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Intergenerational Mobility of Migrants: Is There a Gender Gap?*†

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Abstract

We examine gender differences in intergenerational patterns of social mobility for second-generation migrants. Empirical studies of social mobility have found that women are generally more mobile than men. Matching theory suggests that this may be because the importance of market characteristics (financial wealth and earning power) relative to non-market characteristics in the marriage market is lesser for women than men, and market characteristics can be intergenerationally more persistent than non-market characteristics. According to this interpretation, the mobility gender gap should be wider for second-generation migrant households, where gender roles remain more pronounced than in the non-migrant population. We explore this conjecture using data from the US General Social Survey. Our results show that daughters of first-generation migrants are intergenerationally more mobile than migrants' sons, and more so than it is the case for non-migrants' children.

KEY WORDS: Marriage, Migrants, Social Mobility.

JEL CLASSIFICATION: D1, J2, J3

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1 Introduction

This paper examines patterns of intergenerational social mobility for US migrants, with a specific focus on gender differentials.

Economic migrants choose to migrate to seek better economic opportunities not just for themselves but also for their children. Since the most substantial flows of international economic migration still are from lower income countries to higher income countries, first-generation migrants are positioned, on average, at the lower end of the income distribution in the host country.[1] What this implies is that economic outcomes for their offspring crucially depend on opportunities for vertical social mobility in the host country. In other words, countries that offer opportunities for upward mobility are comparatively more attractive to migrants even when opportunities for vertical mobility can only be exploited by the second generation.

Intergenerational social mobility varies across countries; for example, the US have been traditionally been viewed as being more mobile than European countries, although recent evidence has shown the US to occupy a middle ground within OECD countries—with countries such as Italy, France and the UK displaying less mobility than the US, and countries such as Sweden, Canada and Norway exhibiting more (Breen and Jonsson, 2004). Social mobility also tends to vary across different population groups within countries. For example, US patterns of intergenerational mobility vary by race (Hertz, 2004). Our focus here, however, is not on race—an aspect which has received considerable attention in the literature—but on intergenerational patterns of mobility for the offspring of recent migrants, and specifically on gender differentials in social mobility within that group.

When looking at the US population as a whole, there is a clear pattern of higher mobility for women. Chadwick and Solon (2002) rationalize this pattern, in statistical terms, as resulting from a combination of a higher share of husbands' income in total household income and by a less than perfect correlation between husbands'

[1] Borjas (2006) summarizes recent evidence on the social status and mobility of first-, second-, and third-generation immigrants to the US. He estimates a wage disadvantage for first-generation migrants equal to 19.7 percent.

and wives' parental incomes. In this paper we look to matching theory to provide a theoretical foundation for these correlation patterns. In a multi-trait model of inheritance and matching, if the relative importance of market and non-market traits in matching success is greater for women than it is for men, and if market traits are more inheritable than non-market traits, women will be socially more mobile than men across generations.

Our matching-theory based explanation is consistent Chadwick and Solon's reduced-form specification, but it is able to yield a richer set of predictions. In particular, if comparative gender specialization in the marriage market is the reason for the observed gender differential in mobility rates, we should expect the mobility gender gap to be greater for those population groups in which gender roles are comparatively more specialized. This prediction is particularly relevant for migrants, who tend to originate from countries where traditional gender roles within the household are comparatively stronger. For example, in 2003, the labor force participation rate for first-generation female immigrants of Mexican origin was 53.9 percent against 60.1 percent for non-hispanic white women (Angoa-Pérez, 2005). There is also evidence that this cultural trait persists in second-generation migrants households: according to the same source, the participation rate for second-generation females of Mexican origin was 56.4 percent—still significantly below the non-immigrant average. According to the matching mechanism we describe, we should then expect that this persistently greater importance of non-market traits for females in the immigrant population should translate in a larger gender differential in vertical mobility for migrants in comparison with non-migrants.

We examine the above conjecture by using information on couples from the US General Social Survey, a dataset based on annual interviews which provides information on the migrant status of respondents. We estimate intergenerational elasticities of own household income for married respondents with respect to reported parental income. We compare second-generation migrants with non-migrants, and, within those groups, men and women.

Our results show that, in the population as a whole, women are more mobile than men—a pattern that is also present when running similar estimates with the

Panel Study of Income Dynamics dataset (also for the US). As expected, there is a systematic upward income shift for second-generation migrants in comparison with their parents. Daughters of migrants are more mobile than migrants' sons, as is also the case for children of non-migrants, but this mobility gender gap is indeed stronger for migrants' daughters and sons. Our analysis confirms the previously observed gender asymmetries in patterns of intergenerational mobility, but shows that these asymmetries are particularly pronounced for second-generation migrants.

The remainder of the paper is structured as follows. Section 2 outlines a theory of intergenerational social mobility based on inheritance and multi-trait matching. Section 3 describes the data, and Section 4 presents our regression results. Section 5 concludes.

2 The "Cinderella Effect"

The empirical literature on social mobility has outlined differences in the patterns of intergenerational mobility across genders. For example, various studies have found the elasticity of a couple's joint income with respect to the income of the wife's parents to be significantly lower than the corresponding elasticity with respect to the husband's parents (e.g. Chadwick and Solon, 2002).

Intergenerational mobility is the combined result of a large number of different factors—such as schooling opportunities, labor market and marriage opportunities, genetic transmission, luck. In this paper, we focus on the marriage as the specific determinant of gender differentials in social mobility. The desirability of women in the marriage market tends to be less determined by their market characteristics (financial wealth and earning power) than it is the case for men.[2] This difference can be ascribed to biological differences in reproductive roles, to gender-based wage discrim-

[2]Recent research investigating speed dating (Fisman *et al.*, 2006) and on-line dating (Hitsch *et al.*, 2006) examine the valuation of various attributes by men and women; in accordance with the common stereotype, they find that females put greater weight on income and education relative to males, while males put relatively greater weight on physical appearance.

ination in the labor market, and, more generally, to the fact that traditional gender roles persist within households. Institutional constraints, such as credit market imperfections that constrain human capital investment by lower income individuals, can also imply that market characteristics exhibit a large degree of persistence. Then, if non-market characteristics are intergenerationally less persistent than market characteristics, women, whose marriage prospects depends more on the former, would tend to display higher rates of social mobility than men—i.e. women are more likely to marry up (and down).

This argument can be formalized in terms of a simple model of two-sided multi-dimensional matching and inheritance—which we fully set out and analyze in a companion paper (Chen *et al.*, 2007). In what follows, we shall summarize the model's main features and predictions, keeping our discussion relatively informal.

Consider a population of two genders, males and females, with an equal number of individuals of each gender, who can only match with one individual of the opposite gender. Each individual possesses certain levels of two characteristics, x and y. In our analysis, we think of y as a being a market-related characteristic and of x as a being non market-related.

Social mobility in the model is the joint result of matching choices and of a process of inheritance.[3] Matching is modeled as follows. For each individual, the levels of y and x are combined with gender-specific weights—which reflect the institutional framework, e.g. gender-specific labor market opportunities—to determine an individual's attractiveness as a partner, with the relative weight on y (market characteristic) assumed to be less for women than it is for men. The resulting attractiveness index provides an objective ranking for each individual of each gender in terms of her or his attractiveness to the other gender; a matching equilibrium will then feature (perfectly) positive assortative matching in terms of gender-specific rank positions.

The inheritance process is modeled as follows. Each couple has two offsprings, a

[3]The seminal paper on matching and marriage is Becker (1973). The seminal paper on economic inheritance and transmission is Becker and Tomes (1979). Goldberger (1989) offers a critical overview of models of intergenerational transmission.

daughter and a son. Inheritance of the two traits is assumed to be stochastic and to be captured by exogenous transition probabilities. These are the same across genders, but can differ across characteristics, reflecting both biological and institutional factors. The probability for a child of either gender of experiencing a change in the level of a trait relative to that of her or his parents is assumed to be greater for the non-market trait than it is for the market trait.

Asymmetries in the patterns of intergenerational mobility can then result from differences in the degree of persistence of market and non-market traits, combined with differences in the relative importance of the two characteristics in determining the match desirability of individuals of different genders. A "Cinderella effect" emerges, whereby women are intergenerationally more mobile—they are more likely to "marry up" (and "down")—when the market-related characteristic is relatively more persistent than the non-market-related characteristic (in a gender-neutral fashion) and is relatively more important in determining male desirability (due to institutional factors).

More specifically, the model predicts that, when comparing a generation to the next, women are more likely to experience a rank change than men. Note that this construction involves both variables that are observable, such as household income, and others that are not observable, such as non-market characteristics. Social rank, which depends on both traits is thus also unobservable. Nevertheless, the model also predicts that a positive correlation between traits within the population, which implies that, even when focusing on observables—income rather than rank—women will experience more mobility.

In more formal terms, let the attractiveness of a male, i, with characteristics x_i, y_i be given by

$$z_i^M = w_x^M x_i + w_y^M y_i, \tag{1}$$

and the attractiveness of a female, j, with characteristics x_j, y_j be given by

$$z_j^F = w_x^F x_j + w_y^F y_j, \tag{2}$$

where

$$w_x^M + w_y^M = 1, \qquad w_x^F + w_y^F = 1, \tag{3}$$

and

$$w_x^F / w_y^F > w_x^M / w_y^M. \tag{4}$$

Then, given a population of n males and n females, frictionless mating will result in assortative matching according to z^M and z^F, i.e. the male with the highest z^M will match with the female with the highest z^F, the male with the second highest z^M will match with the female with the second highest z^F, and so on.

Suppose that each couple produces exactly one son and one daughter. Also, for simplicity, suppose that the process of inheritance is gender-segregated in the sense that daughters only inherit characteristics from their mothers and sons from their fathers.[4] The level of non-market trait for a son (daughter) whose father (mother) has a level of non-market trait equal to x' is

$$x'' = x' + \epsilon^x, \tag{5}$$

where ϵ is a shock term with values $\{-s, 0, s\}$ $(s > 0)$. Denoting with $\bar{x}$ the mean level of the non-market trait, the probability of a positive shock ($\epsilon^x = s$) is

$$\pi^x = \begin{cases} \overline{\pi}^x & if\ x' \leq \overline{x} \\ \underline{\pi}^x = \beta \overline{\pi}^x & if\ x' > \overline{x} \end{cases} \tag{6}$$

with $0 < \beta < 1$, implying $\underline{\pi}^x < \overline{\pi}^x$. The reverse being the case for negative shocks, i.e. the probability of a negative shock ($\epsilon^x = -s$) is

$$\pi^x = \begin{cases} \overline{\pi}^x & if\ x' \geq \overline{x} \\ \underline{\pi}^x = \beta \overline{\pi}^x & if\ x' < \overline{x} \end{cases} \tag{7}$$

Moreover, for any given x', we assume that $\overline{\pi}^x + \underline{\pi}^x < 1$. This guarantees that the stochastic processes defined by (5) will be stationary.

The transmission of y is modeled in the same way, i.e.

$$y'' = y' + \epsilon^y, \tag{8}$$

[4] Chen, Conconi, Durán, and Perroni (2007) provide a generalization of the argument to the case where inheritance is not gender-segregated in this way.

with a transition probabilities π^y rather than π^x. Notice that the above formulation implicitly assumes that the shocks ϵ^x and ϵ^y are uncorrelated. Also, the traits x and y will be independently distributed in the population in the long run; and, if n is large, the long-run distribution of traits (and desirability levels) in the population will be invariant through time.

The above also implies that, in the long run, the two characteristics will each be positively correlated with mating desirability—z^M for males and z^M for females—in the population. Hence higher-y males will, on average, be matched with higher-y females, which means that, for both males and females, mating desirability (and thus social rank) will be positively correlated with household income and/or wealth, and social mobility patterns will correlate with patterns of income mobility.

Suppose now that $\overline{\pi}^x > \overline{\pi}^y$—in other words, that the transition probability is lower for the market trait than it is for the non-market trait (in a gender-neutral fashion). Because of (4) this will result in women being intergenerationally more mobile than men in terms of mating rank (and hence household income).

This result is best illustrated by means of an example. Let $\overline{\pi}^x = 1/3$, $\overline{\pi}^y = 1/4$, $\beta = 1/2$, $\bar{x} = \bar{y} = 0$, $s = 3$, $w_x^M = w_y^F = 1/3$, $w_y^M = w_x^F = 2/3$. Also suppose that the whole population is generated starting from individuals with $x = y = 0$. Consider first a male with characteristics $x' = 0$, $y' = 0$, and attractiveness $z^M = 0$. He will produce a son with characteristics $x' = 1$, $y' = 1$ and attractiveness $z^M = 3$ with probability $\overline{\pi}^x\overline{\pi}^y = 1/12$; will produce a son with characteristics $x' = 0$, $y' = 1$, and attractiveness $z^M = 2$, with probability $(1 - (1 + \beta)\overline{\pi}^x)\overline{\pi}^y = 1/8$; and will produce a son with characteristics $x' = 1$, $y' = 0$, and attractiveness $z^M = 1$, with probability $\overline{\pi}^x(1 - (1 + \beta)\overline{\pi}^y) = 5/24 > 1/8$.

Consider next a mother with characteristics $x' = 0$, $y' = 0$. Notice that she will produce a daughter with attractiveness $z^F = 3$ with the same probability (1/12) computed for the case of a father; however, she will produce a daughter with attractiveness $z^F = 2$ with probability 5/24 (instead of 1/8) and a daughter of attractiveness $z^F = 1$ with probability 1/8 (instead of 5/24). In this example, z^M and z^F only assume integer values, and therefore can be directly mapped into discrete social (matching) rank positions.[5] So, in this example, a daughter is more likely to jump up by two rank positions than she is to jump up by one rank position, while the opposite is true for her brother.

The mechanism we describe above generates gender differences in mobility via the matching process, even when the inheritance process itself is gender neutral. On the other hand, if trait inheritance can be optimally differentiated by parents across sons and daughters in order to account for differences in the relative importance of market and non-market traits across genders, this can work to reinforce the gender gap. For example, when accounting for the importance of earning power in determining matching success, investment in education may produce a higher return for men than it does for women. Then, a credit constrained family may optimally choose to invest more in the education of a son than in that of a daughter; and to the extent that education investment reduces relative income volatility, the market trait would be more persistent for the son than it is for the daughter.

When applied to the case of migrants, this framework can yield a rich set of predictions. The persistence of more traditional gender roles in the second-generation migrant group (leading to more female specialization in childcare and household activities) can lead to a wider gap between w_x^F/w_y^F and w_x^M/w_y^M for migrants in comparison with to non-migrants. This would imply a stronger "Cinderella effect" for female migrants, giving them a better chance to move up the ladder though the marriage market (though they will also be more likely to move down). On the other hand, if all second-generation migrants were to experience adverse discrimination in the labor market in a gender neutral fashion (e.g., because they belong to a minority ethnicity), the market trait would tend to be less important in determining outcomes for both male and female second-generation migrants relative to the rest of the population (in a gender neutral fashion). In this case, intergenerational patterns of mobility

[5]For an individual with traits x', y', and desirability $z' = z^M = w_x^M x' + w_y^M y'$ (if male) or $z' = z^F = w_x^F x' + w_y^F y'$ (if female), the rank position can be more accurately expressed in terms of position on the cumulative distribution $F(z)$ of $z = z^M$ (if male) or $z = z^F$ (if female) in the population, i.e. as $r' = F(z')$. However, given that there is one-to-one mapping between z' and r', z' can equivalently be used to measure rank.

could be less gender differentiated for migrants.

In the next sections, we shall test these theoretical predictions using data for US migrants from the General Social Survey.

3 Data and Descriptive Statistics

In order to estimate differences in intergenerational mobility across genders in the US, we use two datasets, the Panel Study of Income Dynamics (PSID) and the General Social Survey (GSS). The comparison of the results obtained using two different datasets provides a good robustness check as to whether, as suggested by the theory, women display a higher degree of social mobility relative to men. However, in order to check for any difference in social mobility between genders and second-generation migrants and non-migrants as well, we rely on the GSS only, as the PSID does not allow us to distinguish between migrants and non-migrants. We next describe the two datasets in turn.

3.1 Panel Study of Income Dynamics

The Panel Study of Income Dynamics (PSID) is a very rich dataset, but unfortunately it does not allow us to identify sub-groups of the population such as second-generation migrants. We can nevertheless use this dataset to show that, when looking at the whole population of married couples in the US, whatever their origin, women are more socially mobile than men.

The PSID is a longitudinal survey conducted by the University of Michigan's Survey Research Centre. The project started in 1968 and has conducted annual interviews each year since then. The main advantage of the survey is that it has followed over time children from the original families interviewed in 1968 as they have grown up and formed their own households. As a result, it is possible to observe both the household income of the kids once they have formed their own household, as well as the income of their parents when the respondents were young children, and as reported by the parents themselves. For both children and their parents, household income is defined as the sum of labor income of both spouses (all deflated by the US consumer price index).

The sample we consider in the analysis is computed as in Chadwick and Solon (2002). It consists of respondents who were kids in the original 1968 sample and also participated in the 1992 survey as adults. In the 1992 survey, their income refers to their income in 1991. We restrict the sample to respondents born between 1951 and 1966. Children born before 1951, who were older than seventeen years of age at the 1968 interview, are excluded to avoid over-representing children who left home at late ages. In addition, restricting the sample to children born before 1967 enables to ensure that the children's 1991 income measures are observed at ages of at least twenty-five years (otherwise at younger ages income measures might not be good proxies of long-run income status).

As in Chadwick and Solon (2002), we try to eliminate measurement error in parental long run income by averaging (real) parental income over several years. We use family income for the years 1967-1971 (as reported in the 1968-1972 interviews) for the 1968 household head. Non-working spouses are included in the sample. The resulting sample includes 1,356 observations, of which 642 are daughters and 716 are sons.

3.2 General Social Survey

The General Social Survey (GSS) is an almost[6] annual personal interview survey of US households conducted by the National Opinion Research Centre (NORC). Each survey is an independently drawn sample of English-speaking persons eighteen years of age or over, living in non-institutional arrangements within the US. The first survey took place in 1972 and since then more than 38,000 respondents have answered over 3,260 questions. All twenty-five surveys are available merged in a single file, allowing to exploit the information from the pooled sample of respondents over years. Note the dataset is not a panel in the sense that different respondents are interviewed in

[6]Since the first year of the survey in 1972, the interviews have been conducted every year until 2004 (the most recent available data) except in 1979, 1981, 1992, 1995, 1997, 1999, 2001 and 2003.

each year.

The survey covers a broad range of questions, which come under three categories: permanent questions that occur in each survey, rotating questions that appear in two out of every three surveys, and a few occasional questions. The dataset reports yearly information on the household income of married spouses (adjusted for inflation), as well as information on parental income when the respondent was sixteen years of age. In contrast to the PSID, in which parental income is actually observed (and is reported by the parents themselves), in the GSS parental income is reported by the children and is only available as a ranked variable. It is the answer to the question "Thinking about the time when you were sixteen years old, compared with American families in general then, would you say your family income was far below average, below average, average, above average, or far above average?"Possible answers range from 1 ("far below average") to 5 ("far above average"). Measures of the occupational prestige of the respondent, his/her spouse, father and mother are also available.

Most importantly for our purposes, the GSS allows us to identify second-generation migrants in the US. In particular, it provides information on the place of birth of the respondent, that of the parents, as well as his/her ethnicity and that of the spouse. We define second-generation migrant couples as respondents who were born in the US, whose parents were both born outside the US,[7] and whose ethnicity, as well as that of the spouse, is not "American".[8] Unfortunately, the dataset does not provide any information on the place of birth of the spouse nor of her/his parents. US nationals are defined as being born in the US, with both parents and all four grandparents as well. We focus on married couples only, but do not restrict the sample according to the working status of either spouse. The resulting sample includes 7,717 observations, of which 3,924 are daughters (289 are migrant and 3,635 are non-migrant) and 3,793 are sons (332 are migrant and 3,461 are non-migrant).

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[7]We tried to further restrict the sample to those respondents with four grandparents born outside the US, but this does not change much the sample size nor the results.

[8]One of the possible responses to the ethnicity question in the survey is "American", which we take as indicating self-identification with the not recently immigrated population.

3.3 Descriptive Statistics

Table 1 provides descriptive statistics on the reported household income (in real terms) of married respondents across genders in the PSID. The first row of the Table shows that on average, married women significantly report a lower household income as compared to men. With random sampling, one should expect married men and married women to report the same household income (or, at least, the difference between the two reported incomes should not be significant from a statistical point of view). We therefore conclude that the data suffer from a gender bias in the way household income is reported.[9]

[Table 1 here]

We attempt to eliminate this gender bias by computing gender specific income ranks for the children. Focusing on the sample of married couples aged between 25 and 39, we calculate separately for each gender the 25th, 45th, 55th and 75th centiles of reported household income, which we then use to compute an income rank taking values between 1 and 5, with a lower value indicating a lower household income.[10] By doing this separately for each gender, we hope to eliminate the bias in reported income we observe in the data, and which might potentially affect our empirical results.

The second row in Table 1 reports the mean gender-specific household income ranks so obtained. Importantly, the difference between genders is now insignificantly different from zero.[11] We repeat the same exercise for parental income to control for

[9]Surprisingly, this bias has not been noted by Chadwick and Solon (2002), who use the PSID to investigate the patterns of intergenerational mobility across genders. However, previous studies have found evidence of larger measurement errors in earnings reports for men than for women. See, for example, Greenberg and Halsey (1983), Bound and Krueger (1991) and Bollinger (1998).

[10]We decided to compute an income rank measure taking five different values for consistency with what we do later when using the GSS.

[11]The fact that income ranks are not exactly identical between genders arises from clustering at various threshold levels due to the fact that reported incomes levels are rounded to the closest $1,000.

any gender bias there may be as well in the way household income is reported by the parents. The third line of Table 1 indeed shows that there is no significant difference in parental income ranks across genders once the data are re-normalized. As we will show in the next section, women significantly display a higher social mobility relative to men both in terms of the original measure of household income and in terms of the rank measure.

We repeat the same exercise using the GSS. The first row of Table 2 compares reported household income of married couples across genders. As was the case in the PSID, the bias is again present, i.e. women significantly under-report household income as compared to men. We therefore re-scale household income separately for each gender to arrive at a gender-specific measure of income rank that takes on values between 1 and 5. This allows us to compare household income of the children with parental income, which is only available in the GSS as a ranked variable that varies between 1 and 5.

[Table 2 here]

Since in the GSS both household and parental incomes are reported by the children, a bias in reported household income might also be present in the parental income reported by the children. Therefore, in contrast to what we did with the PSID, the centiles we now use for re-scaling household income are chosen in order to match the distribution of parental incomes as reported by the children. Focusing on the sample of married women, if, for instance, seven percent of them report that their parents' income was far below average when they were sixteen years of age (i.e. parental income is given a value of 1), we then use this seven percentile and apply it to the distribution of current household income for married women to identify an income rank of 1 (i.e. a value of 1 is assigned to the seven percent poorer married women in the sample). We repeat the same procedure for the other values of parental income from 2 to 5, and then, separately, for married men.

The second row of Table 2 reports the gender-specific income ranks so obtained. As in the PSID case, such re-scaling enables us to adjust for systematic gender difference in reported household income. In the empirical analysis that follows we will use the rank measure for household income instead of the original variable.

Table 3 reports, for both genders and for second-generation migrants and non-migrants, parental income and our re-scaled measure for household income. The third row of the Table reports the intergenerational shift for each sub-group of the population, as well as its significance level. It can be seen that all sub-groups of the population have experienced an upward shift in social status relative to their parents, all shifts being statistically different from zero. Most importantly, column (7) shows that second-generation married migrants have, on average, experienced a stronger upward shift relative to non-migrants (the difference is significant at the ten percent level). This illustrates that the opportunities offered to second-generation migrants in the US allow them to significantly improve their social status relative to their parents.[12] This difference does not appear to be significant across genders, so more formal regression analysis is required to examine gender differences.

[Table 3 here]

Table 4 provides descriptive statistics for married individuals in the GSS, distinguishing between second-generation migrants and non-migrants, as well as between genders. In our sample, migrants are on average older than non-migrants, they were older when they first got married and are less educated. Men, whether migrant or non-migrant, tend to work longer hours per week than their wives.

There is also some evidence of more female specialization in household activities for migrants. Migrant women are less likely to work in a full-time job than their husbands, who are themselves less likely to do so as compared to non-migrant men.

[12] Borjas (2006) notes that second-generation migrants experience a significant improvement relative to their parents, although the "catch up" to native-born workers is slow. This represents a significant change in comparison with patterns observed for the mid 1900s, whereby second-generation migrants were actually outperforming both their parents and their children. On this point, see also Perlmann and Waldinger (1997).

Migrant women spend more time at keeping the house, as forty-nine percent of them report as staying home against thirty-seven percent for non-migrant women.[13]

[Table 4 here]

Table 5 reports descriptive statistics at the level of households. Migrants have on average larger households, but a smaller number of children living with them, at all ages. This is probably because the second-generation migrants observed in our dataset are on average much older than non-migrants.

[Table 5 here]

4 Empirical Analysis

To estimate the extent of intergenerational social mobility, we regress the household income of married spouses on the income of the parents when the respondent was a child (ordered probit for income rank values of 1 to 5). Table 6 reports the results using the PSID, which only allows us to check for differences in mobility across genders. The first specification we estimate is similar to Chadwick and Solon (2002), and can be expressed as

$$\ln y_{1,91} = \alpha + \beta_1 \ln y_{0,68} + \beta_2 age_{1,91} + \beta_3 \left(age_{1,91}\right)^2 + \beta_4 \overline{age}_{0,68} + \beta_5 \left(\overline{age}_{0,68}\right)^2 + \epsilon_{1,91} \quad (9)$$

where the index 1 denotes the generation of the kids and the index 0 indicates the generation of the parents; $\ln y_{1,91}$ is the log (real) household income of the children in 1991 (observed in the 1992 survey, and is the sum of both spouses' labor incomes) who are married and aged between twenty-five and thirty-nine; $\ln y_{0,68}$ is the average

[13] It would be interesting to observe the magnitude of the gender gap in earnings across genders, but unfortunately the dataset does not provide any information on the individual income of the spouse.

of the log (real) household income of the parents (sum of the labor incomes of the two spouses) between 1967-1969, i.e. when the kids were still living with their parents (and were aged between two and seventeen in 1968); $age_{1,91}$ is the age of the respondent in 1991 and $\overline{age}_{0,68}$ is the average age of the father (assumed to be the head of the household) between 1967-1969. To investigate for differences in social mobility across genders, we then interact the parental status variable $y_{0,68}$ with a female dummy, denoted by *Fem*.

Column (1) of Table 6 reports the results using the original data on household and parental incomes, and shows that for husbands, the estimated elasticity is significant and equal to 0.44, which is very similar to that reported in previous studies (Chadwick and Solon, 2002). The interaction between parental income and the female dummy is negative and highly significant, suggesting that on average, married women are more mobile than men, a result consistent the findings of earlier studies.

[Table 6 here]

We then compare those results to those obtained when using the gender-specific income ranks we have calculated, as explained in the previous section. The specification now becomes

$$\widetilde{y}_{1,91} = \alpha + \beta_1 \widetilde{y}_{0,68} + \beta_2 age_{1,91} + \beta_3 \left(age_{1,91}\right)^2 + \beta_4 \overline{age}_{0,68} + \beta_5 \left(\overline{age}_{0,68}\right)^2 + \widetilde{\epsilon}_{1,91} \quad (10)$$

where $\widetilde{y}_{1,91}$ and $\widetilde{y}_{0,68}$ denote the gender-specific household income ranks for respondents and their parents respectively, which both vary between 1 and 5. As can be seen from column (2) in Table 6, which reports the results of the estimation, the same pattern emerges as in column (1): women are on average more mobile than men. This is reassuring as it indicates that our re-scaling of the data to eliminate any gender bias in reported income does not affect the main results. We can therefore follow the same approach when using the GSS.

We now turn to the results obtained with the GSS. We regress the gender-specific income ranks of married couples on the income status of the parents when the kids were 16 years of age (which is only available as a rank and so is not re-scaled). Controls are age and age squared,[14] as well as year fixed effects. The specification is

$$\widetilde{y}_{1,t} = \alpha_t + \beta_1 y_{0,t} + \beta_2 age_{1,t} + \beta_3 \left(age_{1,t}\right)^2 + \varepsilon_{1,t} \tag{11}$$

where t indicates the survey year 1972-2004, $\widetilde{y}_{1,t}$ is the gender specific income rank of the children (which generation is again indexed by 1), $y_{0,t}$ is the income status of the parents (generation indexed by 0) when the kids were 16 years of age, $age_{1,t}$ is the age of the child, α_t are year fixed effects and the sample includes married individuals only. We again interact the parental status variable $y_{0,t}$ with a female dummy to explore whether mobility differs across genders. To check whether mobility differs between migrants and non-migrants, we further interact the two variables with dummies for being a second-generation migrant or a non-migrant, respectively denoted by Mig and US.

Column (1) of Table 7 reports results for the basic specification (ordered probit for income rank values of 1 to 5). The estimated intergenerational elasticity is significant and equal to 0.227.[15] In column (2), we interact parental income with a female dummy, and consistent with the findings obtained with the PSID, and with previous literature, the interaction is negative and significant, suggesting that women are generally more mobile socially than men. Note that the sample includes married second-generation migrants and non-migrant couples only, the excluded population consisting of all the others such as first generation migrants, or US nationals with at least a parent not born in the US.

[Table 7 here]

Column (3) interacts parental income with dummies capturing the origin of the couples, i.e. capturing whether they are migrant or non-migrant. Both elasticities are

[14]The age of the parents or of the father when the respondent was a child is usually also included as a control, as we did in the regressions using the PSID. Unfortunately, the GSS does not provide information on the age of the parents, so we are unable to control for this in our regressions.

[15]The magnitude of this elasticity is smaller than that found in the literature, and to that obtained when we use the PSID.

positive and significant at the 1 percent level. The coefficient for second-generation migrants is larger than that for non-migrants, and we can reject that the two elasticities are equal at the 1 percent level (as shown in Table 8). Note that those estimates allow us to say nothing about the direction (upward or downward) or about the size of the jumps in social status. And indeed, we should take this finding as an indication of lower dispersion in social rank changes for migrants: as previously shown in Table 3, on average second-generation migrants experience an upward shift in income rank relative to non-migrants (with a statistically significant gap of 0.08), and so the higher elasticity coefficient for them is partly due to a systematic *upward mobility* bias for migrants, rather than reflecting lower mobility.

[Table 8 here]

In column (4) we further interact parental income for migrants and non-migrants with a female dummy. We do find evidence of a "Cinderella effect" as married women, whether second-generation migrant or not, are significantly more mobile relative to men. Changes in social status for married women thus appear to be less dependent on market-related characteristics than is the case for men. However, migrant women are significantly more persistent than non-migrant women, as we can reject (at the 1 percent level) that the two elasticities are the same. The gap between migrant women and their husbands is also significantly larger than between non-migrant spouses.

Finally, we investigate whether mobility is affected by the type of marriage of the spouses, and in particular by whether second-generation migrants marry inside or outside their ethnic group. We compute two dummies equal to one when the spouse belongs or not to the same ethnic group as the respondent, respectively denoted by *Same* and *Mix*, and interact them with parental income and parental income interacted with the female dummy for migrants. The results are reported in Column (5). It is worth noting that women who marry outside their ethnic group are those who display the strongest mobility (smaller persistence) in social status.

Summary and Conclusion

Empirical studies of social mobility have found that women are generally more mobile than men. In this paper we provide a matching-theory based interpretation of this pattern, and conjecture that this may be due to market characteristics being more intergenerationally persistent than non-market characteristics, and to non-market characteristics being comparatively more important for women than for men in determining social status (and hence household income). When applied to the case of second-generation migrants, for whom intra-household specialization is still more marked than it is for the rest of the population, this would lead to the prediction that the gender mobility gap should be more pronounced for second-generation migrants than for non-migrants.

We have explored this conjecture using data from the US General Social Survey. Our results suggest that daughters of migrants are intergenerationally more mobile than migrants' sons, and indeed more so than it is the case for non-migrants' daughters.[16]

There is, in other words, a gender gap in the American dream for migrants, with daughters of second-generation migrants finding it easier to move up the social ladder. Paradoxically, this female advantage in social mobility arises because of the adverse discrimination experienced by second-generation migrant women in the labor market and within their households.

[16]Further analysis is required to uncover more detailed differences in patterns of social mobility (e.g. estimation of quantile transition matrices); we plan to pursue this in future research.

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Table 1: Household and Parental Income (Married Couples Aged 25-39) – PSID

	Women	Men	Women - Men
Reported Real Household Income (USD) $(y_{1,91})$	8,734.5	12,217.6	$-3,483^{a}$ (614.9)
Gender Specific Household Income Rank [1-5] $(\widetilde{y}_{1,91})$	3.01	3.15	-0.133 (0.095)
Gender Specific Parental Income Rank [1-5] $(\widetilde{y}_{0,68})$	3.42	3.39	0.021 (0.088)

Notes: ^{a} denotes significance at 1 percent level. Standard errors in parenthesis.

Observations are weighted using sampling weights.

Table 2: Household Income (Married Couples) – GSS

	Women	Men	Women - Men
Reported Real Household Income (USD) $(y_{1,t})$	61,453	64,218	$-2,765^{a}$ (949.6)
Gender Specific Household Income Rank [1-5] $(\tilde{y}_{1,t})$	2.71	2.73	-0.02 (0.01)

Notes: [a] denotes significance at 1 percent level. Standard errors in parenthesis.

Table 3: Intergenerational Shifts in Income Ranks – GSS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Migrants	US	Migrant Women	Migrant Men	US Women	US Men	Migrants - US	Women - Men, Migrants	Women - Men, US	Migr. - US, Women	Migr. - US, Men
(1) Gender Specific Parental											
Income Rank, $(y_{0,t})$	2.58	2.76	2.60	2.56	2.76	2.76	-0.18^{a} (0.03)	0.04 (0.06)	0.01 (0.02)	-0.16^{a} (0.05)	-0.20^{a} (0.02)
(2) Gender Specific Household											
Income Rank [1-5] $(\widetilde{y}_{1,t})$	2.80	2.91	2.76	2.83	2.87	2.94	-0.11^{a} (0.03)	-0.07 (0.06)	-0.06^{a} (0.02)	-0.11^{b} (0.05)	-0.11^{b} (0.05)
(2) - (1)	0.22^{a} (0.05)	0.14^{a} (0.01)	0.16^{b} (0.07)	0.27^{a} (0.06)	0.11^{a} (0.02)	0.18^{a} (0.02)	0.07^{c} (0.04)	-0.11 (0.09)	-0.07^{a} (0.03)	0.05 (0.07)	0.09 (0.07)

Notes: ^{a}, ^{b} denote significance at 1 and 5 percent levels respectively. Standard errors in parenthesis.

Table 4: Descriptive Statistics for Married Individuals in the Sample – GSS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Migrants	US	Migrant Women	Migrant Men	US Women	US Men	Migrants - US	Women - Men, Migrants	Women - Men, US	Migr. - US, Women	Migr. - US, Men
Age	57	43	55	60	42	44	14^{a} (0.60)	-5^{a} (1.15)	-2^{a} (0.35)	13^{a} (0.94)	15^{a} (0.75)
Age when first married	24	22	23	26	21	23	2^{a} (0.25)	-3^{a} (0.46)	-2^{a} (0.10)	2^{a} (0.34)	3^{a} (0.33)
Hours worked per week	41	41	34	44	34	46	0 (2.80)	-9^{c} (5.86)	-12^{a} (2.04)	0.62 (5.65)	-2 (2.57)
Years of schooling, respondent	12.1	12.5	11.9	12.3	12.5	12.5	-0.5^{a} (0.14)	0 (0.26)	0 (0.07)	-0.60^{a} (0.18)	0 (0.2)
Years of schooling, spouse	12	12.5	11.8	12.1	12.5	12.5	-0.5^{a} (0.13)	-0.3 (0.26)	0 (0.07)	-0.7^{a} (0.21)	-0.4^{a} (-0.17)
Proportion working full time (%)	37.0	55.9	24.6	47.9	39.8	72.9	—	—	—	—	—
Proportion working part time (%)	8.7	9.8	12.8	5.1	14.6	4.7	—	—	—	—	—
Proportion keeping house (%)	23.5	19.4	49.1	1.2	37.2	0.7	—	—	—	—	—

Notes: ^{a}, ^{b}, ^{c} denote significance at 1, 5 and 10 percent levels respectively. Standard errors in parenthesis.

Table 5: Descriptive Statistics for Households in the Sample (Married Couples) – GSS

	Migrants	US	Migrants - US
Number of adults in household	2.25	2.17	0.08^{a} (0.02)
Number of kids less than 6 years old	0.10	0.37	-0.26^{a} (0.02)
Number of kids 6-12 years old	0.19	0.42	-0.23^{a} (0.02)
Number of kids 13-17 years old	0.19	0.27	-0.08^{a} (0.02)

Notes: ^{a} denotes significance at 1 percent level. Standard errors in parenthesis.

Table 6: Intergenerational Mobility – PSID

	(1)	(2)
Dependent variable	$\ln y_{1,91}$	$\widetilde{y}_{1,91}$
$\ln y_{0,68}$	0.440^{a} (0.048)	–
$\ln y_{0,68} \times Fem$	-0.063^{a} (0.006)	–
$\widetilde{y}_{0,68}$	–	0.221^{a} (0.024)
$\widetilde{y}_{0,68} \times Fem$	–	-0.040^{b} (0.019)
$age_{1,91}$	0.044 (0.122)	0.044 (0.135)
$(age_{1,91})^2$	0.000 (0.002)	0.000 (0.002)
$\overline{age}_{0,68}$	0.026 (0.028)	0.009 (0.034)
$\left(\overline{age}_{0,68}\right)^2$	0.000 (0.000)	0.000 (0.000)
N	1358	1358
R^2	0.156	–

Notes: Observations are weighted using sampling weights. Ordered Probit regression in (2).

Table 7: Intergenerational Mobility – GSS

Dependent: Gender Specific Household Income Rank $\widetilde{y}_{1,t}$					
	(1)	(2)	(3)	(4)	(5)
$y_{0,t}$	0.227^a (0.008)	0.240^a (0.010)	–	–	–
$y_{0,t} \times Fem$	–	-0.025^a (0.007)	–	–	–
$y_{0,t} \times US$	–	–	0.224^a (0.007)	0.234^a (0.009)	0.145^a (0.021)
$y_{0,t} \times US \times Fem$	–	–	–	-0.022^a (0.006)	-0.022^a (0.006)
$y_{0,t} \times Mig$	–	–	0.283^a (0.012)	0.311^a (0.012)	–
$y_{0,t} \times Mig \times Fem$	–	–	–	-0.059^a (0.012)	–
$y_{0,t} \times Mig \times Same$	–	–	–	–	0.192^a (0.013)
$y_{0,t} \times Mig \times Same \times Fem$	–	–	–	–	0.079^a (0.025)
$y_{0,t} \times Mig \times Mix$	–	–	–	–	0.270^a (0.044)
$y_{0,t} \times Mig \times Mix \times Fem$	–	–	–	–	-0.179^a (0.014)
$age_{1,t}$	0.150^a (0.003)	0.150^a (0.003)	0.150^a (0.003)	0.150^a (0.003)	0.148^a (0.003)
$(age_{1,t})^2$	-0.002^a (0.000)	-0.002^a (0.000)	-0.002^a (0.000)	-0.002^a (0.000)	-0.002^a (0.000)
N	7717	7717	7717	7717	7719

Notes: Year fixed effects are included. Ordered Probit regressions.

Table 8: Intergenerational Mobility – GSS

Implied Elasticities and Tests of Equality of Coefficients

	(1)	(2)	(3)	(4)	(5)
$[y_{0,t} \times US] = [y_{0,t} \times Mig]$	–	–	(1) 0.01	–	–
$[y_{0,t} \times US] + [y_{0,t} \times US \times Fem]$	–	–	–	(2) 0.212 (0.01)	(2) 0.124 (0.02)
$[y_{0,t} \times Mig] + [y_{0,t} \times Mig \times Fem]$	–	–	–	(2) 0.251 (0.01)	–
$[y_{0,t} \times US] + [y_{0,t} \times US \times Fem] = [y_{0,t} \times Mig] + [y_{0,t} \times Mig \times Fem]$	–	–	–	(1) 0.01	–
$[y_{0,t} \times US \times Fem] = [y_{0,t} \times Mig \times Fem]$	–	–	–	(1) 0.00	–
$[y_{0,t} \times Mig \times Same] + [y_{0,t} \times Mig \times Same \times Fem]$	–	–	–	–	(2) 0.271 (0.02)
$[y_{0,t} \times Mig \times Mix] + [y_{0,t} \times Mig \times Mix \times Fem]$	–	–	–	–	(2) 0.091 (0.04)
$[y_{0,t} \times US \times Fem] = [y_{0,t} \times Mig \times Same \times Fem]$	–	–	–	–	(1) 0.00
$[y_{0,t} \times US \times Fem] = [y_{0,t} \times Mig \times Mix]$	–	–	–	–	(1) 0.00
$[y_{0,t} \times Mig \times Same \times Fem] = [y_{0,t} \times Mig \times Mix \times Fem]$	–	–	–	–	(1) 0.00

Notes: (1) indicates a p-value; (2) indicates an estimated elasticity.