural, suggesting that agriculture and resource-based industries account for much of this effect. Mother-daughter occupational ties have no significant effect on individual or couple location patterns.

We need to interpret these last findings with care because location choices could be driving occupational continuities between father and son, rather than the reverse. For example, if men's preferences for proximity to family and friends dominate those of women, this may explain why rural and non-college-educated men find jobs close to their place of origin, and these are likely to be in their fathers' occupations. Pettersson and Malmberg (2009) found that "moving home" to a rural area (and close to an elderly father) is a common feature of migration patterns in Sweden, and they suggested that this may be a remnant of a patrilocal tradition. The father-son occupational ties that we observe in the Norwegian data suggest that family and employment networks interact in shaping preferences for place of residence. Knoef and Kooreman (2011) suggested that young rural Norwegian men build masculine identities in which hunting, outdoor life, and handyman skills are important, and that this identity in turn fosters loyalty to place. Such identity formation interacts with ownership of farms and other types of rural productive capital, yielding a location pattern in which rural, less-educated men are strongly tied to their place of origin, relative to women and to college-educated men.[32]

In conclusion, we find that in Norway, there is a strong pattern of patrilocality in the location decisions of young married couples, who are more likely to live closer to his parents than to her parents. This pattern is pronounced for husbands who have not attended college and whose parents live in a rural

[32] One consequence of this tie may be limited marriage opportunities. We find that men in rural areas marry women with slightly lower levels of education than men in urban areas, conditional on their own education.

location. We also find some evidence that family ties, in the form of siblings, play a very different role for non-college-educated males than the other groups. Having siblings is associated with greater distance from parents for the college-educated and for all women, but not for non-college-educated married men. Family ties may interact with the local employment networks: we find that couples in which the male works in the same male-dominated occupation as his father tend to live near his parents, although no such pattern is evident for women's occupations. Despite evidence that intergenerational resource flows (such as childcare and eldercare) are particularly important between women and their parents, the family connections of husbands appear to dominate the location decisions of less-educated married couples.

Acknowledgments We thank Gordon Dahl, Kjell Salvanes, and participants at a workshop at the University of Michigan (2009), a seminar at the University of Bergen (2009), and a workshop on Taxation and the Family in Munich (2010) for valuable comments. Løken and Lommerud thank the Research Council of Norway for financial support. Lundberg is grateful for financial support from the Castor Professorship in Economics at the University of Washington.

References

Andreassen, K. (2008). *Cohabitation 2008*. Oslo: Statistics Norway.

Baker, M. J., & Jacobsen, J. P. (2007). A human capital-based theory of postmarital residence rules. *Journal of Law, Economics, and Organization, 23,* 208–241.

Bordone, V. (2009). Contact and proximity of older people to their adult children: A comparison between Italy and Sweden. *Population, Space and Place, 15,* 359–380.

Chiuri, M. C., & Del Boca, D. (2010). Home-leaving decisions of daughters and sons. *Review of Economics of the Household, 8,* 398–408.

Compton, J., & Pollak, R. A. (2007). Why are power couples increasingly concentrated in large metropolitan areas? *Journal of Labor Economics, 25,* 475–512.

Compton, J., & Pollak, R. A. (2009). *Proximity and coresidence of adult children and their parents: Description and correlates* (Michigan Retirement Research Center Working Paper wp215). Ann Arbor: University of Michigan.

Costa, D. L., & Kahn, M. E. (2000). Power couples: Changes in the locational choice of the college educated, 1940–1990. *Quarterly Journal of Economics, 115,* 1287–1315.

Cox, D. (2003). Private transfers within the family: Mothers, fathers, sons and daughters. In A. Munnell & A. Sunden (Eds.), *Death and dollars: The role of gifts and bequests in America* (pp. 168–209). Washington, DC: Brookings Institution Press.

Edlund, L. (2005). Sex and the city. *Scandinavian Journal of Economics, 107,* 25–44.

Egerbladh, I., Kasakoff, A. B., & Adams, J. W. (2007). Gender differences in the dispersal of children in northern Sweden and the northern USA in 1850. *The History of the Family, 12,* 2–18.

Greenwell, L., & Bengtson, V. L. (1997). Geographic distance and contact between middle-aged children and their parents: The effects of social class over 20 years. *Journals of Gerontology: Series B, 52,* S13–S16.

Hank, K. (2007). Proximity and contacts between older parents and their children: A European comparison. *Journal of Marriage and Family, 69,* 157–173.

Hoel, E. (2009). *Population statistics. Births. 2009*. Oslo: Statistics Norway.

Iacovou, M. (2001). *Leaving home in the European Union* (ISER WP 2001–18). Essex, UK: Institute for Social and Economic Research.

Jacoby, H. G., & Mansuri, G. (2010). Watta satta: Bride exchange and women's welfare in rural Pakistan. *American Economic Review, 100,* 1804.

Knoef, M., & Kooreman, P. (2011). *The effects of cooperation: A structural model of siblings' caregiving interactions* (IZA Discussion Papers No. 5733). Bonn, Germany: Institute for the Study of Labor.

Konrad, K. A., Kunemund, H., Lommerud, K. E., & Robledo, J. R. (2002). Geography of the family. *American Economic Review, 92,* 981–998.

Konrad, K. A., & Lommerud, K. E. (1995). Family policy with non-cooperative families. *Scandinavian Journal of Economics, 97,* 581–601.

Kramarz, F., & Skans, O. N. (2007). *With a little help from my . . . parents? Family networks and youth labor market entry* (CREST Working Paper). Malakoff, France: Center for Research in Economics and Statistics.

Lawton, L., Silverstein, M., & Bengtson, V. (1994). Affection, social contact, and geographic distance between adult children and their parents. *Journal of Marriage and the Family, 56,* 57–68.

Leonetti, D. L., Nath, D. C., & Hemam, N. S. (2007). The behavioral ecology of family planning in two ethnic groups in N.E. India. *Human Nature, 18,* 225–241.

Løken, K. V., Lommerud, K. E., & Lundberg, S. (2011). *Your place or mine? On the residence choice of young couples in Norway* (IZA Discussion Paper No. 5685). Bonn, Germany: Institute for the Study of Labor.

Lundberg, S., & Pollak, R. A. (1996). Bargaining and distribution in marriage. *Journal of Economic Perspectives*, 139–158.

Malmberg, G., & Pettersson, A. (2007). Distance to old parents. *Demographic Research, 17*(article 23), 679–704. doi:10.4054/DemRes.2007.17.23

McElroy, M. B. (1985). The joint determination of household membership and market work: The case of young men. *Journal of Labor Economics, 3,* 293–316.

Mincer, J. (1978). Family migration decisions. *Journal of Political Economy, 86,* 749–773.

Møen, J., Salvanes, K., & Sørensen, E. (2004). *Documentation of the linked employer-employee data base at the Norwegian School of Economics and Business Administration*. Unpublished manuscript, Norwegian School of Economics, Bergen, Norway.

Murdock, G. P. (1967). *Ethnographic atlas*. Pittsburgh, PA: University of Pittsburgh Press.

Perelli-Harris, B., Kreyenfeld, M., Sigle-Rushton, W., Keizer, R., Lappegård, T., Jasiloniene, A., . . . DeGuilio, P. (2012). Changes in union status during the transition to parenthood in eleven European countries, 1970s to early 2000s. *Population Studies, 66,* 167–182.

Pettersson, A., & Malmberg, G. (2009). Adult children and elderly parents as mobility attractions in Sweden. *Population, Space and Place, 15,* 343–357.

Rainer, H., & Siedler, T. (2009). O brother, where art thou? The effects of having a sibling on geographic mobility and labour market outcomes. *Economica, 76,* 528–556.

Rainer, H., & Siedler, T. (2012). Family location and caregiving patterns from an international perspective. *Population and Development Review, 38,* 337–351. doi:10.1111/j.1728-4457.2012.00495.x

Rammohan, A., & Robertsen, P. E. (2012). Human capital, kinship, and gender inequality. *Oxford Economic Papers, 64,* 417–438.

Rosenzweig, M. R., & Stark, O. (1989). Consumption smoothing, migration, and marriage: Evidence from rural India. *Journal of Political Economy, 97,* 905–926.

Sørlie, K. (2008). *Bo- og Flyttemotivundersøkelsen 2008 [Living and Moving Survey 2008]*. Oslo, Norway: Presented at Demografisk Forum.

Statistics Norway. (2005). *Statistisk årbok, 2005*. Oslo: Statistics Norway.

Sweetser, D. A. (1963). Asymmetry in intergenerational family relationships. *Social Forces, 41,* 346–352.