Couple co-location constraints, job market outcomes, and migration decisions among new doctoral-level economists

Brooke Helppie and Marta Murray-Close*

March 13, 2009

Couples who live together must agree on a location. Partners may disagree, however, about the best place to live and the location a couple chooses may be sub-optimal from the perspective of one or both partners. Mincer (1978) posits that conflicts over location most often reflect the geographic dispersion of job opportunities and that co-location constraints are of particular concern for dual-career couples – especially couples in which both parthers are career-oriented. He assumes that, when the preferences of the partners diverge, couples move to the location that maximizes their joint welfare.

Implicit in Mincer's analysis is an assumption that the career opportunities of men and women receive equal weight in the migration decisions of couples. Empirical studies of couple migration, however, have produced considerable evidence that migration and mobility benefit husbands and harm wives, even after accounting to observable differences in human capital between men and women.

In this paper, we use data from a unique survey of new economists – all of whom have invested heavily in their human capital, nearly all of whom will move for their first job, and many of whom have highly educated partners – too assess the severity and impact of the co-location problem among job seekers for whom it is likely to be especially severe. The survey combines information about the demographic characteristics, educational and professional accomplishments, and job market experiences of recent graduates of doctoral programs in economics with detailed information about their partners. The survey also includes direct questions about the co-location constraints facing new economists and the responses of the economists to those constraints.

We find, as expected, that co-location constraints influence the decisions of new economists about where to live and work. A small number of job candidates reject their first-choice job offer in order to accommodate their partners and,

*Department of Economics, University of Michigan

on average, accept jobs they view as less prestigious and less suited to their intellectual preferences. At the same time, compromise with respect to job opportunities is not common. Rather than forgo career advancement, a sizeable minority of job candidates adjust along a margin Mincer never considered: They live in difference places and commute to see one another. We do not find evidence that women are more likely than men to sacrifice their best job opportunities on behalf of their partners, or that women are more likley to live apart from their partners. We find tentative evidence, however, that the circumstances under which job candidates accommodate their partners differ by gender.

1 Literature review

The discussion of migration as a family decision, as opposed to an individual decision, entered mainstream economics in the late 1970s (Mincer, 1978; Sandell, 1977). The most-cited of these models was put forth by Jacob Mincer in his 1978 article in the Journal of Political Economy, called "Family Migration Decisions."

The Mincer model posits that individuals consider total family gains when deciding whether, or where, to migrate. A couple's[1] gain from migration to a particular location is the sum of each partner's individual gain in utility, including both monetary and non-monetary factors, compared to any other location. A couple should move if there is a net gain from moving.

Our paper focuses on new Ph.D. economists, and migration is the norm for those making the transition from graduate student to Ph.D. economist (McKinnish, 2008). For the purposes of this paper, we shall assume that the net gains from moving are generally positive, because the first job out of graduate school is often a major determinant of an individual's long term career path. Therefore, we will focus on understanding couples' choices between different locations, as opposed to the decision to move at all. When choosing between various locations, the Mincer model asserts that a couple should choose the location which results in the highest net gain from the move.

Tied migration takes place when a couple moves to a location that is suboptimal, from an individual perspective, for at least one partner. The Mincer model predicts that, even for an individual whose potential gains from a move outweigh those of their partner, having a partner results in a smaller average gain from migration than that individual's optimal gain. That is, even in a couple where one partner's career interests dominate those of the other, each partner is likely to be "tied," to some degree, by the other.

A couple's "migration tie" is the sum of losses to both partners when the highest net gain location is chosen, compared to the individuals' separately optimal

[1] For simplicity, this discussion, like Mincer's original model, will abstract from situations involving school-age children. The effect of the presence of children is outside the scope of this paper.

locations. Both partners can be tied movers, meaning that a couple's chosen location need not coincide with either individual's optimal location. In many respects, couples can be expected to have common preferences over location characteristics such as region, presence of mountains or oceans, proximity to family or friends, or place size. However, particularly in the case of dual-career couples, the best option for each partner's career often differs from that which is best for the other partner. Thus, dual-career couples are likely to experience migration ties.

The probability of existence of a migration tie, as well as its magnitude, is likely to increase as a partner's preferences over job choices become less positively correlated with those of the other partner. Single-career couples need only consider the career options of one partner and the location preferences of both partners, while dual-career couples must also consider career preferences of a second partner. We expect dual-career couples to face more, and larger, ties compared to single-career couples because their career options are unlikely to be perfectly correlated over locations. Dual-career couples are therefore more likely than single-career couples to choose locations that are not individually optimal for both members of the couple.

As specialization in education or training increases, according to the Mincer model, there is likely to be more variability in gains from moving among a particular set of locations. The size of migration ties is therefore likely to be greater for individuals who face greater location constraints in their careers. Our paper uses data from a survey of a population with a very high degree of human capital attainment and specialization, and the career options of individuals in our sample vary greatly across locations. The Mincer model predicts that individuals like those in this population who want to live with their partners will often choose to move to locations that are not individually-optimal, especially as the degree of location constraint of their partners increases. Another implication of this model is that large cities would be disproportionately favored by dual-career couples facing large and variable potential migration ties, because such cities are likely to offer a greater concentration of job options for highly educated individuals.

Couple Migration

Since the 1970s, dozens of researchers have set out to test the implications of the Mincer model.[2] Most researchers have focused on quantifying the effects of migration on husbands versus wives. Mincer expected that wives, because they were generally lower-skill and less attached to the labor market, were more likely to be tied movers than were husbands. The model predicts that tied individuals' career outcomes, including wages, employment status, and career trajectory, will be worse than if they were not tied. His empirical analysis supported his theoretical framework.

[2] For a comprehensive recent literature review, see McKinnish (2008).

Disparities in labor force participation rates and human capital investment between the sexes have declined since the 1970s. The Mincer model, which does not discuss gender roles or power balance within couples, predicts that families will weigh the careers of both partners equally in location decision-making. That is, a couple is assumed to consider the value of each partner's potential earnings, properly discounted to account for the value of expected future job market participation, in the migration decision.

A small subset of papers examining couple migration has found evidence that women's potential wage gains are equally weighted in the migration decision (Rabe, 2006; Jacobsen and Levin, 2000).[3] However, most existing studies have found evidence that couples are significantly more likely to move for a husband's job than for a wife's; many have found signals that women are more tied movers—lower employment rates, wages and labor force participation in their new locations, compared to better labor market outcomes for their husbands (Lichter, 1980; Bailey and Cooke, 1998; Cooke, 2001; Jacobsen and Levin, 1997; McKinnish, 2008; Sandell, 1977; Shauman and Noonan, 2007; Shihadeh, 1991; and many others).

Some of these studies attempted to isolate the effects of tied migration by comparing tied movers' employment outcomes with these individuals' own employment histories or with observably similar non-moving couples. However, comparisons of moving couples with non-moving couples (especially in datasets like the Census, which lack a rich set of covariates) likely suffer from biases due to unobservable differences between moving couples and non-moving couples. Furthermore, the studies that avoid this issue by using individuals' employment histories to estimate potential earnings (Cooke, 2001; Jacobsen and Levin, 1997) still fail to account for different career/earnings trajectories of men versus women, and measurement error may also be an important source of bias.

A few recent papers have begun to focus more on the effects of human capital differences, and whether husbands' careers still drive migration decisions after controlling for education (Compton and Pollak, 2007) and occupation (McKinnish, 2008; Shauman and Noonan, 2007). These studies also are not able to fully explain the differences between husbands and wives in migration decisions and labor market outcomes. As with much of the other tied migration literature, their findings suggest that couples are more likely to move for gains in husbands' careers than gains in wives' careers. However, they are unable to control directly for the reason of a couple's move, relying instead on the relationship between partners' characteristics (education or earnings, respectively) and moving. A strength of our paper is that we understand the impetus for most couples to consider moving (one partner is finishing their Ph.D.), and we have much more information about the actual career prospects partners face than any previous study.

[3] However, Rabe (2006) also found negative employment effects for wives in the new location.

Gender Roles

The dual-career migration problem has increased in importance as the labor force attachment of women has grown. Although the labor force participation of women has become more similar to that of men over time (Blau and Kahn, 2007), large differences in expectations about their roles in the home are still prevalent, and the impact of family status and opinions about the roles of women are still strongly related to labor force participation and the gender pay gap (Fortin, 2005).

Competing with Mincer's theory, especially given the unexplained gender differences found in much of the related empirical work, is research that has shown that gender ideology and gender roles may impact migration decision-making. One paper with a particularly illustrative title, "I Will Follow Him: Family Ties, Gender-Role Beliefs, and Reluctance to Relocate for a Better Job" (Bielby and Bielby, 1992) found that traditional gender ideology is associated with men putting their own interests first, while women are more likely to consider the well-being of the family as a whole. Even controlling for human capital investment, women have explicitly communicated less willingness than men to initiate a move for better career prospects (Bielby and Bielby, 1992). Shauman and Noonan (2007), examining data through 1990, find support for the traditional gender-role explanations for differences in migration outcomes between the sexes, even after controlling for levels of human capital investment. Thus, socio-cultural norms may also be playing a key role in generating the gender-career patterns we see in academia today.

The proportions of women in academia, and particularly in economics, are not reflective of the proportion of women in the population as a whole, or even of the Ph.D.-holding population. This is therefore a population in which it would be logical to test for gender differences in migration and general career decisions. Aside from socio-cultural norms that may be playing a key role in generating differing gender-career patterns, an alternative possibility is that migration ties are more severe for couples with at least one member in academia. This may be related to any gender differences that we observe, because Ph.D. women are more likely than Ph.D. men to be partnered with another Ph.D. holder, one possible Mincer-consistent explanation for women having lower tenure rates in economics is that ties for Ph.D. women are larger, on average, than those for men.

Thus, our study represents yet another attempt to isolate and measure the extent to which dual-earner migration patterns are due purely to differences in career potential. Because we use a population in which both men and women display high labor force attachment and have equally high and specialized human capital attainment, we have a unique opportunity to try to separately identify gender effects from the impact of purely career-related location constraints.

Contribution to the literature

Prior research on couple migration has faced challenges due to low migration rates in survey data, measurement of career potential and mobility, and an inability to control for unobservable differences between movers and non-movers. Our study uses data that give us several advantages over previous research for testing the Mincer model. At the root of these advantages is that our entire sample was participating in the same job market in winter 2008. Men and women in this market have nearly-identical stocks of human capital (Ph.D.s in economics) and are highly attached to the labor force, so we expect their potential earnings to be extremely comparable. Furthermore, all of our respondents have few to no career options in most locations, so they expect to move. Also, the career options this population faces are highly variable in quality, so migration ties might be particularly binding.

2 Data

Overview

This paper is an early product of a new survey project that collects data relevant to questions of gender and migration causes and outcomes. We field unique surveys about a population with extremely high human capital investments. In particular, this project focuses on the early career decisions and outcomes of doctoral-level economists on the junior Ph.D. job market[4]; this paper uses data from the 2007-08 cohort of job seekers.

Several characteristics of this population, and of the junior Ph.D. market for economists, make new economists a good population in which to study couple migration and the associated problem of co-location. These are described in detail below. We then discuss our survey process, response rates and sample selectivity, and the specific survey items used in this paper.

Advantages of our survey project

First, a major advantage of our survey project is that we are able to clearly define our population, and create a list sample of our population of interest: job candidates who are listed on the job placement pages of institutions on the "Job Market Candidates" webpage of the National Bureau of Economic Research.[5] Each fall, we use publicly available job candidate websites to gather the names, e-mail addresses, and curricula vitae of all of the candidates listed. We have 880 individuals on our list of 2007-08 job market cohort of Ph.D. economists from

[4] Because we are economists, as well, we have been extremely careful about confidentiality issues. Please see appendix A for details, if interested.

[5] We used the list of institutions available at http://www.nber.org/candidates/.

United States and Canadian universities, and believe that this list encompasses close to the entire universe of our target population.

Second, the job market for new economists is highly structured. Job candidates receive offers for interviews, fly-outs, and jobs, and make decisions about which of these to accept, during well-defined time periods. From late November until late December, prospective employers invite job candidates to a first round of interviews at the annual meetings of the Allied Social Science Associations. These interviews take place in January. From early January until late February, employers invite their favored candidates to follow-up interviews at the hiring institutions. At the same time, and continuing into March, employers extend job offers and new economists decide where they will work. See Figure 1, which illustrates the timing of the job market for new economists.

Third, the job market for doctoral-level economists is geographically diffuse. Whereas previous studies of couple migration have relied on samples containing relatively few movers, most graduates of doctoral programs in economics migrate after graduation. We are thus able to observe a large number of co-location decisions at relatively low cost.

Finally, considerable information about the background of new economists is publicly available. In particular, we are able to obtain the curricula vitae of the universe of new economists each year.

The result of these advantages is that we are able to look much more directly at the factors involved in migration decision making and gain a better understanding of career outcomes after migration than previous research on couple migration.

Survey contents and fielding

We exploit the structure of the economics job market in the pre-post design of our job market surveys. Using our list sample of the job market cohort, we invite participants via e-mail to complete web-based surveys.[6]

We approach job candidates about their expectations and preferences beginning in late December. Our aim is for information obtained from this "pre-market survey" to be relatively unaffected by any achievements and disappointments candidates experience on the job market. We follow up with our sample after the job market has ended and after most new economists have accepted jobs with our "post-market survey."

Our first pre-market survey was fielded from late December 2007 through March 2008, with a majority of responses submitted by the end of the first week in January. This questionnaire gathered information about respondents' demographic characteristics; relationship status and quality; cohabitation status and plans;

[6] For details on protection of the confidentiality of respondents, please see the Appendix.

educational background and careers of partners; preferences regarding the attributes and location of their future jobs; decisions during the initial stages of their job search and the influence relationships on these decisions; and dates of survey login and completion.

Our first post-market survey was fielded in August and September 2008. It contained questions about relationship status and characteristics; partners' education and career plans; respondents' decisions during the later stages of their job search, including interviews, fly-outs, offers and job acceptance stages; the influence of respondents' partners on their decisions; respondents' satisfaction with their best and second-best job offers; location of respondents' and partners' high schools; location of respondents' and partners' mothers; and key pre-market questions for respondents who had not responded to the pre-market survey.

From job candidates' curricula vitae, we have also assimilated data about respondents' gender, nationality, and a proxy for age (year undergraduate degree awarded); undergraduate and pre-Ph.D. educational background; Ph.D. institution; research and teaching fields; teaching experience; presentations and publications; and academic honors and fellowships. The resulting "CV dataset" includes information about all of the economists in our sample – including those who did not complete the surveys. Data from the curricula vitae is a unique and innovative feature of our study, and will eventually enable us to control for selection bias in our analyses. This dataset already allows us to understand something about non-respondents and selection into our survey dataset.

As we continue to combine data from successive cohorts, our dataset will give us increasingly strong identification opportunities and statistical power to quantify and examine the effects of gender differences in sex-role attitudes, preferences and decision making about location and migration that continue to exist at the upper-end of the human capital spectrum.

Response rates

Our list sample for the 2007-08 cohort was composed of 880 job candidates in economics and related fields. There were 356 completed surveys for wave one (40.45 percent response rate), and 340 completed wave two surveys (38.64 percent response rate). Of those 356 respondents who completed wave one, 233 (65.45 percent) completed wave two. Of those 524 respondents who did not complete wave one, 107 (20.43 percent) completed wave two. Just over twenty-six percent of our list sample completed both waves of the survey. Additionally, we have been able to incorporate data from the curricula vitae of 838 job market candidates (95.11 percent) into our dataset.

Sample selectivity

As previously mentioned, a particular strength of our research design is that we will use the CV data to understand and eventually mitigate the bias from

sample selection in our study. Table 1 shows some statistics from the CV data on the demographics of individuals in our sample, including breakdowns by survey response status. Note that, although we have CV data from 838 individuals, some information was not available for all individuals.

Women appear slightly more likely to have responded to the wave one survey, but the proportion that completed the second and both surveys is much more similar to the CV population. Individuals from a United States or Canadian undergraduate institution (highly correlated with citizenship) appear to be somewhat overrepresented in all of the surveys, as do individuals from a program ranked below the top 50[7] and those from a program ranked between 11 and 20.[8] These observations can also be seen in the simple probit and linear probability model results in Table 2. The omitted rank category is the group from a Ph.D. program ranking in the top 10. The omitted citizenship group is respondents with United States or Canadian citizenship.

Overall, the survey samples very closely match the CV sample, with a few exceptions. We feel that selection on these observables is likely a small but relevant issue. However, we have chosen not to correct for it in the current draft of this paper, due to sample size and timing constraints.

Relevance of sample to couple migration

We chose to use this population to study couple migration because all members of this group have accumulated extremely high levels of highly-specialized human capital. Having at least one partner who has variable career options by location makes the Mincer model, and migration ties, more likely to bind, compared to populations in which both partners' careers are flexible. Our population is also one which is very likely to include a large proportion of dual-career couples, increasing the likely "bite" of migration ties. Some summary statistics about relationship status and commitment level can be seen in Table 3. Two-thirds of respondents were not single, and a large majority (72 percent) of those in relationships were married or in marriage-like relationships. Our respondents' partners were also likely to be highly educated: over forty percent of partners holding or expecting a doctorate, and an additional thirty percent of partners have master's degrees or other professional degrees.

Survey items and analyses

Couples who live together must agree on a location. For couples in which both partners have invested heavily in their human capital and are strongly committed to their careers, the geographic dispersion of job opportunities makes

[7] We base our rankings on the 2004 econphd.net rankings, available at http://www.econphd.net/rank/rallec.htm.

[8] The overrepresentation of programs ranked between 11 and 20 is likely due to overrepresentation of the University of Michigan in this category.

it unlikely that the first-choice locations of the partners will coincide. Mincer (1978) assumes that, when individual preferences diverge, couples choose the location that maximizes their joint welfare. He notes that this location may be the first choice of one partner or of neither.

In keeping with these observations, we expect that some of the job seekers in our sample – all of whom have a doctoral degree and many of whom have a highly-educated partner – will reject their first-choice job offer in order to accommodate the preferences of their partner. An advantage of our data over other data that have been used to study couple migration is the availability of direct questions about the co-location problem. To assess the extent to which co-location constraints influenced the job choices of job candidates in our sample we asked the following question:

> Please think about the set of jobs from which you chose, including all of your formal offers and any offers you are certain you could have received, but did not formally receive. If you had considered *only* your own preferences, and had *ignored* the preferences of your partner, would you have accepted the same job, or would you have accepted a different job?

Like previous studies, we use educational attainment as a proxy for human capital investment and career commitment. In particular, because the theory of couple migration suggests that co-location constraints are most likely to bind for couples in which both partners are career-oriented, we assess the relationship between job choice – that is, the likelihood of rejecting the first-choice job offer – and the educational attainment of a job candidate's partner.

Moving beyond previous studies, we also assess the relationship between job choice and co-location constraints directly. To obtain a picture of the trade-offs between the opportunities of job candidates and the opportunities of their partners, we asked the following questions:

> We are interested in what you knew about your's job opportunities when you were deciding which interviews to accept. Please think about the locations of the jobs for which you were invited to interview. In what proportion of these locations did you think your partner's job opportunities would be good? Fair? Poor?

Response options for these items were "all," "most," "some," "few," and "none." We use data from this portion of the survey to explore the association between the distribution of a partner's job opportunities and the likelihood that a job candidate rejects his or her first-choice job offer.

Because previous studies have found evidence that men's career opportunities receive more weight than women's career opportunities in the migration decisions of couples – even after accounting for observable differences in human

capital – we compare the relationship between partner education, partner job opportunities, and job choice among men in our sample with their relationship among women.

Job candidates who reject their first-choice job offer in order to accommodate their partner sacrifice an outcome they value and must, on some measure of job quality, fare worse than they would if they considered only their own interests.[9] Whereas previous studies have relied on comparison groups of observably similar workers to construct counterfactual career outcomes for members of mobile couples, our data contains direct information about these counterfactual outcomes. To explore the tradeoffs that job candidates made on behalf of their relationships, we asked detailed questions about the characteristics of the jobs partnered candidates accepted and the jobs they would have accepted if they had ignored the preferences of their partners.

In particular, we asked

- Whether each job was at a college, university, or non-academic institution,
- What salary the job candidate would receive at each job,
- Whether the job candidate would receive a variety of perks, including research funds, a reduced teaching load, summer support, computer funds, a housing subsidy, and a moving allowance,
- How satisfied the job candidate was with the characteristics of each job, including prestige, salary, perks, expected work load, teaching and research mix, intellectual fit, and social fit, and
- How satisfied the job candidate was with the location of each job, including natural amenities, cultural amenities, racial and ethnic diversity, proximity to the candidate's friends and family, and the size of the surrounding community.

Response options for the satisfaction items were "extremely dissatisfied," "very dissatisfied," "somewhat dissatisfied," "somewhat satisfied," "very satisfied," and "extremely satisfied." For job candidates who rejected their first-choice job offer, we assess the differences between the accepted job and the first-choice job – that is, the gains and losses to the job candidate from accommodating the partner.

Mincer (1978) predicts that, when the combined loss to the partners from foregoing their first-choice locations exceeds the combined gain from their relationship, the partners will break up and move to their first-choice locations. For Mincer,

[9] We are ignoring, for now, the possibility, that the best option available to a partnered job candidate is of higher quality than the best option that would be available to the candidate as an individual. In some cases – most notably, in the case where two doctoral degree holders enter the job market as a couple and are jointly hired by a department whose primary interest is in one partner – a partnered job candidate may obtain an outcome that is superior to any outcome the candidate could have obtained alone.

partnership is dichotomous; couples are either together or apart. For holders of doctoral degrees, however, flexibility in relationship arrangements may mitigate the potentially large losses from rejecting a job opportunity, while allowing couples to remain "together."

One possible flexible arrangement is living in different locations. Couples living far enough apart may commute only on weekends or breaks to be together. This option represents a sacrifice with respect to the relationship because the partners give up seeing one another daily. The benefit of living apart is that the partners can pursue promising job opportunities in different locations without losing their significant relationships altogether.

To assess the importance of this margin of flexibility among job candidates in our sample, we use data from multiple survey items to create a variable indicating cohabitation status. Our post-market survey gathered data about the location of each respondent's accepted job, as well as the location of their significant other in six months' time. Using the location data for both partners, we create an indicator of likely cohabitation by winter 2009. We assumed that cohabitation was a possibility if the partners planned to be working within a 2.5-hour drive[10] of one another. If the partners planned to be working more than a 2.5-hour drive from one another, or if they planned to be living in different countries, we assumed that they would not be able to cohabit.

3 Results and discussion

We intend these results to be descriptive. We examine broad patterns in the data for consistency with Mincer's (1978) model of couple migration, but avoid making strong causal claims.

The number of job candidates for whom we have complete data is small. We thus have limited power to conduct complex analyses or to identify modest effects. Because we are interested primarily in identifying promising avenues for future study – including replication of this work with data from subsequent cohorts of job candidates – we are particularly concerned with avoiding Type II errors. For this reason, we conduct all statistical tests using a 10 percent significance level.

3.1 Accommodation through job choice

Most job candidates chose between multiple job offers. Of the 228 partnered candidates who provided information about their job offers, 77 percent received more offers than they accepted: 73 percent received at least two offers and

[10] We computed driving times using the driving instructions available at www.google.com/maps.

accepted a single job, while 4 percent received at least three offers and accepted both a temporary and a permanent job.

Of the 176 job candidates who received more job offers than they accepted – and were therefore in a position to accept a less desirable offer if their first-choice offer was in a location unfavorable to their partner – 85 percent reported that they had accepted their first-choice offer. Just 15 percent of the candidates who could have accommodated their partner reported that they had, in fact, done so. Table 5 summarizes these results.

Job choice by partner education and job opportunities

Mincer (1978) posits that the co-location problem facing dual career couples grows more severe as the educational attainment and career commitment of the partners increase. Our findings are consistent with this idea. Table 6 describes the likelihood that a job candidate rejected his or her first choice job offer by the education level of the candidate's partner. Although the trend is not statistically significant, job candidates with more highly educated partners were more likely to reject their first-choice offer due to their partner's preferences. The percentage of candidates who rejected their first-choice offer was 10 percent among those whose partners had a bachelor's degree or less, 14 percent among those whose partners had a master's or professional degree, and 20 percent among those whose partners had or were working towards a doctoral degree.

When we consider co-location constraints directly, we find a statistical association between the likelihood that a job candidate rejects his or her first-choice job offer and the *variability* of his or her partner's job opportunities across the locations where the candidate had interviews – but no clear association between the candidate's job choice and the overall quality of the partner's job opportunities. Table 7 summarizes these results. The importance of variability is apparent in the responses to two survey items.

First, job candidates who indicated that their partner had good job opportunities in some, but not all, of the locations where they had interviews were most likely to reject their first-choice job offer. Among candidates whose partners had good opportunities in some interview locations, but not others, 24 percent rejected their first-choice offer. Among candidates whose partners had good opportunities in all or most interview locations, or in few or no interview locations, the percentage who rejected their first-choice offer was considerably lower: 10 percent of those whose partners had mostly good opportunities and 11 percent of those whose partners had few good opportunities.

Second, the fewer the interview locations in which a job candidate's partner had fair job opportunities, the more likely was the candidate to reject his or her first-choice job offer. Among candidates whose partners had fair opportunities in few or none of the locations where they had interviews, 24 percent rejected their first-choice offer. Among candidates whose partners had fair opportunities

in some of of those locations, but not others, 18 percent rejected their first-choice offer. Finally, among candidates whose partners had fair opportunities in all or most of the locations where they had interviews, just 4 percent rejected their first-choice offer.

There is a straightforward intuition for these results. If a job candidate's partner had good options *everywhere*, there was no *need* for the candidate to reject his or her first-choice job offer; the partner was likely to find a good job in whatever location the candidate chose. If, on the other hand, a job candidate's partner had good options *nowhere*, there was no *reason* for the candidate to reject his or her first-choice offer; the partner was unlikely to find a good job no matter what location the job candidate chose. Similarly, if a job candidate's partner had mostly modest opportunities, the gain to the partner from accommodation, or the loss from lack of accommodation, was likely to be minimal.

There was no economically or statistically significant relationship between the proportion of interview locations in which a job candidate's partner had poor job opportunities and the likelihood that the candidate rejected his or her first-choice job offer.

Job choice by gender

Men and women did not differ greatly in their prospensities to accommodate their partners. Table 8 presents the number and percentage of men and women who rejected their first-choice job offer due to their partner's preferences. While a larger percentage of women than men rejected their first-choice offer, the difference was small (19 percent of women versus 14 percent of men) and was not statistically signicant.

To the extent that highly-educated partners exacerbate the co-location problem, women faced more severe constraints than did men. Among partnered job candidates, women were more likely to have a partner who had or was working towards a doctoral degree (56 percent of women versus 33 percent men). Men, in contrast, were more likely to have a partner who had a master's or professional degree (24 percent of women versus 39 percent of men), or a bachelor's degree or less (20 percent of women versus 28 percent of men).

We do not find strong evidence that women were more responsive than men to the human capital of their partners. Table 9 summarizes the relationship between partner accommodation and partner education among male and female job candidates. Women whose partners had a master's, professional, or doctoral degree were more likely than men with similarly educated partners to reject their first-choice job offer. Among job candidates whose partners had a master's or professional degree, 13 percent of men and 17 percent of women rejected their first-choice offer. Among candidates whose partners had or were working towards a doctoral degree, 18 percent of men and 24 percent of women rejected their first-choice offer. On the other hand, women whose partners had a high

school, associate, or bachelor's degree were less likely than men with similarly educated partners to reject their first-choice job offer. Among job candidates whose partners had a bachelor's degree or less, 11 percent of men and 9 percent of women rejected their first-choice offer. None of these differences is statistically significant.

We find some evidence that men and women responded differently to the distribution of their partners' job opportunities. Table 10 summarizes these results. While both men and women were willing to accommodate their partners under some conditions, the conditions that prompted accommodation varied by gender. In particular, women drove the relationship between accommodation and the availability of good opportunities for the candidates' partners, while men drove the relationship between accommodation and the availability of fair opportunities.

Consider, first, the responses of men and women to the proportion of their partners' opportunities that were good. The percentage of women who rejected their first-choice job offer was 8 percent among those whose partners had good opportunities in all or most of the locations where they had interviews, 43 percent among those whose partners had good opportunities in some of those locations, and 8 percent among those whose partners had good opportunities in few or none of the locations where they had interviews. The comparable percentages for men were 10 percent among those whose partners had good opportunities in all or most interview locations, 19 percent among those whose partners had good opportunities in some interview locations, and 13 percent among those whose partners had good opportunities in few or no interview locations. While the patterns for men and women are similar in shape, the pattern for men is less pronounced and is not statistically significant.

Now, consider the responses of men and women to the proportion of their partners' opportunities that were fair. Among men whose partners had fair opportunities in all or most of the locations where they had interviews, none rejected their first-choice job offer. Among men whose partners had fair opportunities in some interview locations, 15 percent rejected their first-choice offer. Finally, among men whose partners had fair opportunities in few or no interview locations, 30 percent rejected their first-choice offer. The comparable percentages for women were 14 percent among those whose partners had fair opportunities in all or most interview locations, 22 percent among those whose partners had fair opportunities in some interview locations, and 14 percent among those whose partners had opportunities in few or no interview locations. The response of women to the availability of fair opportunities for their partners resembles the response of men to the availability of good opportunities for their partners – but not the response of men to the availability of fair opportunities – and is not statistically significant.

A speculative explanation for these results is that, while both men and women are willing to sacrifice their own career advancement to benefit their partners, women have a higher threshold quality for their partners' job opportunities than

do men. Under this explanation, women respond to the availability of good opportunities for their partners because they are committed to helping their partners secure good jobs. Men, on the other hand, respond to the availability of fair opportunities for their partners because they are willing to accept fair jobs for their partners, but are committed to helping their partners avoid poor jobs.

Consequences of rejecting the first-choice job offer

We do not find evidence that accommodation of partners led job candidates to forgo academic jobs in favor of non-academic jobs – or vice versa. Table 11 compares the settings of the accepted and first-choice jobs of candidates who rejected their first-choice offer. For 20 of these 27 candidates, both of the jobs were academic or both were non-academic. While the number of candidates who accepted a non-academic job when they would have preferred an academic job was higher than the number who did the reverse (five settled for a non-academic job, while two settled for an academic job), the pattern was not statistically significant.

Turning to compensation, it does not appear that job candidates sacrificed salary in order to accommodate their partners. Table 12 presents the salary distirbutions of the accepted and first-choice jobs. Among candidates who rejected their first-choice job offer, the median salary of the accepted job was higher than the median salary of the first-choice job ($88 thousand for the accepted job versus $85 thousand for the first-choice job). This difference does not suggest a tradeoff between compensation and accommodation and, in any case, is not statistically significant.

Nor do we do find evidence that job candidates sacrificed perks in order to accommodate their partners. The number of accepted jobs that provided research funds, a reduced teaching load, summer support, computer funds, and a moving allowance was comparable to the number of first-choice jobs that provided these perks. Indeed, the only statistically significant difference with respect to perks was an advantage of the accepted jobs over the first-choice jobs: While five accepted jobs provided a housing subsidy, just one first-choice job did so. Table 13 summarizes these results.

If job candidates who rejected their first-choice job offer enjoyed comparable work settings, salaries and perks at the jobs they accepted, what did they sacrifice in order to accommodate their partners? Put differently, why did these job candidates prefer their first-choice offers to the offers they ultimately accepted? Responses to our satisfaction items suggest that, while the accepted jobs were as good as the first-choice jobs in terms of compensation and tangible resources, they offered less desirable academic and professional environments. In particular, job candidates who accommodated their partners were less satisfied with the prestige of their accepted jobs than they would have been with the prestige

of their first-choice jobs and reported that their first-choice jobs would have suited them better, intellectually.

We should note that most job candidates were satsified with both their accepted job and their first-choice job. The differences in satisfaction with prestige and intellectual fit reflect distinctions between levels of satisfaction (extremely satisfied, very satisfied, and somewhat satisfied), rather than distinctions between satisfaction and dissatisfaction. What is more, candidates who rejected their first-choice job offer reported that, with regard to salary, expected work load, mix of teaching and research, and social fit, the job they accepted was just as good.

While we observe some tradeoffs between job characteristics and partner accommodation, job candidates who rejected their first-choice offer were more – not less – satisfied with the locations of the jobs they accepted job than they would have been with the locations of their first-choice jobs. In particular, candidates indicated that, relative to their first-choice jobs, their accepted jobs had superior natural and cultural amenities, and were in communities of a more desirable size. There were no statistically significant differences in the satisfaction of the candidates with the racial and ethnic diversity of the two locations, or with the proximity of the locations to their friends and family. Table 14 presents satisfaction ratings for the accepted and first-choice jobs.

That job candidates lived in more desirable locations when they rejected their first-choice job offer than when they accepted it suggests that candidates agreed with their partners about the best places to live – but that they would have been willing to forgo living in these places in order to obtain a better job. This finding is consistent with Mincer's (1978) observation that couples are likely to share preferences regarding location and that co-location constraints most often reflect the geographic dispersion of employment opportunities.

3.2 Accommodation through living apart

A surprising number of job candidates planned to be living in a different location from their partner six months after the post-market survey. Table 15 summarizes these plans. Of the 144 partnered job candidates for whom geographic proxmity could be determined, 23 percent planned to live apart from their partner in six months.

Living apart by partner education and job opportunities

The likelihood of living apart increased with partner education. Table 16 presents the number and percentage of job candidates who planned to live apart from their partners by the educational attainment of the partners. Among job candidates whose partners had or were working towards a doctoral degree, 42 percent planned to live apart in six months. In contrast, among candidates

whose partners had a master's or professional degree, and those whose partners had a bachelor's degree or less, between 11 and 12 percent planned to live apart.

On the other hand, the likelihood of living apart decreased with the quality of the partner's job opportunities. Table 17 summarizes these results. The percentage of candidates who planned to live apart was 15 percent among those whose partners had good opportunities in all or most of the locations where they had interviews, 20 percent among those whose partners had good opportunities in some interview locations, but not others, and 39 percent among those whose partners had good opportunities in few or no interview locations. Conversely, the percentage of candidates who planned to live apart was 47 percent among those whose partners had poor opportunities in all or most interview locations, 23 percent among those whose partners had poor opportunities in some interview locations, and 16 percent among those whose partners had poor opportunities in few or no locations.

These results are consistent with a variation of Mincer's (1978) model in which couples have a second margin of flexibility: Those who wish to preserve their relationship, but cannot accept the losses associated with forgoing their best job opportunities, can live in different places and commute to see one another. Indeed, for couples whose gains from their relationship are substantial even when they do not cohabit, living apart, at least temporarily, may be the option that maximizes the couple's welfare. Living apart would be a rational choice whenever the combined gain to the couple from accepting jobs in different locations, rather than in a location where cohabitation is possible, exceeds the combined gain of the couple cohabiting, rather than maintaining their relationship while living apart.

Living apart by gender

Table 18 presents the number and percentage of men and women who planned to be living in a different location from their partner six months after the postmarket survey. Although the difference was not statistically signficant, a larger percentage of women than men planned to live apart (33 percent of women versus 20 percent of men).

When we examine the relationship between living apart and partner characteristics separately for men and women, it is clear that men drive the overall patterns with respect to partner education and job opportunities. Tables 19 amd 20 summarize these results. Consider, first, the relationship between living apart and partner education. For men, the likelihood of living apart increases monotonically with partner education. Among men whose partners had or were working towards a doctoral degree, 44 percent planned to live apart in six months. Among men whose partners had a master's or professional degree, 12 percent planned to be live apart. Finally, among men whose partners had a bachelor's degree or less, 6 percent planned to live apart.

Turning to the relationship between living apart and partner job opportunities, we again find a strong, monotonic relationship for men. In particular, the likelihood of living apart decreases with the quality of the partner's job opportunities in the locations where the job candidate had interviews. The percentage of men who planned to live apart from their partner in six months was 12 percent among those whose partners had good opportunities in all or most interview locations, 12 percent among those whose partners had good opportunities in some interview locations, and 43 percent among those whose partners had good opportunities in few or no interview locations. Conversely, the percentage of men who planned to live apart was 50 percent among those whose partners had poor opportunities in all or most locations, 18 percent among those whose partners had poor opportunities in some locations, and 11 percent among those whose partners had poor opportunities in few or no locations.

The patterns for women are less clear. The relationship between the education and job opportunities of a woman's partner and her likelihood of living apart from that partner are non-monotonic and are not statistically significant. Among women whose partners had or were working towards a doctoral degree, 39 percent planned to live apart from their partner in six months; among those whose partners had a master's or professional degree, 8 percent planned to live apart; and, among women whose partners had a bachelor's degree or less, 27 percent planned to live apart. It is noteworthy that a surprising percentage of women planned to live apart from partners who were not highly educated, relative to themselves. Indeed, it is only among respondents whose partners had a bachelor's degree or less that the likelihood of living apart is statistically different for men and women.

Whatever their partner's job prospects in the locations where they had interviews, a considerable number of women planned to live apart in six months. The percentage of women who planned to live apart was 22 percent among those whose partners had good opportunities in all or most interview locations, 42 percent among those whose partners had good opportunities in some interview locations, and 30 percent among those whose partners had good opportunities in few or no intervew locations. Similarly, the percentage of women who planned to live apart was 33 percent among those whose partners had poor opportunities in all or most interview locations, 33 percent among those whose partners had poor opportunities in some interview locations, and 27 percent among those whose partners had poor opportunities in few or no locations. It is striking that, even among women whose partners had reasonable prospects in most of their potential destinations, living apart was a common arrangement.

The high likelihood of women living apart from their partners – even when those partners had lower levels of education than the women and had high quality job opportunities in many places – is surprising. It is possible that, because we assess the likelihood of living apart over a fairly short time horizon (six months), we are observing delays in partners moving to join job candidates, rather than longer-term living arrangements. We do not know why the partners of women would delay moving more often than the partners of men. A speculative answer

is that women's partners had accumulated considerable firm-specific human capital with their current employers by the time the women moved. The women in our sample have partners who are, on average, a year older than they are, while men have partners who are more than a year younger. Thus, for a given level of education, the partners of women have likely had more on-the-job training and firm-specific experience.

4 Conclusions

Our analysis is broadly consistent with Mincer's (1978) model of couple migration. Among recent graduates of doctoral programs in economics, concerns about the preferences and opportunities of their partners led some job candidates to reject their first-choice job offer. As Mincer predicts, job canididates were more likely to accommodate their partners when their partners stood to gain more from their sacrifices. Specifically, job candidates were more likely to reject their first-choice job offer when their partners had job opportunities of variable quality in the locations where the candidates had interviews.

Also consistent with the theory of couple migration is our finding that job candidates who rejected their first-choice job offer sacrificed job characteristics they valued in order to accommodate their partners. In particular, job candidates who rejected their first-choice offer were less satisfied with the prestige and intellectual environment of the jobs they accepted than they would have been with these characteristics of their first-choice jobs. This result is noteworthy because the prestige of an economist's first job and his or her intellectual fit with colleagues may be important determinants of the economist's long-term career trajectory.

On the other hand, job candidates who accommodated their partners did not report that they had sacrificed compensation in order to do so. This finding suggests that studies concerned with career develoment among academics should assess both objective and subjective job outcomes. Studies that focus on job outcomes that are easy to measure – such as salary and perks – and ignore less tangible outcomes may overlook important aspects of job quality.

Unlike previous studies of couple migration, we do not find strong evidence that men's careers received more weight than women's careers in the location decisions of couples. Both male and female job candidates were willing to sacrifice their own career interests on behalf of their partners. While we observed differences in the circumstances under which men and women accommodated their partners, the patterns are difficult to interpret. It is possible that, while both men and women are concerned about their partners' job opportunities, women have a higher threshold than men for their partners' job quality. The addition of new items to our post-market survey will allow us to explore this possibility in more detail with subsequent cohorts of job seekers.

While we observe choices that are consistent with Mincer's (1978) analysis, we were surprised to find that compromise with respect to job opportunities was not common among new economists. Just 15 percent job candidates reported that they had rejected their first-choice job offer due to their partner's preferences. The reluctance of job candidates to sacrifice their own career opportunities on behalf their partners may reflect the extreme variability of their opportunities across locations. Because holders of doctoral degrees are likely to have poor job opportunities – or no job opportunities – in many places, they may suffer considerable losses when they agree to live in a sub-optimal location.

Our findings indicate that, among new economists, flexible relationship arrangements offer an alternative margin of adjustment for couples coping with severe co-location constriants. In particular, couples who do not wish to forgo their best job opportunities, but who place a high value on their relationship, may live in different places. A considerable number of job candidates reported that they planned to be living in a different location from their partner six months after the post-market survey. The prevalence of living apart among new economists offers a partial explanation for their relatively low likelihood of rejecting their first-choice job offer.

The prevalence of living apart also suggests that, just as significant relationships may compromise academic careers, academic careers may compromise significant relationships. While job candidates likely view living apart as a temporary arrangement, the arrangement is a sacrifice for most couples. Partners who live apart must bear the expense and inconvenience of traveling to see one another and cannot be together on a daily basis. What is more, living apart may place couples at a higher risk of breaking up.

References

Bailey, A. J. and T. J. Cooke (1998) "Family Migration and Employment: The Importance of Migration History and Gender," *International Regional Science Review*, Vol. 21, pp. 99–118.

Bielby, W. T. and D. D. Bielby (1992) "I Will Follow Him: Family Ties, Gender-Role Beliefs, and Reluctance to Relocate for a Better Job," *American Journal of Sociology*, Vol. 97, pp. 1241–1267.

Blau, F. and L. Kahn (2007) "Changes in the Labor Supply Behavior of Married Women: 1980-2000," *Journal of Labor Economics*, Vol. 25, No. 3, pp. 393–438.

Compton, J. and R. A. Pollak (2007) "Why Are Power Couples Increasingly Concentrated in Large Metropolitan Areas?" *Journal of Labor Economics*, Vol. 25, pp. 475–512.

Cooke, T. J. (2001) ""Trailing Wife" or "Trailing Mother"? The Effects of Parental Status on the Relationship Between Family Migration and the Labor-

Market Participation of Married Women," *Environment and Planning*, Vol. A 33, pp. 419–430.

Fortin, N. (2005) "Gender role attitudes and the labour market outcomes of women across OECD countries," *Oxford Review of Economic Policy*, Vol. 21, No. 3, pp. 416–438.

Jacobsen, J. P. and L. M. Levin (1997) "Marriage and Migration: Comparing Gains and Losses from Migration for Couples and Singles," *Social Science Quarterly*, Vol. 78, pp. 688–709.

——— (2000) "The Effects of Internal Migration on the Relative Economic Status of Women and Men," *Journal of Socio-Economics*, Vol. 29, pp. 291–304.

Lichter, D. T. (1980) "Household migration and the labor market position of married women," *Social Science Research*, Vol. 9, No. 1, pp. 83–97.

McKinnish, T. (2008) "Spousal Mobility and Earnings," *Demography*, Vol. 45, No. 4, pp. 829–849.

Mincer, J. F. (1978) "Family Migration Decisions," *Journal of Political Economy*, Vol. 86, pp. 749–774.

Rabe, B. (2006) "Dual-earner Migration in Britain: Earnings Gains, Employment, and Self-Selection," ISER Working Paper 2006-1, University of Essex.

Sandell, S. H. (1977) "Women and the Economics of Family Migration," *Review of Economics and Statistics*, Vol. 59, pp. 406–414.

Shauman, K. A. and M. C. Noonan (2007) "Family Migration and Labor Force Outcomes: Sex Differences in Occupational Context," *Social Forces*, Vol. 85, pp. 1735–1764.

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

Appendix: A word about confidentiality

Confidentiality concerns have shaped the survey from the time we began planning through the data analysis stage. Because our survey respondents are our peers, we have implemented many measures to prevent identification of individuals. We have dropped variables that clearly identified individual respondents – including names, contact information, and university – from the data to which we have routine access. We have also recoded variables that could potentially be used to identify respondents. Race, ethnicity, and citizenship have been

grouped into broad categories. We have used geographic variables to determine whether a job cnadidates has moved, whether the candidate cohabits with his or her partner, and how far the candidate lives from his or her degree-granting institution and from his or her partner. We have dropped more detailed geographic variables from the data. We have separated open-ended responses from the rest of the survey data and view them only without idenfiers. The complete dataset, which includes identifying information, is stored on a secure server at the Survey Research Center. We do not have independent access to this dataset.

Figure 1: Timing of the job market for new economists

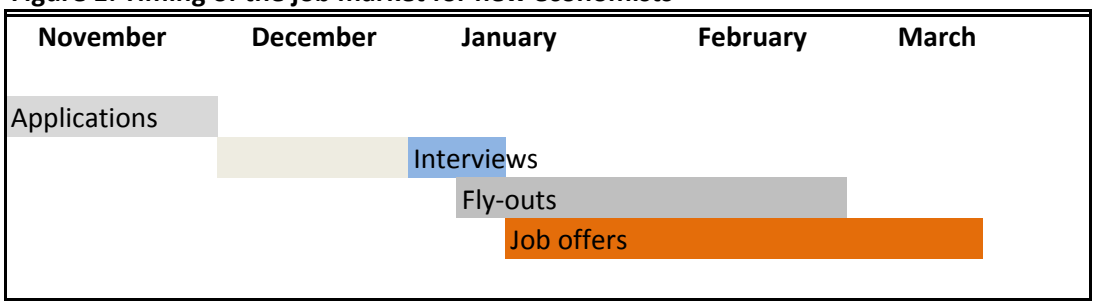

Table 1: Summary statistics on sample selectivity

		CV Data	Wave 1 Complete	Wave 2 Complete	Both Complete
All Observations					
	Proportion of total	0.95	0.40	0.39	0.26
	N	838	356	340	233
Gender					
Female	Proportion	0.33	0.37	0.32	0.32
	N	273	127	106	73
Male	Proportion	0.67	0.63	0.68	0.68
	N	546	215	222	152
Age, imputed from year undergraduate degree awarded*					
	Mean	29.42	29.24	29.15	29.02
	SD	2.68	2.65	2.68	2.62
	25th percentile	27	27	27	27
	50th percentile	29	29	29	28.5
	75th percentile	31	31	31	30
	N	796	336	320	222
Location of Undergraduate Institution**					
US or Canada	Proportion	0.3892	0.4837	0.4969	0.5541
	N	311	163	159	123
Asia	Proportion	0.3429	0.273	0.2563	0.2117
	N	274	92	82	47
Other	Proportion	0.2678	0.2433	0.2469	0.2342
	N	214	82	79	52
Institution					
Top ten	N	247	92	93	56
	Proportion	0.2833	0.2621	0.2776	0.2445
Rank 10-19	N	113	55	50	42
	Proportion	0.1296	0.1567	0.1493	0.1834
Rank 20-29	N	126	42	42	25
	Proportion	0.1445	0.1197	0.1254	0.1092
Rank 30-39	N	58	25	24	16
	Proportion	0.0665	0.0712	0.0716	0.0699
Rank 40-49	N	40	14	12	8
	Proportion	0.0459	0.0399	0.0358	0.0349
Rank below 50	N	288	123	114	82
	Proportion	0.3303	0.3504	0.3403	0.3581
Total	N	872	351	335	229

* Matches wave 1 reported data to within 1 year in 79.2% of observations, and is off by 3 years or more in fewer than 7% of observations. Matches wave 2 data within 1 year in 64.4 percent of observations, and is off by more than 2 years in only 5.2 percent of observations.

** Matches wave 2 reported citizenship in 91.67 percent of observations; matches wave 1 reported citizenship in 91.23 percent of observations

Table 2: Sample selection analysis

	Probit			Linear Probability Model		
	(1) Pre-Market Survey	(2) Post-Market Survey	(3) Both Surveys	(4) Pre-Market Survey	(5) Post-Market Survey	(6) Both Surveys
PhD rank 11-20	0.157***	0.107*	0.194***	0.152***	0.104*	0.179***
	[0.0601]	[0.0603]	[0.0610]	[0.0580]	[0.0576]	[0.0520]
PhD rank 21-30	0.0227	-0.00192	0.0233	0.0226	5.47E-05	0.0248
	[0.0601]	[0.0593]	[0.0571]	[0.0575]	[0.0572]	[0.0516]
PhD rank 31-40	0.102	0.0988	0.106	0.0986	0.0956	0.0974
	[0.0792]	[0.0791]	[0.0792]	[0.0752]	[0.0748]	[0.0676]
PhD rank 41-50	-0.0198	-0.0618	-0.0154	-0.018	-0.0557	-0.00752
	[0.0871]	[0.0848]	[0.0807]	[0.0846]	[0.0841]	[0.0759]
PhD rank not in top 50	0.0913**	0.0527	0.0969**	0.0889**	0.0519	0.0922**
	[0.0464]	[0.0460]	[0.0438]	[0.0447]	[0.0445]	[0.0402]
Female	0.0883**	-0.00999	0.00747	0.0854**	-0.00908	0.00594
	[0.0384]	[0.0379]	[0.0346]	[0.0371]	[0.0369]	[0.0333]
Citizenship: Asian country	-0.197***	-0.205***	-0.213***	-0.200***	-0.210***	-0.228***
	[0.0409]	[0.0401]	[0.0331]	[0.0427]	[0.0425]	[0.0384]
Citizenship: Other	-0.128***	-0.123***	-0.121***	-0.131***	-0.127***	-0.136***
	[0.0430]	[0.0422]	[0.0351]	[0.0441]	[0.0439]	[0.0396]
Imputed age	-0.00279	-0.00607	-0.00674	-0.00255	-0.00628	-0.0069
	[0.00695]	[0.00687]	[0.00625]	[0.00675]	[0.00672]	[0.00606]
Constant				0.514***	0.662***	0.531***
				[0.195]	[0.194]	[0.176]
Observations	780	780	780	780	780	780
R-squared	.	.	.	0.047	0.045	0.068

*** p<0.01, ** p<0.05, * p<0.1

Standard errors in brackets. Marginal effects reported for probits (dprobits).

Table 3: Relationship status and type, by respondent gender

		Male	Female	Total
Relationship status				
Not in relationship	**N**	76	48	124
	%	31.28	37.8	33.51
In relationship	**N**	167	79	246
	%	68.72	62.2	66.49
Total	**N**	243	127	370
	%	100	100	100
Relationship type				
Married	**N**	126	51	177
	%	75.45	64.56	71.95
Marriage-like relationship	**N**	16	9	25
	%	9.58	11.39	10.16
Committed relationship	**N**	17	17	34
	%	10.18	21.52	13.82
Dating relationship	**N**	8	2	10
	%	4.79	2.53	4.07
Total	**N**	167	79	246
	%	100	100	100

Table 4: Partner characteristics, by respondent gender

			Male	Female	Total
Partner Education					
	High School	N	5	0	5
		%	3.07	0	2.14
	Associate's Degree	N	4	1	5
		%	2.45	1.41	2.14
	Bachelor's	N	47	13	60
		%	28.83	18.31	25.64
	Master's	N	43	11	54
		%	26.38	15.49	23.08
	Professional	N	11	5	16
		%	6.75	7.04	6.84
	Doctorate Expected	N	28	14	42
		%	17.18	19.72	17.95
	Doctorate Completed	N	25	27	52
		%	15.34	38.03	22.22
	Total	N	163	71	234
		%	100	100	100
Partner Age					
	Mean		29.26	30.03	29.50
	SD		2.72	2.58	2.70
	25th percentile		27	29	27
	50th percentile		29	30	29
	75th percentile		31	32	31
	N		160	72	232
Couple Age Gap					
	Mean		0.94	-0.98	0.31
	SD		2.35	2.30	2.49
	25th percentile		0	-2	-1
	50th percentile		1	0	0
	75th percentile		2	0	2
	N		213	103	316

Table 5: Job choice of candidates who could have accommodated their partner

	N	%
Chose preferred job	149	84.66
Chose different job	27	15.34
Total	176	100

Table 6: Job choice by partner education

		Chose preferred job	Chose different job	Total
HS or Associate's degree	N	35	4	39
	%	90	10	
Master's or professional degree	N	49	8	57
	%	86	14	
Doctorate	N	56	14	70
	%	80	20	
Total	N	140	26	166
	%	84	16	
Pearson Chi-Squared	1.97			
D.F.	2			
Pr(x>chi2)	0.373			

Table 7: Job choice by partner opportunity distribution

		Proportion of interview locations where partner's job prospects are "good"			Proportion of interview locations where partner's job prospects are "fair"			Proportion of interview locations where partner's job prospects are "poor"		
		Chose preferred job	Chose different job	Total	Chose preferred job	Chose different job	Total	Chose preferred job	Chose different job	Total
Few or none	N	32	4	36	31	10	41	70	16	86
	%	88.89	11.11		75.61	24.39		81.4	18.6	
Some	N	47	15	62	65	14	79	29	6	35
	%	75.81	24.19		82.28	17.72		82.86	17.14	
All or most	N	57	6	63	24	1	25	15	3	18
	%	90.48	9.52		96	4		83.33	16.67	
Total	N	136	25	161	120	25	145	114	25	139
	%	84.47	15.53		82.76	17.24		82.01	17.99	
Pearson Chi-Squared		5.8163			4.5533			0.0604		
D.F.		2			2			2		
Pr(x>chi2)		0.055			0.103			0.97		

Table 8: Job choice and gender

		Chose preferred job	Chose different job	Total
Male	N	105	17	122
	%	86.07	13.93	
Female	N	44	10	54
	%	81.48	18.52	
Total	N	149	27	176
	%	84.66	15.34	
Pearson Chi-Squared				0.6057
D.F.				1
Pr(x>chi2)				0.436

Table 9: Job choice by partner education and gender

		Men			Women		
Partner's education level		**Chose preferred job**	**Chose different job**	**Total**	**Chose preferred job**	**Chose different job**	**Total**
HS or Associate's degree	N	25	3	28	10	1	11
	%	89.29	10.71	100	90.91	9.09	100
Master's or professional degree	N	39	6	45	10	2	12
	%	86.67	13.33	100	83.33	16.67	100
Doctorate	N	37	8	45	19	6	25
	%	82.22	17.78	100	76	24	100
Total	N	101	17	118	39	9	48
	%	85.59	14.41	100	81.25	18.75	100
Pearson Chi-Squared		0.7663			1.1602		
D.F.		2			2		
Pr(x>chi2)		0.682			0.56		

Table 10: Job choice by respondent gender and partner opportunity distribution

Proportion of interview locations where partner's job prospects are "good"

		Men			Women		
		Chose preferred job	Chose different job	Total	Chose preferred job	Chose different job	Total
Few or none	N	20	3	23	12	1	13
	%	86.96	13.04		92.31	7.69	
Some	N	39	9	48	8	6	14
	%	81.25	18.75		57.14	42.86	
All or most	N	35	4	39	22	2	24
	%	89.74	10.26		91.67	8.33	
Total	N	94	16	110	42	9	51
	%	85.45	14.55		82.35	17.65	
Pearson Chi-Squared				1.3016			8.4414
D.F.				2			2
Pr(x>chi2)				0.522			0.015

Proportion of interview locations where partner's job prospects are "fair"

		Men			Women		
		Chose preferred job	Chose different job	Total	Chose preferred job	Chose different job	Total
Few or none	N	19	8	27	12	2	14
	%	70.37	29.63		85.71	14.29	
Some	N	44	8	52	21	6	27
	%	84.62	15.38		77.78	22.22	
All or most	N	18	0	18	6	1	7
	%	100	0		85.71	14.29	
Total	N	81	16	97	39	9	48
	%	83.51	16.49		81.25	18.75	
Pearson Chi-Squared				6.9839			0.4884
D.F.				2			2
Pr(x>chi2)				0.03			0.783

Proportion of interview locations where partner's job prospects are "poor"

		Men			Women		
		Chose preferred job	Chose different job	Total	Chose preferred job	Chose different job	Total
Few or none	N	45	11	56	25	5	30
	%	80.36	19.64		83.33	16.67	
Some	N	22	2	24	7	4	11
	%	91.67	8.33		63.64	36.36	
All or most	N	12	3	15	3	0	3
	%	80	20		100	0	
Total	N	79	16	95	35	9	44
	%	83.16	16.84		79.55	20.45	
Pearson Chi-Squared				1.6611			2.7471
D.F.				2			2
Pr(x>chi2)				0.436			0.253

Table 11: Setting of accepted and first-choice job

	First-choice job		
Accepted Job	**Academic**	**Non-academic**	**Total**
Academic	17	2	19
Non-academic	5	3	8
Total	22	5	27

McNemar test:

$c^2 = 1.29$

$p = .2568$

Table 12: Salary distribution for accepted and first-choice job

	Accepted job	First-choice job
25th percentile	$ 71,000.00	$ 73,000.00
50th percentile	$ 88,000.00	$ 85,000.00
75th percentile	$ 120,000.00	$ 107,500.00

Wilcoxon signed-rank test

$z = 1.047$

$p = .2951$

Table 13: Perks at accepted and first-choice job

Research funds

	First-choice job			
Accepted job	**Yes**	**No**	**Total**	**McNemar test**
Yes	9	4	13	$\chi^2 = 1.33$
No	8	5	13	$p = .2482$
Total	17	9	26	

Reduced teaching load

	First-choice job			
Accepted job	**Yes**	**No**	**Total**	**McNemar test**
Yes	6	3	9	$\chi^2 = .20$
No	2	5	7	$p = .6547$
Total	8	8	16	

Summer support

	First-choice job			
Accepted job	**Yes**	**No**	**Total**	**McNemar test**
Yes	3	3	6	$\chi^2 = .14$
No	4	6	10	$p = .7055$
Total	9	7	16	

Computer funds

	First-choice job			
Accepted job	**Yes**	**No**	**Total**	**McNemar test**
Yes	6	7	13	$\chi^2 = .00$
No	7	6	13	$p = 1.00$
Total	13	13	26	

Housing subsidy

	First-choice job			
Accepted job	**Yes**	**No**	**Total**	**McNemar test**
Yes	1	4	5	$\chi^2 = 4.00$
No	0	21	21	$p = .0455$
Total	1	25	26	

Moving allowance

	First-choice job			
Accepted job	**Yes**	**No**	**Total**	**McNemar test**
Yes	13	5	18	$\chi^2 = .11$
No	4	4	8	$p = .7389$
Total	17	9	26	

Table 14: Satisfaction with accepted and first-choice job

	Accepted		First-choice		Wilcoxon signed-rank test results	
	N	%	N	%	*z*	*p*
Overall satisfaction with job characteristics					-1.414	0.1574
Extremely dissatisfied	0	0	0	0		
Very dissatisfied	0	0	0	0		
Somewhat dissatisfied	1	3.85	1	4.17		
Somewhat satisfied	7	26.92	3	12.5		
Very satisfied	15	57.69	15	62.5		
Extremely satisfied	3	11.54	5	20.83		
Total	26	100	24	100		
Prestige					-2.483	0.013
Extremely dissatisfied	0	0	1	4		
Very dissatisfied	1	3.7	0	0		
Somewhat dissatisfied	4	14.81	2	8		
Somewhat satisfied	12	44.44	1	4		
Very satisfied	7	25.93	11	44		
Extremely satisfied	3	11.11	10	40		
Total	27	100	25	100		
Salary					0.627	0.5308
Extremely dissatisfied	0	0	0	0		
Very dissatisfied	1	3.7	3	12		
Somewhat dissatisfied	4	14.81	2	8		
Somewhat satisfied	6	22.22	4	16		
Very satisfied	10	37.04	14	56		
Extremely satisfied	6	22.22	2	8		
Total	27	100	25	100		
Perks					-1.007	0.3139
Extremely dissatisfied	0	0	0	0		
Very dissatisfied	2	8.33	1	5.26		
Somewhat dissatisfied	2	8.33	1	5.26		
Somewhat satisfied	7	29.17	2	10.53		
Very satisfied	10	41.67	11	57.89		
Extremely satisfied	3	12.5	4	21.05		
Total	24	100	19	100		
Expected work load					-0.776	0.4379
Extremely dissatisfied	0	0	0	0		
Very dissatisfied	1	3.85	0	0		
Somewhat dissatisfied	1	3.85	2	8.7		
Somewhat satisfied	9	34.62	7	30.43		
Very satisfied	12	46.15	10	43.48		
Extremely satisfied	3	11.54	4	17.39		
Total	26	100	23	100		
Mix of teaching and research					-1.043	0.2967
Extremely dissatisfied	0	0	1	5.26		
Very dissatisfied	0	0	0	0		
Somewhat dissatisfied	0	0	0	0		
Somewhat satisfied	10	52.63	3	15.79		
Very satisfied	3	15.79	8	42.11		
Extremely satisfied	6	31.58	7	36.84		
Total	19	100	19	100		
Intellectual fit					-2.241	0.025
Extremely dissatisfied	1	3.7	0	0		
Very dissatisfied	0	0	0	0		
Somewhat dissatisfied	2	7.41	1	4		
Somewhat satisfied	4	14.81	3	12		
Very satisfied	14	51.85	11	44		
Extremely satisfied	6	22.22	10	40		
Total	27	100	25	100		

Table 14: Satisfaction with accepted and first-choice job

Social fit					0.695	0.4868
Extremely dissatisfied	0	0	0	0		
Very dissatisfied	0	0	0	0		
Somewhat dissatisfied	0	0	4	17.39		
Somewhat satisfied	6	25	4	17.39		
Very satisfied	12	50	10	43.48		
Extremely satisfied	6	25	5	21.74		
Total	24	100	23	100		
	Accepted		**First-choice**			
	N	**%**	**N**	**%**	***z***	***p***
Overall satisfaction with location characteristics					1.923	0.0545
Extremely dissatisfied	0	0	1	4.35		
Very dissatisfied	0	0	1	4.35		
Somewhat dissatisfied	2	8.33	4	17.39		
Somewhat satisfied	7	29.17	7	30.43		
Very satisfied	14	58.33	6	26.09		
Extremely satisfied	1	4.17	4	17.39		
Total	24	100	23	100		
Natural amenities					2.234	0.0255
Extremely dissatisfied	0	0	1	4.17		
Very dissatisfied	1	3.85	3	12.5		
Somewhat dissatisfied	2	7.69	2	8.33		
Somewhat satisfied	8	30.77	11	45.83		
Very satisfied	9	34.62	3	12.5		
Extremely satisfied	6	23.08	4	16.67		
Total	26	100	24	100		
Cultural amenities					1.669	0.095
Extremely dissatisfied	0	0	1	4		
Very dissatisfied	0	0	1	4		
Somewhat dissatisfied	3	11.11	4	16		
Somewhat satisfied	6	22.22	6	24		
Very satisfied	9	33.33	6	24		
Extremely satisfied	9	33.33	7	28		
Total	27	100	25	100		
Racial and ethnic diversity					0.527	0.598
Extremely dissatisfied	0	0	1	4.35		
Very dissatisfied	1	4	1	4.35		
Somewhat dissatisfied	4	16	5	21.74		
Somewhat satisfied	8	32	5	21.74		
Very satisfied	10	40	6	26.09		
Extremely satisfied	2	8	5	21.74		
Total	25	100	23	100		
Proximity to friends and family					-0.76	0.447
Extremely dissatisfied	5	19.23	3	13.04		
Very dissatisfied	4	15.38	4	17.39		
Somewhat dissatisfied	6	23.08	5	21.74		
Somewhat satisfied	5	19.23	5	21.74		
Very satisfied	5	19.23	3	13.04		
Extremely satisfied	1	3.85	3	13.04		
Total	26	100	23	100		
Community size					2.044	0.0409
Extremely dissatisfied	0	0	1	4		
Very dissatisfied	1	3.85	6	24		
Somewhat dissatisfied	3	11.54	3	12		
Somewhat satisfied	6	23.08	7	28		
Very satisfied	13	50	4	16		
Extremely satisfied	3	11.54	4	16		
Total	26	100	25	100		

Note: All statistical tests in this table are Wilcoxon signed-rank tests.

Table 15: Likely living situation six months after wave two survey

	N	%
Not cohabiting	33	22.92
Cohabiting	111	77.08
Total	144*	100

* We are missing 102 observations of this variable, which was calculated using location information.

Table 16: Likely cohabitation status six months after wave two interview, by partner educational attainment

		Not cohabiting	Cohabiting	Total
HS or Associate's degree	N	5	37	42
	%	11.9	88.1	
Master's or professional degree	N	6	48	54
	%	11.11	88.89	
Doctorate	N	18	25	43
	%	41.86	58.14	
Total	N	29	110	139
	%	20.86	79.14	
Pearson Chi-Squared				16.634
D.F.				2
Pr(x>chi2)				0.000

Table 17: Likely cohabitation status six months after wave two interview, by partner opportunity distribution

Proportion of interview locations where partner's job prospects are:		Good			Fair			Poor		
		Not cohabiting	Cohabiting	Total	Not cohabiting	Cohabiting	Total	Not cohabiting	Cohabiting	Total
Few or none	N	12	19	31	7	29	36	11	58	69
	%	38.71	61.29		19.44	80.56		15.94	84.06	
Some	N	9	37	46	16	45	61	6	20	26
	%	19.57	80.43		26.23	73.77		23.08	76.92	
All or most	N	8	44	52	3	14	17	7	8	15
	%	15.38	84.62		17.65	82.35		46.67	53.33	
Total	N	29	100	129	26	88	114	24	86	110
	%	22.48	77.52		22.81	77.19		21.82	78.18	
Pearson Chi-Squared				6.4121			0.8942			6.8505
D.F.				2			2			2
Pr(x>chi2)				0.041			0.639			0.033

Table 18: Cohabitation by gender

	Men	Women	Total
Live apart	31	17	48
	25.62	33.33	27.91
Live together	90	34	124
	74.38	66.67	72.09
Total	121	51	172
	100	100	100

Table 19: Cohabitation by partner education and gender

		Men			Women		
		Live apart	**Live together**	**Total**	**Live apart**	**Live together**	**Total**
HS or Associate's degree	N	2	29	31	3	8	11
	%	6.45	93.55		27.27	72.73	
Master's or professional degree	N	5	37	42	1	11	12
	%	11.9	88.1		8.33	91.67	
Doctorate	N	11	14	25	7	11	18
	%	44	56		38.89	61.11	
Total	N	18	80	98	11	30	41
	%	18.37	81.63		26.83	73.17	
Pearson Chi-Squared				15.0606			3.4258
D.F.				2			2
Pr(x>chi2)				0.001			0.18

Table 20: Job choice by respondent gender and partner opportunity distribution

Proportion of interview locations where partner's job prospects are "good"

		Men			Women		
		Live together	Live apart	Total	Live together	Live apart	Total
Few or none	N	9	12	21	3	7	10
	%	42.86	57.14		30	70	
Some	N	4	30	34	5	7	12
	%	11.76	88.24		41.67	58.33	
All or most	N	4	30	34	4	14	18
	%	11.76	88.24		22.22	77.78	
Total	N	17	72	89	12	28	40
	%	19.1	80.9		30	70	
Pearson Chi-Squared				10.038			1.2963
D.F.				2			2
Pr(x>chi2)				0.007			0.523

Proportion of interview locations where partner's job prospects are "fair"

		Men			Women		
		Live together	Live apart	Total	Live together	Live apart	Total
Few or none	N	4	20	24	3	9	12
	%	16.67	83.33		25	75	
Some	N	9	31	40	7	14	21
	%	22.5	77.5		33.33	66.67	
All or most	N	1	11	12	2	3	5
	%	8.33	91.67		40	60	
Total	N	14	62	76	12	26	38
	%	18.42	81.58		31.58	68.42	
Pearson Chi-Squared				1.3046			0.4344
D.F.				2			2
Pr(x>chi2)				0.521			0.805

Proportion of interview locations where partner's job prospects are "poor"

		Men			Women		
		Live together	Live apart	Total	Live together	Live apart	Total
Few or none	N	5	42	47	6	16	22
	%	10.64	89.36		27.27	72.73	
Some	N	3	14	17	3	6	9
	%	17.65	82.35		33.33	66.67	
All or most	N	6	6	12	1	2	3
	%	50	50		33.33	66.67	
Total	N	14	62	76	10	24	34
	%	18.42	81.58		29.41	70.59	
Pearson Chi-Squared				9.8643			0.1374
D.F.				2			2
Pr(x>chi2)				0.007			0.934