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Taskin, Ahmet Ali

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Sorted and Settled: Migration Decisions of Dual Income Families

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Sorted and Settled: Migration Decisions of Dual Income Families

Ahmet Ali Taşkın*

June 9, 2014

Abstract

I analyze the interstate migration patterns of families and the effect of labor force attachment of women on joint migration decisions. I show that as the earned income of spouses become similar, the probability of migration falls substantially. This observation is robust in the sense that 1) it holds after controlling for a rich set of factors that are strongly correlated with relative income, 2) it yields qualitatively similar results when I model the incidence of attrition as another exit, 3) it consistently disappears for the shorter distance moves. I also find that the negative relationship between income similarity of couples and interstate migration is especially strong for couples with similar labor market characteristics beyond income levels.

Keywords: Dual Income Families; Migration; Gender Bias;
JEL codes: R23, J61, J16

1 Introduction

Family migration decisions are complicated since they involve potential effects on employment, earnings and well-being for both spouses. As Mincer (1978) points out, the family relocates only if the expected gains to one spouse are high enough to offset any lost value to the other spouse. In particular, the theory suggests that as the incomes of spouses become similar to one another, the relative cost of moving rises and it becomes harder for a couple to relocate. This type of ties on family migration becomes increasingly important for the current economy given the rise in the proportion of dual-earner couples (Raley, Mattingly and Bianchi (2006)). Moreover due to closing of gender wage gap we observe a secular increase in contribution of wives' income to total family income.[1]

Although spousal considerations are argued to be relevant for family migration, majority of the previous empirical studies favor gender based explanations of migration. In other words, as pointed

*Economist, Research and Monetary Policy Department, Central Bank of the Republic of Turkey. Istiklal Cad. 10 Ulus 06100 Ankara, Turkey. Phone: [+90] (312) 507 5489. Fax: [+90] (312) 324 2303. E-mail: ahmetali.taskin@tcmb.gov.tr.

[1]http://www.bls.gov/cps/wlf-table24-2011.pdf. Guler and Taskin (2013) quantifies the contribution of women's labor force attachment to the declining trend in family migration through family income dynamics and find that this explains about one third of the overall decline in migration over the last 25 years.

out by Bielby and Bielby (1992), the families relocate based on the notion that husband should be the main provider of the family, disregarding job prospects of the wife (Nivalainen (2004), Tenn (2010), Rabe (2011)). On the other hand, although it has been often noted that families with dual worker spouses are less migratory, we do not have an explicit explicit differentiation between the so called human capital theory of migration and migration based on gender role beliefs. Moreover there is currently little evidence on the relationship between income similarity of spouses and their migration propensities.

This study makes use of a detailed sample of U.S. families with an emphasis on recent years and tests the aforementioned hypothesis of family migration. Recently there have been some studies on the migration propensities of so-called "power" couples where both spouses have college education (Costa and Kahn (2000), Compton and Pollak (2007)). One would expect a stronger friction for mobility for these couples since they have similar income expectations. Zhu and Gan (2011) observes that from 1970s to 2000s the interstate migration rate of power couples has fallen compared to other families. They argue that 50 percent of this drop in migration is due to decreasing spousal earnings difference and decreasing correlation of earnings within a family. We, on the other hand, directly control for the current earned income of spouses relative to the total family income as an explanatory pre-move characteristic and use a duration model framework to test whether couples with similar incomes have lower migration propensities compared to otherwise identical couples. Throughout the analysis interstate migration is the focus of interest.

We use the Survey of Income and Program Participants (henceforth SIPP) as a source for migration data[2] covering 17 years, and show that married couples with similar labor income have the lowest migration propensity. By doing so we extend the earlier result by Pingle (2006) who uses the SIPP 1996 and 2001 panels with a similar setup and offers the aforementioned conclusion. The present work, in addition, makes use of a longer time horizon with additional socioeconomic characteristics that are critically related to the migration decision. We include labor supply variables of extensive and intensive margins, we characterize the source of income (i.e. whether the income is coming from wages or self employment), we use indicators for industries and the incidence of any transfer payments. We include these labor market controls for both spouses. We also condition on marital and migration history characteristics. Moreover, we repeat the migration model on several subgroups and we also consider close distance mobility.

The results suggest that spousal income similarity is negatively correlated with family migration, though with a smaller magnitude after controlling for rich set of factors. Controlling for the issue of attrition yields qualitatively similar results. We observe that this negative relationship is especially strong for couples that have the same education levels, and work in the same industry. Homeowner families also have a strongly negative relationship between income similarity and interstate migration. As a robustness check we consider residential mobility using the same sample

[2]It is an alternative panel data source which contains rich socioeconomic characteristics about households over 3-4 years at the monthly frequency. According to the Census Bureau the survey "uses a 4-month recall period, with approximately the same number of interviews being conducted in each month of the 4-month period for each wave." It is yet underutilized in the migration literature. Pingle(2006), and Murillo et al (2011) are few exceptions.

of individuals and show that as the distance moved becomes shorter the dual income vs migration relationship disappears.

There is a long tradition of empirical studies that show the importance of husband's career opportunities in family migration decisions. This has been often explained within the concept of gender identity norms. Jurges (2006) differentiate couples' gender norms based on their division of housework and show that traditional couples in which the wife does most of the housework move in response to husbands' job expectations, this observation does not survive for more egalitarian couples. However, the fact that husbands job related characteristics dominate in migration decision does not necessarily imply that they move based on gendered family roles. We isolate the effect of gender identity theory using the discontinuity of relative income of wife and husband at the 50 percent. We find that couples whose husband's earnings are slightly more than the wife's have lower migration rates compared to otherwise identical couples whose husband's earnings are slightly less.

2 Data

In this section we provide a brief introduction to the data we use and describe the main patterns of interstate migration for married individuals. The formal empirical model is set up in the next section. For the results here and henceforth we combine the SIPP panels of 1996, 2001, 2004 and 2008 which cover roughly 15 years. The main advantage of the SIPP in comparison to the CPS is that due to its panel nature it allows us to account for pre-move characteristics such as employment, housing tenure, marital status etc. Moreover the SIPP includes a larger sample of households[3] with more frequent information on many economic characteristics in comparison to other panels such as the PSID and the NLSY.[4] The biggest drawback of the SIPP is its well known attrition problem. According to a recent report from Census Bureau[5] at the end of the 4th year (the 12th wave) only 65 percent of the households could be followed. This amounts to an average 3 percent attrition rate per wave which is not uniform across waves and/or panels. As it will be clear in the empirical section this creates complications for migration analysis. The sheer amount of attrition and inconsistent follow-up efforts over time don't allow us to show a time trend similar to the ones that are demonstrated via CPS. We, instead, demonstrate the basic relationship of income dependence within a family with migration propensity.

We focus our analysis to civilian working age males who are married with a spouse present at the beginning of the panel. The age restriction follows Kaplan and Schulhofer-Wohl (2012), we keep individuals who are older than 18 at the beginning of the panel and don't hold any college degree at the end of the panel, or older than 21 and have a college degree at the beginning of the panel. Furthermore we apply the following restrictions: 1) we drop individuals residing in Maine, Vermont, South Dakota, North Dakota and Wyoming since 1996 and 2001 panels do not differentiate them as separate states, 2) we drop individuals who were not in the initial wave, 3) we drop individuals

[3] 1996 SIPP has 37000 households and the sample gets bigger for the subsequent panels.

[4] Hernandez-Murillo et al (2011) provides a good overview of the SIPP with an emphasis on interstate migration.

[5] http://www.census.gov/sipp/usrguide/ch2_nov20.pdf

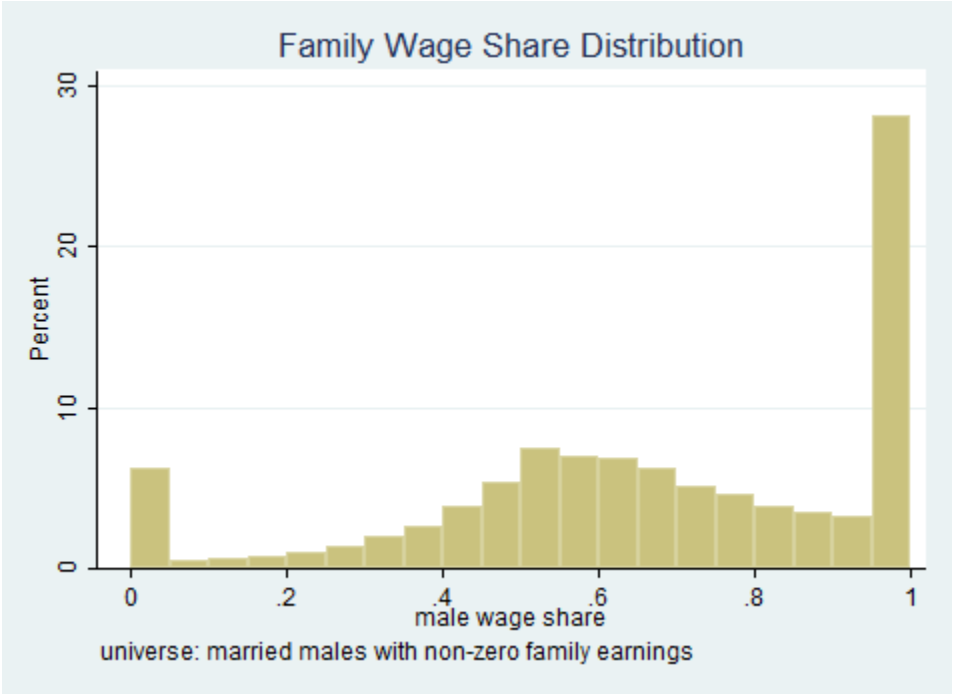

Figure 1: Distribution of Male Wage Share in Married Couples

who are older than 55 at the beginning of the panel, 4) we drop individuals who attritted from the sample or make an interstate move before the end of 2nd wave since we extract migration history characteristics from a topical module asked in the 2nd wave. All these exclusions leave us with 42143 individuals.

The main independent variable of interest is the relative share of earned income within a couple. For reasons laid out in Pingle(2006) we only use earned income either from wages or self employment. For each couple we create the wage share as the division of the average male wage to total average wage of both spouses. In order to reduce month-to-month variation we construct average wages on a 4 month rolling basis. For description purposes we use the wage share value at the 5th month of observation. Figure 1 describes the distribution of the average wage share across couples. Slightly less than 30 percent of the families have males as the sole earner whereas close to 10 percent of families have sole female earners. Figure 2 shows the 28 month interstate migration rate of couples as a function of relative wage share. One striking conclusion from this figure is that couples with similar labor income have a mobility rate 30 percent lower than the single earner families. This observation is qualitatively invariant to the education or age characteristics of the families. Second, the couples have the highest migration propensity when there is only one provider in the household. However this observation has a weaker prediction power for families where the wife is the main provider because this is seen so rarely. The non-parametric analysis confirms the family relocation theory; spousal income compositions play an important role in family migration decisions. We will test the robustness of this observation in the next section.

Next, we report descriptive statistics for a subset of the covariates we use in our analysis at the

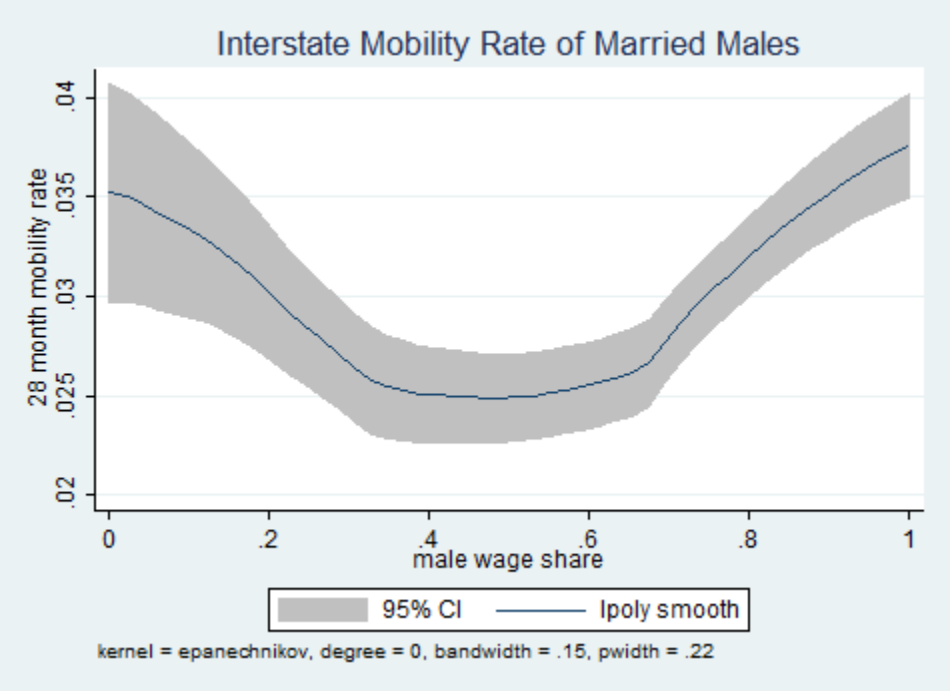

Figure 2: Mobility Rate by Male Wage Share

5th month of observation, separately for those who move between states and who stay in their state through the course of the panel period.[6] As shown in Table 1, movers are more likely to be white, younger, educated, a renter, and to change their marital status. They are more likely to be power couples (meaning both husband and wife have a college degree) and have fewer children. The share of dual worker and the share of families with positive earners is lower for movers. Since we have migration history information, we can construct the number of years stayed in the state since the age of 18.[7] This number is significantly smaller for the movers, demonstrating a negative duration dependence in the sense that, as time spent in the current state persists the migration probability decreases. Around 37 percent of individuals who did not move from their current state of residence drop out of the sample before the panel ends. Thus we are classifying some individuals as stayers simply because we don't have follow up information about them. Lastly, the individuals who have gaps in their data (temporary drop-outs) are more more likely to be movers. This suggests a positive correlation between the probability of interstate migration and the probability of attrition. Overall the mobility rate is 3.8 percent. The annualized mobility rate in our sample is lower than the figures in CPS, however, given the nature of attrition in the data, it is more likely to be a lower bound.

[6]Panel period is not uniform across samples. 1996 and 2004 panels have 12 waves (48 month), 2001 panel has 9 waves, we use 14 waves for the 2008 panel.

[7]The migration history information is provided based on the interview at the end of the 2nd wave (8th month of observation). Throughout the analysis here and henceforth we drop those individuals who have made a interstate move within that time period.

Table 1: Summary statistics at the beginning of the sample period, stayers and movers

Selected Characteristics	**Stayer**	**Mover**
black	0.075	0.059
hispanic	0.113	0.083
age	41.10	37.73
basic school	0.109	0.066
high school	0.273	0.182
some college	0.313	0.270
college	0.305	0.484
power couple	0.202	0.338
dual worker	0.721	0.658
dual earner[1]	0.670	0.605
owner	0.795	0.637
metro	0.767	0.773
marital change	0.045	0.125
kids	1.919	1.695
years in state	19.15	11.33
person gap	0.202	0.370
attrition	0.370	0
Households	40529	1614

[1]Indicator of positive wage for both spouses excluding families with no income

3 Baseline Empirical Model

The previous section demonstrated a remarkable pattern in the relationship between income similarity of couples and their likelihood of mobility. However there is a chance that the observed U shape relationship between the relative income share of males and the respective migration probability is due to other factors that are correlated with the income similarity and/or migration probability. We could categorize those factors into socio-demographic, economic and family history characteristics of individuals and geographic regions. For expositional simplicity we focus on the middle part of the U curve vs the tails of the U curve. Henceforth we construct an indicator of dual income that describes whether the couples are earning similar wages. More specifically, the dual income index takes value of 1 if the wage of the low earner spouse is bigger than 60% of the wage of the high earner spouse.[8] The effect of the dual index together with the rest of the controls is estimated in a semi-parametric duration model of the following form:

$$log\, h_i(t) = log\, h(t) + \alpha d_{it} + \beta X_{it} + \theta L_{it} + \gamma M_{it} + \delta S_{it} + \epsilon_{it} \tag{1}$$

Here h_{it} is the mobility hazard of the individual, where h_t is the baseline hazard which is estimated non-parametrically. d_{it} is our main variable of interest, dual index, based on the 4 month rolling average wage information of both spouses. X_{it} is a vector of social and demographic control

[8]This corresponds to the middle 25% of the overall wage share scale. One could get qualitatively similar results by increasing/decreasing the range of the dual index at small margins.

variables such as age, race, education, number of kids in the family, whether the individual lives in a metropolitan area, etc. L_{it} includes labor market variables of the person and the spouse such as whether the person (or the spouse) participates to the labor force on that month, whether he is employed, whether he receives income within the last 4 months, total earned income in a family as an average of the last 4 months, whether there are any transfer payments received, and the interaction of labor force and employment statuses. A majority of these variables change from one month to another. In order to avoid simultaneity we use the labor market variables and our main variable with 3 months lag. M_{it} includes information about migration and marriage history such as year spent in that state, years into marriage, number of marriages, whether the couples live in their state of birth. S_{it} incorporates state fixed effects. Using the retrospective residence questions we are able extract information about the current and previous states of the individual as well as the state of birth. Lastly since we pool over 4 separate panels we also include panel dummies in all regressions. An exhaustive list of variables with corresponding descriptions is given in Appendix.

3.1 Results

In order to establish the robustness of our main variable, "dual index", we run 4 separate regressions. Restricted with data availability on migration history variables we initiate the model at the 8th month of observation. For consistency we require that the individual is married with spouse present at the 8th month. We first start with a naive setup that only includes demographic controls. The first two columns in Table 3 report the coefficient and the standard error estimates of the baseline model with demographic controls. If we assume that only demographic factors effect mobility, then the results suggest that couples with similar incomes have nearly 30 percent lower migration probability. Observe that this is comparable with the graphical representation of the raw data. The demographics in general have economically meaningful relationships with migration: black and hispanic couples have lower migration rates than white couples, homeowners are less likely to move, migration is higher for educated households which is especially stronger for the power couples, living in metropolitan areas has a negative effect on migration. Age has mixed effects conditional on spouse age controls: although older individuals have lower migration likelihoods this also depends on the age characteristics of the spouse. For similar age couples the composition typically offset each other. For other types of family commitments we control for whether the husband has any biological child, number of children and log of number of family members in the household at the month of observation. Having a child slightly reduces the migration probability, however for families with many children the effect is the opposite. Moreover having an additional family member reduces the migration probability. We control for future changes in marital status and school enrollment: the likelihood of school enrollment and change in marital status increases the chances of migration. These effects are compromised by actual marital and school enrollment status. We also control for other types of demographic sorting besides income similarity; being a same race or same age do not have an effect on mobility, if the couple does not have college education then having the same education reduces the migration propensity.

Finally we control for variety of factors concerning migration behavior of the husband. We have number of years stayed in the state of current residence interacting with whether this person had made an interstate move before. In either case it is a strong predictor of migration propensity. The negative sign on the coefficients imply that the households are less likely to make an interstate move as the duration of stay becomes longer. Having moved before has a positive effect on migration, moving after marriage also has a similar effect albeit with smaller magnitude.

The second column reports the results that include economic variables. Here we control for both spouse's labor market variables. The coefficients on the spouse usually have the same sign but with varying magnitudes and lower significance levels. Participating the labor force alone does not significantly alter the mobility decision, however if the person is employed then the migration probability is substantially smaller. We also look at the family labor income where we identify the intensive margin separately: the couple is more likely to move if labor income of either spouse at any point in time is greater than zero, on the other hand conditional on having a positive income, income does not have significant effect on migration. This points out a discontinuous relationship between family income and migration. When we include positive earnings indicators for each spouses as well as the relative share of income, the interaction variables on labor force participation, employment and positive earnings do not have a significant effect. Households receiving any sort of transfer payment have lower migration propensity. Families with self employed spouses have higher migration propensity, however that effect becomes smaller as the the share of income earned by self-employment gets bigger. Having a positive property income slightly increases migration probability.[9] Finally spouses being in the same industry or occupation do not have significant effect on migration. As far as our main variable is concerned, the magnitude and the significance of the coefficient is reduced by one third. This is not surprising because we are controlling for many factors that are highly correlated with the income similarity index. However the fact that we still have a strong and significant effect points out an important relationship.

In the third column we append new set of factors related to the migration and marriage history of the individual. Since years in a state is related to duration dependence, we include that in every specification. Here we have higher mobility for people who married more than once and individuals who have gaps in their sample. The couples who have been married for more years also have a lower migration propensity although the effect is negligibly small and insignificant. Living at the state of birth which captures some extent of preference heterogeneity has a strong negative effect on interstate migration. Moreover couples who born in the same state have lower migration propensity. Finally, for people who are not self-employed we include the number of months worked for the same job and observe that job tenure is negatively associated with mobility. For our main variable the coefficient becomes mildly smaller with a similar significance.

We add a final set of variables that consist of state fixed effects One thing we haven't yet addressed is the left censoring problem: due to data unavailability we don't initiate the estimation

[9]Including an intensive margin for the property income produces qualitatively similar results with labor income which suggests a non-linear relationship between wealth and migration as observed in McHenry (2012).

at the exact time that the couple starts living in their current state. We are bounded by the first observation date of the covariates. However, unlike unemployment spells the incidence of migration is not an absorbing exit. Wherever the individuals move they will still be part of the sample. Consider a family who moved from California to Texas one year before the sample period. When the panel starts we will have them in our sample as a resident of Texas and they will be followed to see whether they are going to make another interstate move. Moreover we control for the fact that the person has moved before, whether this was after the age of 18 or after marriage. For this reason, we don't have a sample selection issue as in unemployment duration models. Nonetheless we observe a strong duration dependence in migration suggesting a potential omitted variable bias. To remedy that problem we include dummies of previous state of residence and the state of birth as well as the current state of residence. Column 4 shows the results for our "ideal" estimation. The coefficient on dual income index becomes -0.197 slightly higher than a half of the first regression with just demographics.

3.2 Empirical Model with Attrition

Up until now we have been agnostic about the problem of attrition. A simple snapshot of the data reveals that the attrition rate in a panel is almost an order of magnitude larger than the migration rate. Moreover, we know that relocation is a common reason for attrition. In the baseline model we treat individuals who dropped out of the sample as non-movers simply because we don't have follow up information about them. We would like to have a model where we allow the possibility that at least some of the attritted families make an interstate move. One simple way to analyze this is to assume that all the attrition results from an interstate move. Although this is a strong assumption, as long as the people who drop out of the sample and make an interstate move have similar characteristics with the rest of the drop-out group we should get meaningful results.

We repeat the same set of regressions with the exit specification where attrition is also assumed to be an interstate move. Table 4 describes the results. Strikingly the results are comparable to those we get without accounting for attrition. Our main variable has a smaller coefficient but follows a very similar trajectory from -0.061 in the first regression to -0.036 in the last. This is not surprising since we expanded the probability of moves by an order of magnitude in which most of the outcomes are not actually interstate moves. Therefore having a similar income reduces the mobility only around 4 percent which is still a substantial effect given that on average more than 35 percent of the sample is assumed to move between states. For the rest of the variables we only mention the results if they have significantly opposite conclusions from the former estimation. Current school enrollment increases the mobility whereas ever enrollment indicator decreases it, marital change and being married with spouse present have negative effects on mobility suggesting that more stable households are less likely to be dropped out sample. Similarly years of marriage is also negatively correlated with migration. We have lower mobility for self employed couples which is mitigated as the share of self employed income gets bigger. Having a property income is associated with lower mobility.

3.2.1 Competing Risk Model

Now we turn into a more formal treatment of attrition. The fact that we don't observe the individual after the attrition might bias our estimates of the migration hazard. Hence we need a framework that addresses the incidence of attrition and migration jointly. Here we follow Fine and Gray (1999) and introduce a competing risk framework. The model is still a semi-parametric hazard estimation like the previous section, however instead of having one baseline hazard we specify 2 baseline subhazards for migration and attrition where subhazards are allowed to be correlated.

For computational reasons we only make use of the covariates from the initial month of estimation. Arguably this would reduce the predictive power of the estimates since the main labor market variables change monthly. On the other hand, having a distance between labor market variables and migration decision help us to avoid the effect of these joint decisions. In order to have a sense of the new setup we repeat the original single risk regression with time invariant covariates specified at the first period of the spell. Table 5 reports the estimates of the main variable of interest for the 4 set of regressions we did in the previous section. The first line lists the coefficient of dual index variable. The coefficient on our main variable of interest with only demographic controls is -0.270 down from -0.337 in previous section with time variant covariates. The rest of the regressions (columns 2-4) yield mildly smaller estimates in magnitude for the dual index variable. In the final regression the effect of being a dual income couple is -0.203 which is still significant at the 5% level. In the second line we report the estimates from the competing risk model. Here we see negligibly smaller coefficients compared to the single risk framework without time varying factors. Therefore we conclude that the estimates reported in the previous section are robust to different empirical specifications, however the magnitude and the significance of the estimates do vary.

3.3 Interaction Effects

What type of families face dual income ties as a binding constraint in migration decision? To identify the main groups that generates the negative relationship between income similarity and migration propensity we run separate regressions on selected subgroups and report the effect of income similarity in Table 6.[10] For each subgroup we use the covariates in the final specification (4) as introduced in the main empirical model and run time invariant regressions. Hence we take -0.203 as a reference coefficient for dual income index. Table 6 shows that younger households have a negative relationship between income similarity and migration propensity which becomes slightly insignificant for couples with older husbands. For the same race and same age couples we have negative coefficient on dual income index closer in magnitude to the full sample. Homeowner couples exhibit a strong decline in migration propensity if they have similar income. This might be because of the fact that job related migration typically favors one spouse more than the other and as the couples become more settled in their place of residence, they are less inclined to experience such a change. On the other hand, couples that have a child or live in a metropolitan area experience dual

[10] For each subgroup we use the value of corresponding variable in the first period of observation as a classifier.

income tying similar in magnitude compared to overall relationship. The interaction of absolute family income and relative spouse income have a non-linear effect on migration: For high income families income similarity reduces migration likelihood with a strong magnitude, for low income families the coefficient on dual index is similar but insignificant.

As we have stressed before, other types of assortative matching patterns might get interacted with income similarity. For instance the coefficient on couples with same education levels at the beginning of the sample period is -0.253, strongly negative and slightly bigger than the overall effect, -0.203. The relationship becomes even stronger for the power couples. Notice that in the previous section we observed that power couples are the most mobile family type. We see a similar trend in same industry couples: they are more mobile than otherwise identical families, however they have a strongly negative relationship between income similarity and migration propensity.[11] This is also true for the same occupation couples. Finally couples that born in the same state have a strongly negative relationship between their income similarity and migration propensity.

3.4 Residential Mobility

One easy way to test the robustness of the income similarity and labor mobility relationship is to check the extent that it exists in other types of mobility. Previous literature has argued that movements within a county could be explained by factors beyond the dynamics of the labor market (Molloy, Smith and Wozniak, 2013). In fact Census estimates suggest that in 2010 for those people who move within county only 10% of them cited the main reason for move as job related reason whereas the same number is above 30% for intercounty movers.[12] Therefore we expect the relative income and migration relationship to disappear if we focus on close distance moves. Although the SIPP does not identify the location of the household beyond the state of residence[13] it provides information about the unique address of households allowing us to observe whether there is a residential change. Here residential mobility captures both within and between labor market mobility. The extent to which we could identify these two types of moves, we are able to test the validity of our hypothesis.

Table 2: Residential Mobility Characteristics

Mobility Characteristics	**Observations**	**Share**
Address change	9639	0.228
Multiple address change	2712	0.064
State Change	1614	0.038
Attrition	15010	0.356
Households	42143	1.000

[11] This also has a quantitative importance for the couples that work in the same industry since the share of similar income couples is 46% for that group, almost twice as large as the share in overall population.

[12] http://www.census.gov/compendia/statab/2012/tables/12s0031.pdf

[13] For the 1996 and 2001 panels a big portion of the Metropolitan Statistical Areas (MSA) are identified, however this does not extend to the further panels. Pingle(2006) tests the relative income theory on inter-MSA mobility and obtain similar results compared to interstate mobility with lower significance.

Table 2 describes the main pattern of residential mobility in our sample. Here we see that over 20% of the households change residence over the course of 3-4 years, and more than 6% of those households experience multiple address change. Notice that multiple address change alone is greater than the overall interstate mobility figures which is around 3.6%.

We use the benchmark semi-parametric duration model introduced in the previous section for address change hazard. In line with previous section, we follow individuals until the first address change. Since residential mobility is well captured by main demographic characteristics we do 2 regressions where the former only includes the main variable of interest, dual income index, and the latter includes the family demographics described in column (1) of the main results table.

Table 7 columns (1A-1B) provides estimates for the dual income index with every address change including the interstate moves. The first row shows that for the time variant covariates, the coefficient on dual index moves from -0.074 to -0.006 as we add demographic characteristics to the regression(column 1A to column 1B). This observation is consistent for any type of specification listed in this section. When we include the attrition as a competing hazard (with time invariant covariates as in previous section), the effect of income similarity becomes slightly smaller and with demographic characteristics it virtually goes away.

One would argue that this small but still negative relationship between income similarity and residential mobility comes from the fact that around 10% of address changes includes a state change as well. For that reason we repeat the same regressions treating interstate moves as a separate exit. As shown in Table 7 columns (2A-2B), when we exclude the interstate moves from the overall residential changes the effect of dual index becomes even smaller, a consistent fact for every specification. In the case where we add demographics to the estimation the coefficient takes a slight positive turn.

Here we confirm that the relationship between income similarity and interstate migration is a labor mobility phenomenon, it simply disappears for the closer distance moves. The residential mobility is mostly explained by the demographic factors, excluding interstate changes and allowing for alternative competing risks substantially effect the relationship.

4 The Role of Gender Identity

We have shown that relative income plays an important role for family migration decisions. As expected similar income couples have lower migration rates for the interstate moves which are associated with labor mobility. This link fades away when we focus on local moves. Previous papers have argued that family migration decisions are based on husbands' characteristics rather than that of wives. However given the nature of the gender wage gap this could potentially be a simple outcome of the family maximization problem.[14] In order to argue whether families migrate based on favoring husbands' job prospects as an outcome of traditional gender roles in the society

[14]In an economy where there is little job opportunities for women, it is optimal for families to migrate based on husbands' job prospects.

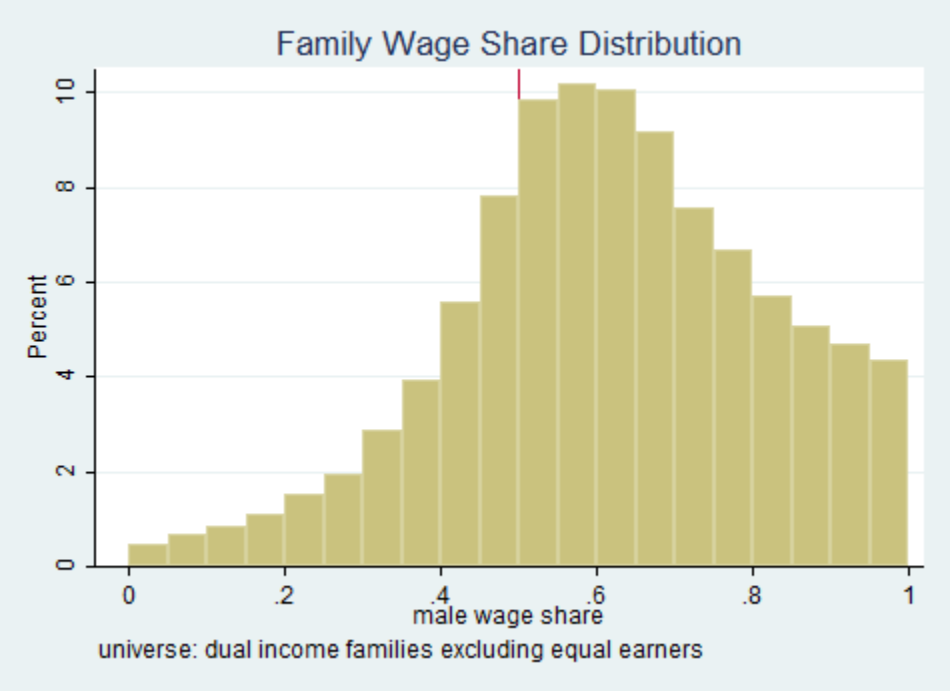

Figure 3: Distribution of Male Wage Share in Married Couples

or they choose this way since it is better for the family overall one needs to compare families that only differ along the preferences on genders' role in the society.

In this section we provide evidence using a discontinuity design based on reported labor incomes. Following Bertrand, Kamenica and Pan (2013) we check whether our variable "male wage share" exhibits a sharp drop at 0.5. Figure 3 depicts the histogram of relative income[15] grouped in 20 bins. The relatively sharp drop at the point of 0.5 suggests that some families intentionally avoid the possibility that wife's income exceed that of husband's. We argue that this cutoff around 0.5 provides an identification for traditional vs egalitarian gender roles. More specifically if the wage share of husband is just above 0.5, compared to the families with just below the cutoff, this family tends to put more attention on husband economic gains rather than family gains as a whole. This implies a fall in family migration: the families that prioritize husband's career as part of their preferences will end up rejecting some offers for the wife which could be good for the family but bad for the husband. However since they already earn similar income they would still be pulled down by family tie factors as well. On the other hand, the families where husband earns just below 50% of the income will only have similar income tie on migration.

Figure 4 provides the first piece of evidence towards this intuition: we draw migration probabilities along the relative income of husband's, separately for above and below the par, and observe that at the 0.5 cutoff there is also a drop in migration. For couples that have otherwise very similar characteristics the gender identity causes a fall in interstate migration. In order to see whether this

[15]On top of the sampling restrictions on previous figure we exclude the husband only and wife only earners as well as equal earners. (i.e. male wage share is exactly at 0.5)

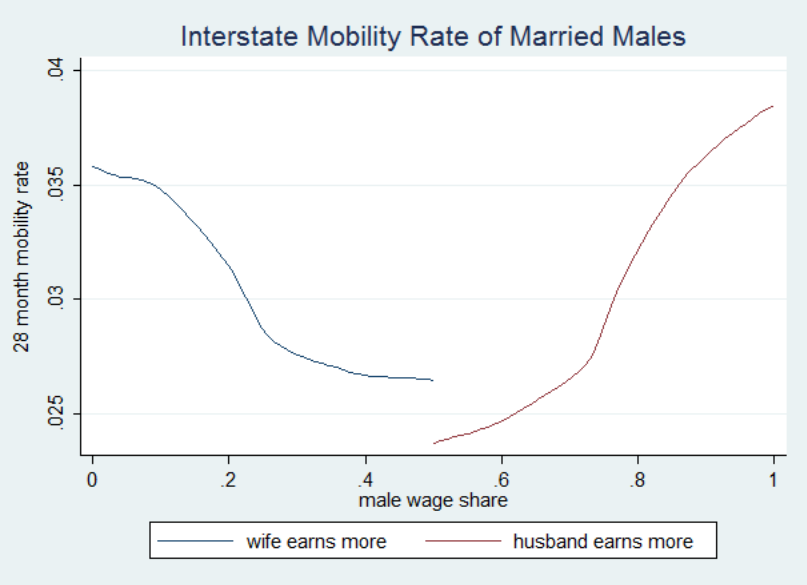

Figure 4: Mobility Rate by Male Wage Share

is a significant and sizeable effect we then turn into a more formal analysis:

$$log\ h_i(t) = log\ h(t) + \alpha g_i + \beta X_{it} + \epsilon_{it} \tag{2}$$

Here g_i is an indicator of whether husband earns more than the wife which stands for the gender identity preference. Since the identification is coming from a strict neighborhood around the cutoff point we run the cox regression with time invariant regressors with different ranges around 0.5. For simplicity we only include demographic factors. Table 3 provides estimates for the effect of gender identity ranging from relative income intervals of 0.02 to 0.15 along with the number of observations that fall into those intervals. We observe that as the interval becomes tighter around the cutoff point the estimate becomes larger, however with shrinking sample size we also have larger standard errors. Second, when we get the estimation interval large enough, the coefficient on g_i becomes virtually zero. We conclude that the most reliable estimates of gender identity are around -0.3 to -0.4 which corresponds to intervals ranging from 0.03 to 0.08 around the cutoff point.

One potential problem concerning this type of discontinuity design is whether there is another covariate that experience a drop around the cutoff point. More specifically, since gender identity preference leads up to changes in family formation, wife's labor force participation and other activities that affect intra-household bargaining, as argued by Bertrand et al (2013), our estimate of gender identity could carry information caused by other factors. For a simple check whether this is at work here, we regress the variable g_i on the covariates of the present migration analysis. We observe that almost none of the variables significantly explains whether husband's income slightly passes the wife's income. The adjusted R^2 of the estimation is virtually zero.

Table 3: Effect of Gender Bias

Range	Estimate	Std. Er.	Obs.
[0.495, 0.505]	-0.726	(0.6084)	516
[0.490, 0.510]	-0.464	(0.3895)	1002
[0.485, 0.515]	-0.414	(0.3226)	1540
[0.480, 0.520]	-0.276	(0.2666)	2072
[0.475, 0.525]	-0.390	(0.2303)	2566
[0.470, 0.530]	-0.445	(0.2127)	3057
[0.465, 0.535]	-0.339	(0.1991)	3517
[0.460, 0.540]	-0.320	(0.1867)	3989
[0.455, 0.545]	-0.272	(0.1767)	4440
[0.450, 0.550]	-0.182	(0.1652)	4959
[0.445, 0.555]	-0.080	(0.1585)	5459
[0.440, 0.560]	-0.108	(0.1507)	5945
[0.435, 0.565]	-0.049	(0.1441)	6383
[0.430, 0.570]	-0.005	(0.1398)	6826
[0.425, 0.575]	0.002	(0.1346)	7340

5 Conclusion

This paper establishes a robust relationship between the income similarity of couples and their interstate migration propensities. We show that similar income couples have substantially lower migration rates than families where most of the income is earned by one spouse. This is true after conditioning on several socio-demographic, economic and marriage and migration history related indicators as well as state controls. This result is unchanged if we only make use of the first month of observation for the covariates and is also robust to other empirical specifications such as the incidence of attrition. Considering a more general framework that captures a detailed U shape relationship between the relative wage share in a family and migration propensity still yields similar results with lower significance as we increase the precision of the variable of interest.

We show that the negative relationship between income similarity of couples and migration propensity is stronger for more settled families such as homeowners and longer married couples. We also see stronger effect for couples with same education and for couples that work in the same industry pointing out that as couples become more similar in other aspects related to labor market, the effect of income similarity on migration tends to amplify. The exercise with residential mobility shows that it is the labor mobility where couples' relative income play an important role, and this effect fades away for the closer distance moves. We know that the U.S. economy has shifted towards more equal earnings for both genders and this has caused spousal earnings differences to wane. The natural follow up for this result is to establish a model that captures the relationship between the change in the gender earnings difference and overall interstate migration.

We finally test whether gender norms affect family migration decisions. We argue that since there is a discontinuity at the relative income distribution of husband and wife around 0.5, we could compare the couples above and below the cutoff to isolate the effect of gender identity. We

show that families where husbands earn slightly more than the wife migrate less often compared to couples where husbands earn slightly more than the wife. This suggests that due to gender role beliefs they end up rejecting some offers for the wife simply because it is not good for the husband.

Table 4: Estimation results : Baseline Mobility Model

	(1)		(2)		(3)		(4)	
	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.
dual index	-0.337	(0.0633)	-0.218	(0.0713)	-0.205	(0.0715)	-0.197	(0.0718)
black	-0.399	(0.194)	-0.393	(0.194)	-0.429	(0.193)	-0.461	(0.184)
hispanic	-0.363	(0.154)	-0.351	(0.154)	-0.369	(0.151)	-0.0412	(0.147)
black_sp	0.189	(0.205)	0.214	(0.206)	0.230	(0.204)	0.229	(0.193)
hispanic_sp	-0.0885	(0.150)	-0.0712	(0.150)	-0.0463	(0.146)	-0.0628	(0.139)
same race	0.0545	(0.0742)	0.0631	(0.0746)	0.0734	(0.0755)	-0.131	(0.0792)
age 25-29	0.247	(0.154)	0.249	(0.154)	0.237	(0.153)	0.305	(0.156)
age 30-39	0.0580	(0.170)	0.0612	(0.170)	0.0550	(0.170)	0.169	(0.173)
age 40-49	-0.172	(0.194)	-0.168	(0.194)	-0.210	(0.196)	-0.0847	(0.200)
age 50+	-0.344	(0.222)	-0.363	(0.222)	-0.406	(0.229)	-0.282	(0.234)
age 25-29_sp	-0.222	(0.115)	-0.214	(0.115)	-0.232	(0.115)	-0.255	(0.117)
age 30-39_sp	-0.328	(0.128)	-0.318	(0.128)	-0.355	(0.129)	-0.379	(0.131)
age 40-49_sp	-0.396	(0.151)	-0.385	(0.151)	-0.382	(0.153)	-0.406	(0.156)
age 50-59_sp	-0.197	(0.183)	-0.217	(0.183)	-0.175	(0.187)	-0.212	(0.190)
same age	0.0163	(0.0692)	0.0137	(0.0694)	0.0879	(0.0713)	0.0427	(0.0723)
high school	0.216	(0.124)	0.206	(0.125)	0.198	(0.125)	0.172	(0.125)
some college	0.364	(0.126)	0.328	(0.128)	0.316	(0.127)	0.266	(0.128)
college	0.678	(0.142)	0.610	(0.149)	0.613	(0.149)	0.601	(0.149)
high school_sp	0.0400	(0.126)	0.0459	(0.127)	0.0465	(0.127)	0.0115	(0.127)
some college_sp	0.454	(0.124)	0.451	(0.126)	0.442	(0.126)	0.396	(0.126)
college_sp	0.186	(0.159)	0.162	(0.164)	0.183	(0.164)	0.166	(0.164)
same educ.	-0.146	(0.0780)	-0.141	(0.0781)	-0.115	(0.0783)	-0.108	(0.0788)
power	0.383	(0.181)	0.385	(0.182)	0.335	(0.182)	0.304	(0.183)
owner	-0.783	(0.0575)	-0.781	(0.0596)	-0.746	(0.0595)	-0.809	(0.0609)
family size	-0.311	(0.0948)	-0.312	(0.0953)	-0.261	(0.0949)	-0.269	(0.0957)
kid	-0.118	(0.0860)	-0.115	(0.0864)	-0.0901	(0.0865)	-0.0821	(0.0872)
no. of kids	0.0749	(0.0309)	0.0775	(0.0310)	0.0694	(0.0313)	0.0570	(0.0316)
metro	-0.233	(0.0600)	-0.260	(0.0608)	-0.269	(0.0610)	-0.160	(0.0687)
married	0.815	(0.177)	0.971	(0.183)	0.905	(0.182)	0.921	(0.184)
marital change	1.099	(0.0923)	1.097	(0.0927)	0.961	(0.0934)	0.960	(0.0949)
enroll	-0.228	(0.133)	-0.291	(0.134)	-0.277	(0.134)	-0.295	(0.136)
ever enroll	0.153	(0.0735)	0.145	(0.0739)	0.141	(0.0741)	0.113	(0.0751)
enroll_sp	-0.266	(0.119)	-0.286	(0.119)	-0.270	(0.119)	-0.266	(0.120)
ever enroll_sp	0.137	(0.0670)	0.150	(0.0673)	0.138	(0.0673)	0.142	(0.0681)
yrs. in state	-0.0189	(0.00703)	-0.0193	(0.00703)	-0.0101	(0.00724)	-0.00782	(0.00729)
yrs since move	-0.0363	(0.00751)	-0.0341	(0.00752)	-0.0323	(0.00755)	-0.0347	(0.00762)
moved before	1.068	(0.174)	1.013	(0.174)	0.645	(0.193)	0.629	(0.195)
move aft. 18	0.142	(0.114)	0.160	(0.114)	0.136	(0.115)	0.129	(0.116)
move aft. mar.	0.242	(0.0788)	0.243	(0.0791)	0.344	(0.0862)	0.317	(0.0876)
panel 01	-0.0784	(0.0803)	-0.104	(0.0805)	-0.102	(0.0806)	-0.107	(0.0815)

panel 04	0.161	(0.0683)	0.158	(0.0697)	0.0883	(0.0700)	0.0942	(0.0713)
panel 08	-0.0968	(0.0692)	-0.110	(0.0711)	-0.261	(0.0727)	-0.262	(0.0740)
labor			-0.0122	(0.230)	-0.0263	(0.231)	-0.0168	(0.232)
labor_sp			-0.194	(0.297)	-0.265	(0.295)	-0.222	(0.296)
labor_jnt			-0.168	(0.283)	-0.139	(0.282)	-0.162	(0.283)
employed			-0.585	(0.202)	-0.516	(0.203)	-0.505	(0.203)
employed_sp			-0.205	(0.269)	-0.0850	(0.267)	-0.120	(0.269)
employed_jnt			0.0326	(0.249)	0.00705	(0.247)	0.0220	(0.248)
no wage			-0.220	(0.171)	-0.175	(0.170)	-0.158	(0.171)
no wage_sp			-0.199	(0.120)	-0.165	(0.119)	-0.169	(0.119)
no family wage			0.461	(0.337)	0.424	(0.335)	0.268	(0.336)
log family wage			0.00503	(0.0404)	-0.00475	(0.0403)	-0.0233	(0.0406)
transfer			-0.945	(0.345)	-0.903	(0.345)	-0.934	(0.347)
transfer_sp			-0.178	(0.182)	-0.206	(0.182)	-0.229	(0.183)
selfemployed			0.335	(0.169)	0.257	(0.168)	0.265	(0.168)
selfemployed_sp			0.447	(0.174)	0.343	(0.173)	0.323	(0.173)
self share			-0.359	(0.188)	-0.328	(0.187)	-0.329	(0.188)
self share_sp			-0.366	(0.209)	-0.346	(0.207)	-0.375	(0.207)
property			0.0872	(0.0605)	0.138	(0.0606)	0.114	(0.0614)
same industry			-0.0143	(0.0778)	-0.0211	(0.0778)	0.00344	(0.0787)
same occupation			-0.0646	(0.0798)	-0.0753	(0.0799)	-0.0690	(0.0808)
exmar					0.185	(0.0579)	0.147	(0.0591)
yrs. in mar					-0.00594	(0.00579)	-0.00600	(0.00589)
homie					-0.405	(0.106)	-0.600	(0.111)
homie_sp					-0.454	(0.0861)	-0.504	(0.0881)
homie_jnt					0.464	(0.158)	0.384	(0.161)
same birth state					-0.350	(0.0709)	-0.197	(0.0747)
job tenure					-0.00069	(0.00041)	-0.00087	(0.00041)
job tenure_sp					-0.00160	(0.00056)	-0.00151	(0.00057)
person gap					0.678	(0.0539)	0.694	(0.0546)
N	1184876		1184876		1184876		1184876	

Standard errors in parentheses

Table 5: Estimation results : Mobility with Attrition

	(1)		(2)		(3)		(4)	
	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.
dual index	-0.0606	(0.0181)	-0.0366	(0.0204)	-0.0351	(0.0205)	-0.0359	(0.0206)
black	0.0254	(0.0576)	0.0108	(0.0578)	0.00803	(0.0580)	0.00411	(0.0581)
hispanic	-0.0402	(0.0468)	-0.0450	(0.0470)	-0.0545	(0.0473)	-0.00229	(0.0486)
black_sp	0.0729	(0.0616)	0.0718	(0.0618)	0.0669	(0.0620)	0.0969	(0.0619)
hispanic_sp	-0.0684	(0.0462)	-0.0606	(0.0463)	-0.0610	(0.0464)	-0.0297	(0.0465)
same race	-0.0642	(0.0253)	-0.0616	(0.0253)	-0.0491	(0.0256)	-0.0701	(0.0269)
age 25-29	0.00778	(0.0582)	0.00514	(0.0582)	0.00098	(0.0582)	0.00574	(0.0584)
age 30-39	-0.112	(0.0635)	-0.113	(0.0635)	-0.118	(0.0636)	-0.114	(0.0639)
age 40-49	-0.124	(0.0705)	-0.129	(0.0706)	-0.131	(0.0711)	-0.134	(0.0715)
age 50+	-0.180	(0.0786)	-0.197	(0.0787)	-0.190	(0.0799)	-0.197	(0.0803)
age 25-29_sp	-0.142	(0.0451)	-0.134	(0.0451)	-0.136	(0.0452)	-0.147	(0.0453)
age 30-39_sp	-0.200	(0.0484)	-0.189	(0.0485)	-0.186	(0.0487)	-0.194	(0.0489)
age 40-49_sp	-0.185	(0.0538)	-0.177	(0.0540)	-0.157	(0.0545)	-0.166	(0.0548)
age 50+_sp	-0.239	(0.0611)	-0.237	(0.0612)	-0.200	(0.0622)	-0.214	(0.0625)
same age	0.0146	(0.0210)	0.0229	(0.0210)	0.0504	(0.0217)	0.0443	(0.0218)
high school	0.0474	(0.0321)	0.0699	(0.0322)	0.0698	(0.0322)	0.0666	(0.0324)
some college	0.0218	(0.0330)	0.0536	(0.0334)	0.0522	(0.0335)	0.0416	(0.0337)
college	0.0578	(0.0406)	0.122	(0.0427)	0.121	(0.0428)	0.121	(0.0429)
high school	0.0607	(0.0338)	0.0701	(0.0341)	0.0745	(0.0341)	0.0770	(0.0342)
college	0.0634	(0.0346)	0.0814	(0.0352)	0.0807	(0.0353)	0.0804	(0.0354)
some college	0.0464	(0.0437)	0.0850	(0.0453)	0.0810	(0.0453)	0.0906	(0.0454)
same educ.	-0.00695	(0.0206)	-0.00245	(0.0207)	-0.001	(0.0207)	0.00028	(0.0208)
power	-0.0333	(0.0523)	-0.0376	(0.0525)	-0.0397	(0.0525)	-0.0564	(0.0527)
owner	-0.278	(0.0202)	-0.245	(0.0208)	-0.237	(0.0208)	-0.239	(0.0212)
family szie	-0.133	(0.0280)	-0.127	(0.0281)	-0.121	(0.0284)	-0.123	(0.0285)
kid	-0.0553	(0.0281)	-0.0462	(0.0282)	-0.0397	(0.0282)	-0.0395	(0.0284)
no. of kids	0.0143	(0.00928)	0.0120	(0.00928)	0.0143	(0.00948)	0.0117	(0.00956)
metro	0.0103	(0.0189)	0.0177	(0.0192)	0.0117	(0.0192)	0.0478	(0.0212)
married	-0.880	(0.0870)	-0.866	(0.0883)	-0.871	(0.0883)	-0.861	(0.0885)
marital change	-0.743	(0.0721)	-0.753	(0.0722)	-0.760	(0.0722)	-0.763	(0.0723)
enroll	0.120	(0.0553)	0.0977	(0.0555)	0.0997	(0.0555)	0.106	(0.0556)
ever enroll	-0.219	(0.0298)	-0.226	(0.0299)	-0.228	(0.0299)	-0.232	(0.0299)
enroll_sp	0.107	(0.0449)	0.102	(0.0449)	0.103	(0.0449)	0.102	(0.0450)
ever enroll_sp	-0.217	(0.0253)	-0.213	(0.0254)	-0.216	(0.0254)	-0.224	(0.0254)
yrs. in state	0.00083	(0.00202)	0.00124	(0.00202)	0.00409	(0.00211)	0.00463	(0.00213)
yrs. since move	-0.0139	(0.00194)	-0.0139	(0.00194)	-0.0137	(0.00195)	-0.0141	(0.00197)
moved before	0.370	(0.0509)	0.374	(0.0510)	0.328	(0.0570)	0.316	(0.0574)
move aft. 18	-0.0165	(0.0340)	-0.0155	(0.0340)	-0.0263	(0.0344)	-0.0198	(0.0346)
move aft. mar.	0.0396	(0.0284)	0.0474	(0.0285)	0.0901	(0.0307)	0.0819	(0.0310)
panel 01	-0.202	(0.0305)	-0.214	(0.0305)	-0.217	(0.0305)	-0.216	(0.0306)

panel 04	1.009	(0.0216)	1.002	(0.0219)	0.997	(0.0220)	0.963	(0.0223)
panel 08	0.0571	(0.0254)	0.0184	(0.0260)	0.00829	(0.0264)	-0.00994	(0.0266)
labor			0.274	(0.0852)	0.272	(0.0852)	0.271	(0.0854)
labor_sp			0.283	(0.101)	0.280	(0.101)	0.273	(0.101)
labor_joint			-0.284	(0.0998)	-0.285	(0.0998)	-0.287	(0.0997)
employed			-0.0821	(0.0757)	-0.0781	(0.0757)	-0.0695	(0.0758)
employed_sp			-0.0332	(0.0944)	-0.0244	(0.0944)	-0.0163	(0.0944)
employed_joint			-0.0284	(0.0906)	-0.0264	(0.0906)	-0.0307	(0.0906)
no wage			0.0159	(0.0551)	0.0187	(0.0551)	0.00583	(0.0552)
no wage_sp			-0.0736	(0.0399)	-0.0703	(0.0399)	-0.0733	(0.0399)
no family wage			0.0478	(0.106)	0.0610	(0.107)	-0.00432	(0.107)
log family wage			-0.0667	(0.0129)	-0.0654	(0.0130)	-0.0750	(0.0131)
transfer			-0.194	(0.0773)	-0.193	(0.0773)	-0.188	(0.0774)
transfer_sp			-0.0874	(0.0559)	-0.0863	(0.0559)	-0.102	(0.0561)
selfemployed			-0.139	(0.0511)	-0.142	(0.0510)	-0.140	(0.0511)
selfemployed_sp			-0.00009	(0.0559)	-0.00679	(0.0559)	-0.0207	(0.0558)
self share			0.193	(0.0543)	0.193	(0.0543)	0.196	(0.0544)
self share_sp			0.0768	(0.0634)	0.0762	(0.0633)	0.0765	(0.0633)
property			-0.0608	(0.0183)	-0.0546	(0.0184)	-0.0790	(0.0186)
same industry			0.0343	(0.0246)	0.0327	(0.0246)	0.0334	(0.0247)
same occupation			-0.0437	(0.0253)	-0.0448	(0.0253)	-0.0466	(0.0254)
exmar					0.0283	(0.0184)	0.0258	(0.0186)
yrs. in mar					-0.00514	(0.00161)	-0.00456	(0.00162)
homie					-0.0488	(0.0369)	-0.0835	(0.0389)
homie_sp					-0.0543	(0.0309)	-0.0557	(0.0314)
homie_jnt					0.00790	(0.0555)	-0.0221	(0.0566)
same birth state					0.0119	(0.0278)	0.0530	(0.0295)
jobtenure					-0.00010	(0.000104)	-0.00012	(0.00010)
job tenure_sp					-0.00015	(0.000127)	-0.00016	(0.00013)
person gap					0.0376	(0.0189)	0.0328	(0.0190)
N	1184876		1184876		1184876		1184876	

Standard errors in parentheses

Table 6: Estimation results : Time Invariant Regression

	(1)		(2)		(3)		(4)	
	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.
single risk model	-0.270	(0.0614)	-0.209	(0.0684)	-0.194	(0.0689)	-0.203	(0.0695)
competing risk model	-0.263	(0.0608)	-0.204	(0.0678)	-0.191	(0.0681)	-0.197	(0.0690)

Reported estimates are the coefficients of the variable dual index

Table 7: The Effect of Dual Income Index on Selected Subgroups

Subgroups	**Coefficient**	**Standard Error**
same white	-0.162	(0.0806)
same race	-0.208	(0.0757)
age 40 above	-0.184	(0.1155)
age 30 below	-0.269	(0.1604)
same age	-0.194	(0.0767)
college	-0.357	(0.1030)
high school	-0.069	(0.1485)
same educ	-0.253	(0.0898)
power	-0.373	(0.1206)
metro	-0.221	(0.0785)
have kids	-0.181	(0.0834)
owner	-0.253	(0.0871)
same industry	-0.378	(0.1194)
same occupation	-0.341	(0.1242)
low income	-0.336	(0.1973)
high income	-0.334	(0.1270)
same state	-0.312	(0.1059)

[1]Corresponds to bottom (top) quartile of married couples

Table 8: Estimation results : Residential Mobility

	1)With Interstate Migration				2)Without Interstate Migration			
	(1A)		(1B)		(2A)		(2B)	
	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.	coeff.	std. err.
single risk[1]	-0.074	(0.0242)	-0.006	(0.0248)	-0.019	(0.0259)	0.056	(0.0266)
single risk[2]	-0.062 (0.0241)		-0.014	(0.0247)	-0.012	(0.0259)	0.041	(0.0266)
competing risk[2]	-0.054	(0.0239)	-0.009	(0.0248)	0.002	(0.0258)	0.0537	(0.0268)

Reported estimates are the coefficients of the variable dual index

[1]Time variant regressors

[2]Time invariant regressors

6 Data Appendix

We use the Survey of Income and Program Participation (SIPP) panels beginning in 1996, 2001, 2004, and 2008 as main source of analysis. The 1996 and 2004 panels have 12 waves each including 4 consecutive months. The 2001 and 2008 panel includes 9 waves. We merge the core panels with a topical module from the second wave that includes retrospective information about marriage and migration histories. We use only the sample restrictions for males. The covariates used in the estimation are taken from the SIPP unless noted otherwise.

6.1 Description of Variables

- **dual index :** Income similarity index (i.e. whether the "low" earner of the family raises income more than 60 percent of the "high" earner). Constructed using the earned wages.
- **race:** 3 race categories black, hispanic and white.
- **same race:** Same race indicator.
- **age:** five age categories (18-24, 25-29, 30-39, 40-49, 50 and older).
- **same age:** Indicator of similar age, 1 if partners' age difference is smaller than 6.
- **education:** 4 education categories, basic schooling, high school, some college and college and above.
- **same educ.:** Indicator of both spouse's having the same level of education.
- **power:** Indicator of both spouse's having college education.
- **metro:** Indicator of living in a metropolitan area.
- **no. of kids:** Number of kids younger than 18 in the household.
- **family size:** Number of people in the family.
- **enroll (enroll_sp):** Indicator of school enrollment for the person (spouse).

- **ever enroll (enroll_sp):** Indicator of school enrollment over the course of panel for the person (spouse).
- **married:** Indicator of currently being married.
- **marital change:** Indicator of marital change over the course of panel.
- **yrs. in state:** Years stayed in the current state as of the age of 18.
- **yrs. since move:** Years stayed in the current state since the last move.
- **moved before:** Indicator of whether that person has moved before.
- **moved aft. 18:** Indicator of whether that person has moved after the age of 18.
- **moved aft. mar.:** Indicator of whether that person has moved after getting married.
- **labor (labor_sp, labor_jnt):** Labor force participation indicator for the person (spouse,interaction)
- **employed (employed_sp,employed_jnt):** Employment indicator for the person (spouse,interaction)
- **log family wage** Log of the 4 month moving average of the earned income for the family (i.e. husband and wife).[16]
- **no family wage:** Indicator of zero earned income for the family.
- **no wage (no wage_sp):** Indicator of zero earned income for the person (spouse).
- **transfer (transfer_sp):** Transfer payment indicator for the person (spouse)
- **self (self_sp):** Self employment indicator for the person (spouse)
- **self share (self share_sp):** The share of self employment income out of person's (spouse) income
- **industry controls:** We create six industry classifications: 1) Natural resources and mining, 2) Construction, 3) Manufacturing, 4) Transport, Retail, 5) Finance, 6) Other services.
- **occupation controls:** We create 5 occupation classifications: 1) Managerial, 2)Service, 3)Sales, 4)Construction, 5)Production.
- **same industry:** Indicator of spouses working in the same industry
- **same occupation:** Indicator of spouses working in the same occupation
- **property:** Indicator of positive property income for a family

[16]The SIPP documents income from up to 2 different jobs and 2 different businesses. We construct log family wage in the following way: 1) add these 4 types of earned income for each spouse, 2) create 4 month rolling average for the family (as a sum of each spouse), 3) deflate the nominal family wage by the CPI, 4) take the log of real family income.

- **exmar:** Number of ex-marriages.
- **yrs. in mar.:** Years into marriage.
- **homie (homie_sp, homie_jnt):** Indicator of living in the state of birth for the person (spouse, interaction).
- **same birth state:** Indicator of both spouse's having the same state of birth.
- **job tenure (job tenure_sp):** Months worked in current job for the person (spouse).
- **person gap:** Indicator of temporary drop out from the panel.
- **state controls:** Dummies for the current state of residence, previous state, and the state of birth.

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