Evolving Labor Force Outcomes for Married Couples Associated with Gender Trends in Education

Rebecca Chenevert°

U.S. Census Bureau*

In the past two decades, women have surpassed the educational attainment of men in a number of ways and are graduating from college and graduate school at higher rates than men (NCES, Digest of Education Statistics, 2009 a, b, c). This paper seeks to study the changes in labor market outcomes among married couples based on their level of education relative to their spouse. In particular, this paper focuses on how labor force participation, work hours, and work absences vary with the mix of education within a married couple. Recent panels of the Survey of Income and Program Participation (SIPP) are used for this study because of the wealth of information about earnings and labor supply, as well as the ease of matching marriage partners. I find that women who are more educated than their husbands participate in the labor force more often, and that, conditional on participating, they work more hours than women who have the same or less education than their husbands. Surprisingly, men tend to participate more often when their wife is the more educated spouse, but do not appear to change their hours of work based on their wives' education level.

° Economist, Housing and Household Economic Statistics Division. Email correspondence to Rebecca.L.Chenevert@census.gov. I would like to thank Al Gottschalck for many helpful discussions and his guidance in this project. All errors are my own.

* This report is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed on methodological issues are those of the author and not necessarily those of the U.S. Census Bureau.

Introduction

Toward the end of the 20th century and into the 21st century, the role of women has changed dramatically. This is evident in many ways; women have increased their labor force participation, marriage and fertility patterns have changed, and educational levels have changed greatly. As of 2008, women graduated high school at a higher rate than men (51% vs 49%), and women began graduating with Bachelor's degrees at a higher rate than men in the 1980s (National Center of Education Statistics [NCES] Publications, 2009 a, 2010). Recently they have achieved parity or surpassed men in many types of graduate degrees (NCES Publications, 2009 b, c). As women increase their education levels, they are more likely than in the past to be more educated than their husband if they marry. This study will examine how relative education levels within a marriage affect labor force supply. Few studies have looked at the interaction between husbands and wives in this way, and this paper seeks to fill this gap in the literature.

However, several economists have studied the changes in women's labor market outcomes in other ways; for example, Goldin (2006) attributes women increasing educational attainment to younger women learning about their chances of participating in the labor force from their mother's generation. Many studies have examined the wage gap between men and women and the effects of child-rearing on a woman's career,[1] and a few have looked at the differences in returns to education between men and women (Diprete and Buchmann, 2006). Schwartz and Mare have studied increasing homogeneity in the education levels of married partners, some of which evolved simply because women began achieving education levels similar to men (see Mare, 1991 and Schwartz and Mare, 2005). However, they also find that the fraction of marriages with wives as the more educated spouse increased between 1980 and 2000. This paper bridges this finding to the labor force literature.

Pencavel (1998) and Masken and Stinson (2010) have also considered the link between education and labor force participation patterns. In particular, Pencavel studies the hours of work for husbands and

[1] For examples see Blau and Kahn (2000), Bronars and Grogger (1994), Corcoran and Duncan (1979), among many others.

wives where both spouses participate in the labor force, controlling for both spouses' education levels using Census long form data from 1990. He finds that men are not very responsive to the education levels of their wives, and that women work fewer hours as their husbands' education increases. This paper expands on his work by studying dual-earner couples as well as the labor force participation of each spouse. Masken and Stinson (2010) also looked at the labor force participation of married women, although their question was slightly different.[2] As it becomes more common for a woman to be the single earner in a couple (in 2000, 5.5 percent of married-couple households had an employed wife only, while in 2009 this share was 8.4 percent; see Bureau of Labor Statistics [BLS], 2001 and BLS, 2010), analyzing the labor force participation behavior of both married men and women becomes more meaningful. In addition, this study use very detailed income and demographic data from the Survey of Income and Program Participation and is able to observe these couples over time.

The purpose of this paper is to study the interaction between husbands and wives based on their education levels and answer the question of whether patterns of home and market based production have changed. As women invest more heavily in their human capital, we would expect to see them develop a stronger attachment to the labor force in absolute terms and also in relative terms as well if we see spouses altering their areas of specialization. This paper will look at the effects on labor market participation, hours of work, and leave without pay for married men and women based on which spouse has more education between 1996 and 2009.

This paper is the first study of these questions to my knowledge. While Pencavel studied hours worked by women in households where both spouses worked, he did not consider the probability of participation. While the measure appears to be rather broad (to be discussed later), I also consider the amount of work absences. As this work progresses, I intend to expand the instrumental variables analysis

[2] Masken and Stinson (2010) look at the probability a woman participates in the labor force at all during a year based on her husband's income and education as well as her own education, among other variables. This paper differs by looking at monthly participation levels and the participation of both spouses as well as looking at both shorter and longer term marriages.

to try to capture the endogeneity of marital partner choice as well as looking at other labor market outcomes.

As expected, this study finds that when women are more educated than their husbands they are more likely to work, and that conditional on working, they work more hours than women who have the same level or less education than their husbands.[3] In the sample used, these women increase work hours by roughly four percentage points relative to those with equal education levels, and their probabilities of participation (from the logit model estimates) are approximately 3.6 to 6.2 percentage points higher. Perhaps surprisingly, there is some evidence that men with more educated wives also participate in the labor force more often than those with equal education levels (although the magnitudes are not consistent), and that their probabilities of participation are 0.9 to 2.2 percentage points lower when they are the more educated spouse; however, conditional on participation we find that men's hours of work do not vary significantly based on their wives' education levels. There is little evidence of trends in either participation or hours on the part of men or women. Preliminary evidence from instrumental variables analysis indicates that this should not be interpreted as a causal effect.

The rest of this paper is organized as follows: Section two discusses relevant theory and predictions, and introduces the empirical strategy. Section three describes the data used for these empirical results, and section four shows the empirical results. Section five concludes.

2. Theory and Empirical Model

The theory for this paper is adapted from Becker's work on specialization within a household (1985 and 1981). He shows that there can be gains to specialization within a marriage, even if we make the ex ante assumption that individuals are identical; in other words, specialization does not need to arise from intrinsic differences between spouses. He also shows that if there is discrimination in market activities that wage differentials could be amplified by investment choices of married women, correctly

[3] The estimates in this report are based on responses from a sample of the population. As with all surveys, estimates may vary from the actual values because of sampling variation or other factors. All comparisons made in this report have undergone statistical testing and are significant at the 90-percent confidence level unless otherwise noted.

anticipating their specialization. He further goes on to discuss how in the absence of discrimination we would still expect to see specialization between married spouses, but that "this division of labor…would no longer be linked to sex: husbands would be more specialized to housework and wives to market activities in about half the marriages, and the reverse would occur in the other half" (Becker, 1985 p. S56).

Essentially, this paper tests to see if we are moving along the path suggested by Becker. We observe that women are attending and graduating from high school and college at higher rates than men (NCES Publications 2009a, b, c, 2010). Therefore, if we assume that this increase in higher education is an increase in specialized human capital aimed at market production (relative to home production), we should see a relative shift within married couples where the woman has acquired more market-specific human capital than her husband. In these couples, we should observe wives specializing in market production more often than those wives who invested less in market-specific human capital than their husbands.[4] The mechanism by which we see changes over time could take place through several paths; it could be a result of declining discrimination against women in the labor market, it could be a result of declining investment costs for women,[5] or it could be due to a shift in effort in home production by married men (see Becker, 1985 for a more complete discussion). However, we would expect to see women acquiring higher levels of education in anticipation of a higher probability that they will specialize in market production.

To test these predictions empirically, we begin with three outcomes, two of which will be presented here. The first two are closely related: hours worked and weeks absent from work without pay for both husbands and wives. Because of similarity in these outcomes, only the results from the hours worked equations are presented here. We would assume that if a woman has a higher investment level in

[4] Of course, we may not see as much complete specialization as was observed in the past. Some of this is to be expected because of changing expectations; if the probability of divorce is higher, there will be less specialization for all couples. See Kreider and Fields (2002) for a discussion of changing patterns of divorce across age cohorts.
[5] Examples could include economy-wide shifts towards more occupations where women are better suited (such as service sector employment) and therefore skills are more easily acquired for women. They could also include things such as the ability to delay child-bearing making the cost of attending college lower for young women.

human capital than her husband, we would see that her hours of work are higher on average than a woman with equal education to her husband; she would, in turn, work more hours than a woman with less education than her husband.

Therefore, the first model estimated is of the following form:

$$Log(Hours)_i = \beta_1(Wife\ More\ Educated)_i + \beta_2(Husband\ More\ Educated)_i + X_i\beta + \varepsilon_i \quad (1)$$

The vector *X* includes other characteristics that may be correlated with the regressors of interest and therefore the error term (ε_i), including the individual's own education, age, number of children, race, ethnicity, weekly wage, occupation, state of residence, and other non-labor income.[6] The assumptions above translate to the estimated coefficient β_1 being positive, while we expect the opposite for β_2. If a woman has more education than her husband, we would expect to see her more specialized in market production than another woman with the same education as the first but with a more highly educated husband. We study this further by looking at compete interactions between the education levels of husbands and wives.

Finally, we estimate the same equations for married men. We would expect to find the opposite results; when the husband is the more educated spouse we would expect to find his work hours to be higher on average ($\beta_2 > 0$) than those with equal education to their wives, who would in turn have more hours than those men with lower education levels than their wives ($\beta_1 < 0$).

The next outcome studied is whether each spouse in a couple participates in the labor force. As above, we would expect to see higher participation rates on average from women who have invested more in human capital than their husbands than those who have not, all else equal. The converse should also be true; those men who have more education than their wives should be more likely to participate in the

[6] These kinds of control variables are quite common; see Blundell and MaCurdy (1999) for use of demographic controls.

labor force relative to husbands who do not. The following models are estimated separately for men and women:

$$\Pr\left(Work\right)_{\mathrm{i}} = \beta_1 (Wife\ More\ Educated)_i + \beta_2 (Husband\ More\ Educated)_i + X_i\beta + \varepsilon_i \qquad (2)$$

$$\Pr\left(Work\right)_{\mathrm{i}} = 1/\left(1 + e^{-(\beta_1 (Wife\ More\ Educated)_i + \beta_2 (Husband\ More\ Educated)_i + X_i\beta + \varepsilon_i)}\right) \qquad (3)$$

The first is a simple linear probability model, while the second is a logit model to restrict the predicted values of the model to fit within a reasonable range for a probability. Both models are presented for ease of interpretation and to see if results are sensitive to model choice. As above, we would expect the estimated coefficient β_1 to be positive for women and negative for men, while we expect the opposite for β_2. The vector *X* will include the same control variables as above with the exception of job specific variables, and again ε_i represents the error term.

3. Data

The data used for this study come from the Survey of Income and Program Participation (SIPP). This is a longitudinal survey that interviews respondents every four months for approximately four years and gathers information relating to participation in government programs, labor force behavior, demographics, and many other topics. The survey over-samples the low income population; however, weights are provided and nationally representative (and some state representative) statistics can be calculated. The estimates presented in this paper are weighted and standard errors are calculated using the modified Balanced Repeated Replication (Fay's) method. Using population weights changes little in this analysis because after conditioning on controls, the variables of interest studied here are likely independent of the survey design.[7] In the context of this paper, there would be concern about bias in the unweighted coefficients if there was a correlation between which spouse was more educated and living in high poverty areas, and if those who lived in high poverty areas had different behavioral responses in the labor market based on the mix of education between spouses after conditioning on the other factors in the model.[8]

The first data collection for SIPP began in 1983, although the survey underwent a major redesign in 1996 (partially to reflect changes in government programs associated with the Personal Responsibility and Work Opportunity Reconciliation Act, or PRWORA). Therefore, in order to compare across SIPP panels I only use the four most recent panels. These are the panels beginning in 1996, 2001, 2004, and the first four waves of the current production panel which began in 2008. However, there was also a redesign between the 2001 and 2004 panels, though compared to the 1996 redesign, it was smaller in scope. To learn more about the SIPP sample design, please see the SIPP Users' Guide.[9]

Because this is a study looking at labor force behavior of married couples, the sample is restricted to individuals who are married with a spouse present.[10] Because marital status can change during the course of the panel, individuals are included so long as they satisfy the sample restrictions and are eliminated from the sample in months where they do not meet these criteria. Individuals are restricted to being between the ages of 18 and 65, and being married to a spouse who is also in this age range. Education is measured as the highest level of education attained.[11]

[7] The same analyses were conducted using unweighted data and including state indicator variables to account for sampling design, and results were comparable. Due to the inability to compare across panels using weights, those comparisons will rely on the unweighted results in this paper.
[8] See Faiella (2010) and Gelman (2007) for more information.
[9] Available online at http://www.census.gov/sipp/usrguide.html.
[10] Marital status is measured as the status as of the last day of the reference month.
[11] For practical purposes, education levels were aggregated from the SIPP data; individuals were coded as having less than high school completion, high school diploma or GED equivalent, some college or two-year degree, college graduates or holding graduate degrees. Individuals were coded as having some college or a two-year degree if they reported their highest level of education was some college but no degree, diploma from a vocational, technical or trade school, or an associate's degree. Those reporting that their highest level of education was a master's degree, professional degree (e.g., law, medical, or dental degree) or doctorate were coded as having a graduate degree. These were the levels used in determining which spouse was more highly educated.

One must be careful when using individuals who are married as a sample restriction in panel data. If we are interested in seeing how married individuals change their behavior, we will observe those who are a part of longer continuing marriages more often than those who separate.[12] There is a concern that individuals who stay married may be different on average from all married individuals. Essentially this study pools the data to person-month level observations as if they were cross-sectional, and adjusts for the panel nature of the survey by clustering standard errors at the individual level and including time trends in the models. These results should be thought of as representing individuals during the time they were married in the panel. By including several panels which are each a few years long, we can benefit by observing behavior of married individuals over time, but we also observe shorter marriages and can compare individuals who were married during one set of time periods to individuals that have similar characteristics in a different time period.

For the portion of this study where we look at the number of hours worked and work absences, we restrict the sample further; only households where both spouses participate in the labor force are included. Any couples where either spouse reports owning a business are dropped, as well as any couple where either spouse has negative “non-labor” income. Non-labor income has a special meaning here; this is the total family income less the particular individual’s earnings from a job. Because the SIPP only collects information for a maximum of two jobs in a given wave, if an individual reports working at more than two jobs in a wave that person is also dropped from the sample for the period. These last two restrictions exclude few observations (roughly 0.3 percent of the person-month observations).

When studying whether an individual was in the labor force or not, a rather lenient definition was used (in future work, I plan to make this definition stricter and see how sensitive the results are to this definition). They were counted as in the labor force if they were working or without a job and looking for work at least one week in the month, or if they had a job and were absent but planning to return. Those who are described in this study as being out of the labor force for a given month are not employed nor

[12] For information on average marriage duration, see Kreider and Fields (2002).

looking for work for any week in the month. Commonly cited reasons for not working are caring for children or others, being retired, or being disabled.[13]

The following table shows summary characteristics of the sample used in this study. All characteristics are from the first month common to all respondents in a panel.[14] This is to give the reader a sense of the survey sample that satisfy the selection criteria, and should not be interpreted as nationally representative estimates.

[13] For more information, see Dalirazar (2007).

[14] Because the reference period is four months, SIPP respondents are divided into four rotation groups. Therefore, the first month of data collection is only available for the first rotation group, the second is available for the first and second rotation group, etc. So the first month common to all respondents will be the fourth calendar month where there are data available.

Table 1: Summary of Sample Characteristics[15][16]

Panel	1996		2001		2004		2008	
	Women	Men	Women	Men	Women	Men	Women	Men
Person-Month Observations	661,369	661,369	430,721	430,721	628,127	628,127	254,952	254,952
Individuals Present in First Common Month	16,188	16,188	15,223	15,223	18,548	18,548	17,404	17,404
Individuals Satisfying Sample Restrictions for Hours Equations	7,589	7,585	7,354	7,359	8,484	8,479	7,769	7,767
Average Age	40.46	42.74	41.32	43.54	42.19	44.32	43.45	45.58
Average Number of Kids	1.15	1.15	1.14	1.14	1.10	1.10	1.06	1.06
Average Number of Kids under Six	0.65	0.65	0.64	0.64	0.62	0.62	0.62	0.62
Median Nonlabor Monthly Income (nominal, where positive)	2820	1639	3273	2000	3630	2209	4197	2592
Percent White	87.10%	87.40%	85.68%	86.08%	84.77%	84.99%	83.29%	83.80%
Percent Reporting Out of Labor Force due to health condition or disability	9.46%	31.82%	10.84%	31.61%	12.98%	32.03%	13.76%	30.85%
Percentage Less than High School Diploma	12.70%	13.98%	11.52%	12.91%	10.01%	11.05%	9.41%	10.74%
Percentage High School Graduate	33.56%	30.47%	30.86%	29.99%	24.84%	23.78%	23.37%	23.79%
Percentage Some College	30.40%	28.35%	30.57%	27.60%	36.02%	34.73%	34.29%	32.41%
Percentage College Graduate	16.72%	16.70%	18.50%	18.38%	19.85%	18.82%	21.52%	20.21%
Percentage Graduate Degree	6.60%	10.49%	8.54%	11.10%	9.26%	11.62%	11.40%	12.84%
Percentage with Wife More Educated	23.36%	23.36%	25.02%	25.02%	25.51%	25.51%	26.15%	26.15%
Percentage with Husband More Educated	29.14%	29.14%	27.19%	27.19%	27.51%	27.51%	25.72%	25.72%
Average Hours Worked (Satisfying Sample Restrictions)	36.80	44.27	37.09	44.05	37.16	43.88	37.23	43.44
Standard Deviation	11.06	10.12	10.84	9.45	10.48	9.48	10.17	9.33
Percentage in the Labor Force	71.70%	89.57%	72.07%	89.56%	70.90%	88.92%	70.32%	87.93%

Source: 1996, 2001, 2004 and 2008 SIPP Panels, U.S. Census Bureau.

[15] See Table A5 in the appendix for information about dispersion in these variables.

[16] All characteristics are individuals who are married with their spouse present where both spouses are between 18 and 65 in the first month of the survey common to all respondents. The restrictions for the hours equations include that both spouses are working, neither are self employed, neither has negative non-labor income and neither has more than two jobs.

4. Results

4.1. Hours Worked

First, we will examine the results when Equation 1 is estimated for wives. Table 2 shows the expected signs for hours of work for wives; we find that those women who are more educated than their husbands work roughly 3.2 to 4.6 percent more hours per week than women who have the same education level as their husbands, and that women who are less educated than their husbands work about 2.9 to 6.5 percent fewer hours.[17] We do not see evidence of these estimates trending upward. The coefficient estimates for women with less education than their husbands are decreasing for the first three panels, but the estimate for the 2008 panel is close to that of the 1996 panel. These results do support the proposition that some wives seem to specialize. When she is more educated than her husband she is working longer hours relative to those women who have the same education level but have husbands with greater or equal education levels.

[17] Note that in the 1996 and 2001 panels, hours worked were only considered for the first job. This is due to differences in how the work hours data were collected in the surveys due to survey redesign. In the 2004 and 2008 panels, the usual hours worked at all jobs in a week for a given month is collected so this variable is used in these specifications. Using the hours at the first job in the 2004 and 2008 panels, in order to be more comparable with the earlier years, yields comparable results and therefore are not reported.

Table 2: Effect of Education Mix on Wives' Work Hours: Indicator Variables[18]

VARIABLES	(1) 1996	(2) 2001	(3) 2004	(4) 2008
Wife More Educated Indicator	0.0358***	0.0352***	0.0319***	0.0432***
	(0.00796)	(0.00971)	(0.00816)	(0.0110)
Husband More Educated Indicator	-0.0322***	-0.0432***	-0.0621***	-0.0260**
	(0.00848)	(0.0102)	(0.00886)	(0.0111)
Number of Kids in HH	-0.0118***	-0.00994**	-0.00480	0.000356
	(0.00381)	(0.00473)	(0.00339)	(0.00522)
Number of Children Under Six	-0.0625***	-0.0678***	-0.0535***	-0.0343***
	(0.00577)	(0.00791)	(0.00501)	(0.00751)
Log of Wage	0.449***	0.421***	0.372***	0.357***
	(0.0103)	(0.0111)	(0.00699)	(0.00987)
Log of Nonlabor Income	-0.0586***	-0.0623***	-0.0660***	-0.0542***
	(0.00469)	(0.00554)	(0.00472)	(0.00561)
Hispanic Origin Indicator	0.0560***	0.0416***	0.0635***	0.0424***
	(0.0106)	(0.0109)	(0.00946)	(0.0118)
White	-0.0675***	-0.0456**	-0.0410***	-0.0197
	(0.0154)	(0.0198)	(0.0105)	(0.0152)
African American	-0.0123	0.0210	0.0339***	0.0188
	(0.0164)	(0.0209)	(0.0121)	(0.0194)
Age	-0.0270***	-0.0234***	-0.0296***	-0.0210***
	(0.00350)	(0.00464)	(0.00331)	(0.00422)
Age^2	0.000305***	0.000256***	0.000349***	0.000239***
	(4.66e-05)	(5.96e-05)	(4.20e-05)	(5.43e-05)
HS Graduate	-0.0639***	-0.0611***	-0.0415***	-0.00679
	(0.0133)	(0.0129)	(0.0149)	(0.0204)
Two Year Degree or Some College	-0.131***	-0.124***	-0.116***	-0.0632***
	(0.0133)	(0.0148)	(0.0167)	(0.0203)
College Graduate	-0.218***	-0.213***	-0.181***	-0.161***
	(0.0172)	(0.0198)	(0.0186)	(0.0231)
Graduate Degree	-0.272***	-0.265***	-0.223***	-0.214***
	(0.0209)	(0.0256)	(0.0212)	(0.0259)
Year Indicators	Y	Y	Y	Y
Occupation Indicators	Y	Y	Y	Y
Constant	2.226***	2.394***	2.934***	2.149***
	(0.0794)	(0.109)	(0.144)	(0.106)
Observations	181,287	111,812	166,532	47,424
R-squared	0.539	0.493	0.406	0.387

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[18] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old. Further, both spouses are working, neither are self employed, neither has negative non-labor income and neither has more than two jobs.

Most of the other coefficients have the expected signs. As the number of children in the household increases, the hours of work declines, although additional children younger than school age have a larger impact on hours worked. Household income earned outside of the woman's own earnings has a lot of explanatory power; an increase in her non-labor income by 1 percent leads to her working between 5.4 and 6.6 percent fewer hours per week. While the coefficients on the woman's own education level may be somewhat surprising at first, recall that we are conditioning on the wage and non-labor income which are both going to be correlated with her education level. For example, you may not think that a woman with a high school diploma would work fewer hours on average than a woman without a high school diploma; the excluded education level is less than a high school diploma in all specifications. The variable log of wage refers to the weekly wage; however, the same models were estimated using the log of hourly wage and without using a wage variable at all due to the potential endogeneity of this variable (see Lundberg, 1985). The magnitudes of the coefficients of interest were larger than those presented here, but signs and statistical significance were unchanged. Results are available upon request.

Presented in the appendix in Table A1 are the results of the same regression presented above, but using a full set of interaction variables for the mix of education levels between husbands and wives. We find that much of the positive effect on hours of the wife being more educated than her husband is being driven by women who have a graduate degree, especially those married to men with college degrees. The negative results seem to be especially pronounced when the husband has a college degree and the wife's highest level of education is something less than college completion.[19]

Not presented are the results using weeks absent from work without pay during a wave as the dependent variable. This is because the signs and magnitudes were all comparable to what was found with the equations presented for work hours; women who were more educated than their husbands tended to have fewer weeks absent and those who were less educated than their husbands tended to have more weeks absent. These results are also available upon request.

[19] Table A2 is somewhat difficult to read because the base levels are having less than high school completion for both spouses, so we must take care in making comparisons across the different education levels.

The same regressions that were estimated above for women were also estimated for men. However, as shown in Table 3, we do not see much evidence of specialization for men like we saw for women on the intensive margin. This is consistent with Pencavel (1998). We do see a positive effect on hours when the husband is the more educated spouse in the 2001 panel, but the estimated coefficient is not statistically different from zero in any of the other panels estimated. We also don't see any evidence of men trending toward specializing in home production when their wives are more educated by cutting back hours in the labor force when they do participate.

Table 3: Effect of Education Mix on Husbands' Work Hours: Indicator Variables[20]

VARIABLES	(1) 1996	(2) 2001	(3) 2004	(4) 2008
Wife More Educated Indicator	-0.00244	0.00312	-0.00685	-0.00507
	(0.00464)	(0.00543)	(0.00514)	(0.00697)
Husband More Educated Indicator	-0.000584	0.0124**	-0.00110	-0.00749
	(0.00484)	(0.00579)	(0.00595)	(0.00929)
Number of Kids in HH	-0.00186	-0.00255	0.000313	0.00230
	(0.00192)	(0.00255)	(0.00210)	(0.00304)
Number of Children Under Six	-0.00121	-0.00537	-0.00446	0.00736
	(0.00343)	(0.00520)	(0.00318)	(0.00502)
Log of Wage	0.177***	0.152***	0.140***	0.155***
	(0.00909)	(0.00971)	(0.00739)	(0.0111)
Log of Nonlabor Income	-0.0153***	-0.0136***	-0.00965***	-0.00589**
	(0.00191)	(0.00215)	(0.00186)	(0.00284)
Hispanic Origin Indicator	0.00883	-0.00652	0.0115	0.00273
	(0.00626)	(0.00714)	(0.00730)	(0.0105)
White	-0.00414	0.0206	0.0125*	0.0327***
	(0.0138)	(0.0140)	(0.00752)	(0.0121)
African American	0.00309	0.00130	0.0360***	0.0196
	(0.0145)	(0.0152)	(0.00973)	(0.0149)
Age	-0.00146	0.000370	0.00350	0.00399
	(0.00210)	(0.00244)	(0.00248)	(0.00335)
Age^2	-8.82e-06	-2.05e-05	-6.43e-05**	-6.35e-05
	(2.61e-05)	(2.99e-05)	(3.00e-05)	(4.06e-05)
HS Graduate	0.00870	0.00845	-0.0163*	-0.0113
	(0.00712)	(0.0106)	(0.00870)	(0.0137)
Two Year Degree or Some College	-0.0160*	-0.00704	-0.0269**	-0.0216
	(0.00824)	(0.0114)	(0.0103)	(0.0145)
College Graduate	-0.0330***	-0.0383***	-0.0417***	-0.0575***
	(0.0106)	(0.0129)	(0.0121)	(0.0196)
Graduate Degree	-0.0292**	-0.0245	-0.0308**	-0.0672***
	(0.0137)	(0.0154)	(0.0147)	(0.0231)
Year Indicators	Y	Y	Y	Y
Occupation Indicators	Y	Y	Y	Y
Constant	3.012***	2.965***	3.150***	2.848***
	(0.0685)	(0.0837)	(0.0712)	(0.150)
Observations	181,815	112,251	167,268	47,839
R-squared	0.202	0.175	0.118	0.154

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

[20] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old. Further, both spouses are working, neither are self employed, neither has negative non-labor income and neither has more than two jobs.

What we found in this section supports what was found in Pencavel (1998). We find that women vary their hours on average based on their relative education, but that men are less responsive. Therefore, it seems that total labor hours supplied by a two-income household will vary based on the variation of wives' labor supply and that households with a more highly educated wife will supply more total hours, holding other variables constant. We do not see evidence a trend in specialization between 1996 and 2009.

4.2. Labor Force Participation

The next outcome studied was whether an individual chose to participate in the labor force at all, given the mix of education levels between spouses (see Tables 4-7). For ease of interpretation I have included the linear probability model coefficient estimates as well as the coefficient estimates and selected average marginal effects from the logit model. Conclusions do not appear to be driven by the choice of model, since the results are similar.

As shown below, it appears that women who are more educated than their spouse tend to participate in the labor force more frequently, holding other variables constant. Moreover, it appears that this effect became stronger as we move from the 1996 panel to the 2001 panel, although the trend does not continue.[21] Women who are less educated than their husbands do participate in the labor force less often than those with equal levels of education, although there doesn't appear to be any clear indication of a trend between panels. Looking at the full interactions of education levels (see Table A2 in the appendix), we see that the positive effects seem to be driven by women with college degrees or more, while the negative results are quite strong for women who are married to men with graduate degrees.

[21] While the difference between the coefficients for the 1996 and 2001 panels and the 1996 and 2004 panels are statistically different at the 10 percent level, the coefficient for the 1996 panel is not statistically different from the 2008 panel, and the 2001 coefficient estimate is not statistically different from either the 2004 or 2008 estimates. Therefore, this does not appear to be evidence of a trend.

Table 4: Probability of Participation: LPM Results for Wives[22]

VARIABLES	(1) 1996	(2) 2001	(3) 2004	(4) 2008
Wife More Educated Indicator	0.0302***	0.0563***	0.0478***	0.0508***
	(0.00919)	(0.0110)	(0.00794)	(0.00962)
Husband More Educated Indicator	-0.0326***	-0.0511***	-0.0541***	-0.0519***
	(0.00902)	(0.0107)	(0.00892)	(0.0130)
Number of Kids in HH	-0.0350***	-0.0282***	-0.0326***	-0.0420***
	(0.00455)	(0.00467)	(0.00378)	(0.00510)
Number of Children Under Six	-0.0923***	-0.0980***	-0.0833***	-0.0718***
	(0.00547)	(0.00663)	(0.00536)	(0.00752)
Log of Nonlabor Income	-0.0303***	-0.0283***	-0.0287***	-0.0273***
	(0.00250)	(0.00335)	(0.00227)	(0.00304)
Hispanic Origin Indicator	-0.0569***	-0.0704***	-0.0588***	-0.0992***
	(0.0124)	(0.0121)	(0.0106)	(0.0162)
White	0.0247	0.0259	0.0858***	0.0580***
	(0.0179)	(0.0213)	(0.0136)	(0.0138)
Age	0.0290***	0.0220***	0.0297***	0.0300***
	(0.00459)	(0.00425)	(0.00380)	(0.00459)
Age^2	-0.000416***	-0.000274***	-0.000387***	-0.000384***
	(6.10e-05)	(5.83e-05)	(4.88e-05)	(5.80e-05)
African American	0.105***	0.121***	0.168***	0.110***
	(0.0173)	(0.0265)	(0.0184)	(0.0188)
HS Graduate	0.159***	0.138***	0.164***	0.128***
	(0.0167)	(0.0168)	(0.0135)	(0.0225)
Two Year Degree or Some College	0.211***	0.178***	0.206***	0.208***
	(0.0176)	(0.0182)	(0.0142)	(0.0227)
College Graduate	0.239***	0.151***	0.219***	0.195***
	(0.0190)	(0.0199)	(0.0150)	(0.0240)
Graduate Degree	0.299***	0.216***	0.288***	0.264***
	(0.0218)	(0.0223)	(0.0174)	(0.0270)
Year Indicators	Y	Y	Y	Y
Constant	0.406***	0.443***	0.239***	0.276***
	(0.0802)	(0.0796)	(0.0753)	(0.0905)
Observations	378,879	239,363	343,093	101,529
R-squared	0.089	0.094	0.097	0.105

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[22] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old.

Table 5: Probability of Participation: Logit Results for Wives[23]

LABELS	Logit 1996	Marginal Effects 1996	Logit 2001	Marginal Effects 2001	Logit 2004	Marginal Effects 2004	Logt 2008	Marginal Effects 2008
Wife More Educated Indicator	0.196***	.0362***	0.325***	.0617***	0.292***	.0543**	0.315***	.0585***
	(0.0567)	(.0104)	(0.0645)	(.0122)	(0.0466)	(.0087)	(0.0582)	(.0108)
Husband More Educated Indicator	-0.154***	-.0285***	-0.244***	-.0464***	-0.254***	-.0473***	-0.243***	-.0450***
	(0.0448)	(.0083)	(0.0525)	(.0099)	(0.0437)	(.0081)	(0.0609)	(.0113)
Number of Kids in HH	-0.174***	-.032***	-0.137***	-.0260***	-0.161***	-.0300***	-0.206***	-.0382***
	(0.0234)	(.0043)	(0.0239)	(.0045)	(0.0194)	(.0036)	(0.0272)	(.0050)
Number of Children Under Six	-0.463***	-.0853***	-0.472***	-.0897***	-0.411***	-.0766***	-0.356***	-.0661***
	(0.0271)	(.0050)	(0.0322)	(.0060)	(0.0278)	(.0051)	(0.0359)	(.0065)
Log of Nonlabor Income	-0.196***	-.0363***	-0.171***	-.0324***	-0.185***	-.0344***	-0.178***	-.0329***
	(0.0187)	(.0035)	(0.0229)	(.0043)	(0.0168)	(.0031)	(0.0231)	(.0043)
Hispanic Origin Indicator	-0.277***	-.0511***	-0.345***	-.0655***	-0.297***	-.0553***	-0.491***	-.0912***
	(0.0593)	(.0109)	(0.0576)	(.0108)	(0.0526)	.0098)	(0.0687)	(.0127)
White	0.135	.0249	0.144	.0273	0.425***	.0792***	0.304***	.0565***
	(0.0913)	(.0168)	(0.105)	(.0198)	(0.0632)	(.0117)	(0.0695)	(.0128)
African American	0.630***	.1163***	0.709***	.1347***	0.933***	.1738***	0.616***	.1143***
	(0.0965)	(.0178)	(0.148)	(.0279)	(0.104)	(.0193	(0.111)	(.0205)
Age	0.147***	-.0012*	0.106***	.0019***	0.147***	.0007	0.151***	.0009
	(0.0225)	(.0006)	(0.0215)	(.0007)	(0.0190)	(.0006)	(0.0240)	(.0007)
Age^2	-0.00211***		-0.00130***		-0.00191***		-0.00192***	
	(0.000300)		(0.000301)		(0.000246)		(0.000312)	
HS Graduate	0.696***	.1284***	0.601***	.1142***	0.701***	.1307***	0.529***	.0981***
	(0.0738)	(.0134)	(0.0753)	(.0143)	(0.0611)	(.0112)	(0.103)	(.0192)
Two Year Degree or Some College	0.972***	.1793***	0.815***	(.1548)	0.916***	.1708***	0.939***	.1742***
	(0.0808)	(.0145)	(0.0847)	(.0160)	(0.0678)	(.0123)	(0.101)	(.0187)
College Graduate	1.133***	.2091***	0.671***	.1274***	0.993***	.1851***	0.866***	.1606***
	(0.0897)	(.0163)	(0.0934)	(.0178)	(0.0716)	(.0130)	(0.109)	(.0199)
Graduate Degree	1.552***	.2864***	1.047***	.1988***	1.434***	.2673***	1.307***	.2424)
	(0.125)	(.0228)	(0.117)	(.0222)	(0.0972)	(.0178)	(0.140)	(.0255)
Year Indicators	Y		Y		Y		Y	
Constant	-0.195		0.0833		-1.011***		-0.824*	
	(0.393)		(0.398)		(0.370)		(0.475)	
Observations	378,879		239,363		343,093		101,529	

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In general the effect is strongest when there is a large gap in educational attainment. Both the linear probability model and the logit model predict very similar magnitudes of the average effect. While these

[23] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old.

results fit with what was found in Masken and Stinson (2010), the magnitude of the effect is somewhat smaller. However, Masken and Stinson look at the probability a woman works at all in a given year, which is different from the way participation is defined in this paper.

Interestingly, the behavior of men does not seem to follow what we would anticipate based on our hypothesis about specializing in home or market production. We would expect to see men participating more when they were more educated than their wives and participating less when they were the less educated spouse. We actually find that when it is significant, the coefficient estimate on the indicator variable for having a more educated wife is actually positive, and that in three out of the four panels the coefficient estimate for the husband being more educated is negative and statistically significant. In an effort to determine if these results were simply cohort effects due to the oldest men in the sample retiring early or the youngest cohorts staying in school longer, I repeated the analysis for only those aged 25-50 but the pattern remained.[24] Many of the men in this sample report not working due to injury or disability; however, it is not immediately clear why that would be correlated with having more education than their wives. It is interesting to note that for both panels showing that mens' probability of participating in the labor force increases when their wife is the more educated spouse, we were in an expansionary period while the other two panels cover periods of recession.[25]

As with women, the linear probability model and the average marginal effects predicted by the logit model produce estimates of similar magnitudes. The point estimates from the logit model actually show slightly stronger negative effects on the probability of participation for men when they are more educated than their wives. However, in both models we see that the coefficient on the indicator for a more educated wife is positive when it is significant, although it is only significant in two of the four panels.

[24] Reasons for not working are discussed in Dalirazar (2007); in particular, Table 3 and Table 5 relate to this discussion.
[25] Relevant recession periods were from March 2001-November 2001 and December 2007-June 2009. See http://www.nber.org/cycles/cyclesmain.html for more information.

Table 6: Probability of Participation: LPM Results for Husbands[26]

VARIABLES	(1) 1996	(2) 2001	(3) 2004	(4) 2008
Wife More Educated Indicator	0.0164***	0.00691	0.00884*	-0.00560
	(0.00570)	(0.00645)	(0.00476)	(0.00547)
Husband More Educated Indicator	-0.00607	-0.00936**	-0.0184***	-0.0162***
	(0.00373)	(0.00452)	(0.00401)	(0.00535)
Number of Kids in HH	-0.00697***	-0.00627**	-0.00416**	-0.00232
	(0.00239)	(0.00244)	(0.00181)	(0.00252)
Number of Children Under Six	-0.00404*	-0.00897***	-0.00597**	-0.00148
	(0.00242)	(0.00278)	(0.00269)	(0.00357)
Log of Nonlabor Income	-0.00779***	-0.00634***	-0.00660***	-0.00739***
	(0.000558)	(0.000646)	(0.000592)	(0.000669)
Hispanic Origin Indicator	0.0213***	0.00924	0.00161	0.0144*
	(0.00687)	(0.00975)	(0.00622)	(0.00767)
White	0.0376***	0.0222**	0.0259***	0.0408***
	(0.00987)	(0.00943)	(0.00705)	(0.00809)
Age	0.0189***	0.0118***	0.0197***	0.0202***
	(0.00268)	(0.00256)	(0.00220)	(0.00278)
Age^2	-0.000281***	-0.000172***	-0.000274***	-0.000270***
	(3.53e-05)	(3.30e-05)	(2.80e-05)	(3.36e-05)
African American	0.0125	-0.00929	-0.0117	0.00186
	(0.0130)	(0.0129)	(0.0101)	(0.0129)
HS Graduate	0.0921***	0.0752***	0.0428***	0.0415***
	(0.0104)	(0.0137)	(0.0100)	(0.0114)
Two Year Degree or Some College	0.115***	0.0972***	0.0566***	0.0662***
	(0.0112)	(0.0131)	(0.0106)	(0.0117)
College Graduate	0.131***	0.115***	0.0880***	0.0880***
	(0.0119)	(0.0143)	(0.0110)	(0.0123)
Graduate Degree	0.157***	0.131***	0.105***	0.111***
	(0.0124)	(0.0142)	(0.0117)	(0.0130)
Year Indicators	Y	Y	Y	Y
Constant	0.573***	0.718***	0.599***	0.550***
	(0.0513)	(0.0508)	(0.0441)	(0.0545)
Observations	351,545	220,804	319,011	94,246
R-squared	0.067	0.039	0.044	0.043

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[26] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old.

Table 7: Probability of Participation: Logit Results for Husbands[27]

VARIABLES	Logit 1996	Marginal Effects 1996	Logit 2001	Marginal Effects 2001	Logit 2004	Marginal Effects 2004	Logit 2008	Marginal Effects 2008
Wife More Educated Indicator	0.314***	.0137***	0.120	.0056	0.178*	.0083*	-0.0778	-.0040
	(0.115)	(.0050)	(0.119)	(.0056)	(0.0947)	(.0043)	(0.0922)	(.0048)
Husband More Educated Indicator	-0.221**	-.0096**	-0.289**	-.0136**	-0.461***	-.0215***	-0.373***	-.0190***
	(0.106)	(.0046)	(0.119)	(.0056)	(0.0877)	(.0044)	(0.124)	(.0065)
Number of Kids in HH	-0.109***	-.0047***	-0.0994**	-.0047**	-0.0736**	-.0034**	-0.0270	-.0014
	(0.0364)	(.00157)	(0.0397)	(.0019)	(0.0326)	(.0016)	(0.0454)	(.0023)
Number of Children Under Six	-0.0223	(-.0010)	-0.167***	-.0078***	-0.0682	-.0032	0.00954	.00049
	(0.0601)	(.0026)	(0.0569)	(.0027)	(0.0677)	(.0030)	(0.0828)	(.0041)
Log of Nonlabor Income	-0.326***	-.0142***	-0.224***	-.0105***	-0.245***	-.0115***	-0.257***	-.0131***
	(0.0273)	(.0013)	(0.0281)	.0014	(0.0277)	(.0013)	(0.0305)	(.0017)
Hispanic Origin Indicator	0.381***	.0166***	0.130	.0061	0.0475	.0022	0.219	.0111
	(0.138)	(.0060)	(0.170)	(.0080)	(0.119)	(.0057)	(0.148)	(.0074)
White	0.536***	.0234***	0.377**	.0177**	0.430***	.0201***	0.648***	.0329***
	(0.141)	(.0061)	(0.162)	(.0076)	(0.124)	(.0059)	(0.120)	(.0067)
African American	0.122	.0053	-0.140	-.0066	-0.174	-.0081	0.0875	.0044
	(0.175)	(.0076)	(0.193)	(.0091)	(0.155)	(.0070)	(0.166)	(.0088)
Age	0.171***	-.0028***	0.144***	-.0019***	0.236***	-.0025***	0.256***	-.0019***
	(0.0347)	(.0003)	(0.0344)	(.00031)	(0.0261)	(.00026)	(0.0354)	(.00035)
Age^2	-0.00274***		-0.00219***		-0.00334***		-0.00340***	
	(0.000408)		(0.000411)		(0.000303)		(0.000398)	
HS Graduate	1.181***	.0515***	0.889***	.0418***	0.635***	.0296***	0.525***	.0267***
	(0.112)	(.005)	(0.156)	(.0078)	(0.123)	(.0059)	(0.138)	(.0069)
Two Year Degree or Some College	1.719***	.075***	1.363***	.0640***	0.943***	.0440***	0.967***	.0491***
	(0.144)	(.0066)	(0.152)	(.0078)	(0.137)	(.0066)	(0.161)	(.0078)
College Graduate	2.186***	.095***	1.893***	.089***	1.775***	.0829***	1.522***	.0773***
	(0.187)	(.0084)	(0.203)	(.0101)	(0.162)	(.0087)	(0.191)	(.0100)
Graduate Degree	2.925***	.1276***	2.387***	.1122***	2.181***	.1018***	2.275***	.1156***
	(0.208)	(.0098)	(0.192)	(.0108)	(0.190)	(.0096)	(0.267)	(.0139)
Year Indicators	Y		Y		Y		Y	
Constant	1.166		1.340*		-0.0851		-1.042	
	(0.813)		(0.772)		(0.629)		(0.817)	
Observations	351,545		220,804		319,011		94,246	

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[27] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old.

When looking at the full interactions, (see Table A3) we find that many times when the where the husband is more educated, we see the expected positive coefficient on men's probability of participation. This is especially true if the husband has not completed a High School Diploma. We also find that when the husband has a graduate degree, the wife's education level does not seem to influence his probability of participation. The positive results seem to occur where the gap in education is smaller; for example, when the wife has some college and the husband has a high school diploma, or where the husband has some college and the wife has a college degree. Perhaps even more interesting are the negative and significant coefficients on the number of children present and the number of children under six in the household. While the magnitudes of the coefficient estimates are much larger for women than for men, it would not have been surprising to find that the presence of children had a positive impact on the probability of men participating in the labor force. This should be investigated more fully in the future.

One possible explanation for these unexpected results on the part of married men is an issue of an omitted variable. It is possible that men and women with high levels of motivation tend to marry each other, and that this motivation may manifest itself in different ways. For example, a highly motivated woman may be more likely to further her education than a man of a similar motivation level, although they will both show higher levels of attachment to the labor force. For this reason I explored using an instrumental variables model. The endogenous variables were the indicator variables on whether the husband or wife had more education (because there were 24 potentially endogenous variables in the full interactions, the instrumental variables analysis was restricted to the indicators). The instruments were based on what the individual would likely face in the marriage market if they were to end the marriage that they were in during the observed periods. Included instruments were the ratio of single men to single women and the fraction of the opposite sex with a high school diploma, some college, a college degree and a graduate degree. The male-to-female ratios were calculated for each state, while the fraction of people with each education level was calculated separately for each state based on metropolitan status. All instruments were calculated using data from the American Community Survey (one-year data) and so are available between 2005 and 2009. Therefore, the instrumental variables analysis was only conducted for the 2004 and 2008 panels, and results presented in the appendix as Table A4 are based on pooled data from these two panels. In the future I would like to add similar information for the year of marriage as instruments to account for marriage market conditions when the individuals married, though this is not trivial to do.

The instrumental variables analysis usually gives us the expected signs on the variables of interest; however, the magnitudes estimated are much larger than is reasonable and the standard errors are also quite large. None of the coefficients of interest estimated are statistically different from zero. The instruments generally seem to be valid (not correlated with ε_i in the original equations estimated), although they are not very powerful in predicting which spouse is more highly educated (or if they are educated equally). They seem to be stronger for men than women, and for women who do not participate in the labor force than for those that do. This could be because women who participate in the labor force are likely to be part of a two-income family and may have to relocate to find jobs; therefore, local marriage market conditions may not predict what they faced when finding their current spouse. (For example, see Costa and Kahn (2000) who argue that dual earner couples gravitate to urban areas more than singles because of co-location decisions.)

While it is possible that there is a marriage-partner selection issue affecting the estimation presented in this section, the results are still worth noting. It may not be that there is an exogenous change in the education level of an individual's spouse that causes changes in that individual's labor market attachment; in fact, that is likely not the case. However, knowing how these two variables interact is worth studying even if the relationship cannot be interpreted as causal, as the instrumental variables analysis suggests it cannot be.

5. Conclusion

This paper attempts to fill a gap in the literature by studying how labor force behavior changes based on the education level of both an individual and his or her spouse. This is the first paper to my knowledge to look at the participation probabilities based on both spouses' education levels, and the first to look at both hours of work and participation over this time period. This time period is especially interesting to study because of the changes in women's educational attainment that have occurred.

As this research progresses, the next step is to use the panel nature of the data more explicitly. Earnings trajectories can be observed for the (roughly) four years that a respondent is a part of the survey, and it would be very interesting to know if and how these trajectories vary with the levels of education. This would be especially important when looking at major life events such as moves or beginning a family. It would also be useful to conduct a sensitivity analysis to see how robust the results presented are to elements such as the definition of participation in the labor force. Finally, in order to study specialization more fully it would be useful to consider the number of hours worked by one spouse relative to the other.

This study finds that those women who are more educated than their husbands tend to participate in the labor force more often than women who have the same level of education as their husbands by about 3.6 to 6.2 percentage points, and that women with equal education levels are about 2.9 to 4.7 percentage points more likely to participate than those who are less educated than their husband. Also, conditional on participating they tend to work longer hours and have fewer absences. This would support the hypothesis that there may be shifting in market and home specialization; however, we do not observe such support on the part of men in this sample. We find that men's work hours are rather unresponsive to which spouse has more education, and that men are actually less likely to participate in the labor force when they are more educated than their wives by 0.9 to 2.2 percentage points. Some preliminary work with an instrumental variables analysis has been conducted to examine whether this can be interpreted as a causal effect, but strong conclusions cannot yet be reached based on these results. However, these preliminary results do not support a causal relationship.

References

Baum, C.F., Schaffer, M.E. Stillman, S. 2010. Ivreg2: Stata module for extended instrumental variables/2SLS, GMM, and AC/HAC, LIML and k-class regression. http://ideas.repec.org/c/boc/bocode/s425401.html.

Becker, Gary S. 1985. "Human Capital, Effort, and the Sexual Division of Labor." *Journal of Labor Economics*, 3(1): S33-S58.

Becker, Gary S. 1981. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Blau, Francine. 1998. "Trends in the Well-Being of American Women, 1970-1995," *Journal of Economic Literature*, 36 (1): 112-165.

Blau, Francine D. and Kahn, Lawrence M. 2000. "Gender Differences in Pay," *The Journal of Economic Perspectives*, 14 (4): 75-99.

Blundell, Richard and MaCurdy, Thomas. 1999. "Labor Supply: A Review of Alternative Approaches," In O. Ashenfelter and D. Card (Eds.) *The Handbook of Labor Economics*, Vol. 3 pp. 1559-1618. Amsterdam: Elsevier.

Bronars, Stephen G. and Grogger, Jeff. 1994. "The Economic Consequences of Unwed Motherhood: Using Twin Births as a Natural Experiment," *The American Economic Review*, 84 (5): 1141-1156.

Bureau of Labor Statistics, 2001. "Employment Characteristics of Families in 2000." http://www.bls.gov/news.release/History/famee_04192001.txt.

Bureau of Labor Statistics, 2010. "Families by Presence and Relationship of Employed Members and Family Type, 2008-09 Annual Averages." http://www.bls.gov/news.release/famee.t02.htm

Corcoran, Mary and Duncan, Greg J. 1979. "Work History, Labor Force Attachment, and Earnings Differences between the Races and Sexes," *The Journal of Human Resources*, 14 (1): 3-20.

Costa, Dora and Kahn, Matthew. 2000. "Power Couples: Changes in the Locational Choice of the College Educated, 1940-1990," *Quarterly Journal of Economics*, 115 (4): 1287-1315.

Dalirazar, Nasrin. *Reasons People Do Not Work: 2004*, P70-111, U.S. Census Bureau, Washington, DC: 2007.

Diprete, Thomas and Buchmann, Claudia. 2006. "Gender-Specific Trends in the Value of Education and the Emerging Gender Gap in College Completion," *Demography*, 43 (1): 1-24.

Faiella, Ivan. 2010. "The Use of Survey Weights in Regression Analysis." Working Paper No. 739, *Banca D'Italia*.

Gelman, Andrew. 2007. "Struggles with Survey Weighting and Regression Modeling," *Statistical Science*, 22 (2): 153-164.

Goldin, Claudia. 2006. "The Quiet Revolution That Transformed Women's Employment, Education and Family," *The American Economic Review*, 96(2): 1-21.

Kreider, Rose M. and Fields, Jason M. 2002. "Number, Timing and Duration of Marriages and Divorces: Fall 1996." Current Population Reports, P70-P80. U.S. Census Bureau, Washington, DC. http://www.census.gov/prod/2002pubs/p70-80.pdf.

Mare, Robert D. 1991. "Five Decades of Educational Assortative Mating," *American Sociological Review*, 56 (1): 15-32.

Lundberg, Shelly. 1985. "Tied Wage-Hours Offers and the Endogeneity of Wages," *The Review of Economics and Statistics*, 67 (3): 405-410.

Masken, Karen and Stinson, Martha. 2010. "What Influences a Woman's Decision to Work: The Changing Role of a Husband's Earnings." Social, Economic, and Housing Statistics Division Working Paper Series.

National Center for Education Statistics. June, 2010. *Public School Graduates and Dropouts From the Common Core of Data: School Year 2007-2008*. Washington, DC. http://nces.ed.gov/pubs2010/graduates/tables/table_08.asp.

National Center for Education Statistics. 2009a. *Bachelor's degrees conferred by degree granting institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2007-08.*. Washington, DC. http://nces.ed.gov/programs/digest/d09/tables/dt09_285.asp.

National Center for Education Statistics. 2009b. *Master's degrees conferred by degree-granting institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2007-08.* Washington, DC. http://nces.ed.gov/programs/digest/d09/tables/dt09_288.asp.

National Center for Education Statistics. 2009c. *Doctor's degrees conferred by degree-granting institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2007-08.* Washington, DC. http://nces.ed.gov/programs/digest/d09/tables/dt09_291.asp.

Pencavel, John. 1998. "Assortative Mating by Schooling and the Work Behavior of Wives and Husbands," *The American Economic Review*, Papers and Proceedings of the Hundred and Tenth Annual Meeting of the American Economic Association, 88 (2): 326-329.

Schwartz, Christine R. and Mare, Robert D. 2005. "Trends in Educational Assortative Marriage from 1940-2003," *Demography*, 42(4): 621-646.

Appendix

Table A1: Effect of Education mix on Wives' Work Hours:
Full Interaction Variables[28]

VARIABLES	(1) 2001	(2) 2004	(3) 2008	(4) 1996
Wife HS Grad	-0.0522***	0.00954	0.0311	-0.0196
	(0.0176)	(0.0203)	(0.0285)	(0.0211)
Wife Some College/2 Year	-0.0896***	-0.0814***	-0.0410	-0.0716***
	(0.0247)	(0.0255)	(0.0409)	(0.0269)
Wife College Graduate	-0.114*	-0.197***	-0.165**	-0.157***
	(0.0580)	(0.0613)	(0.0739)	(0.0462)
Wife Graduate Degree	0.0196	-0.363***	-0.302	-0.409***
	(0.253)	(0.0862)	(0.381)	(0.0190)
Husband HS Grad	-0.0212	0.0368	0.0351	-0.0118
	(0.0254)	(0.0288)	(0.0440)	(0.0221)
Husband Some College/2 Year	0.0392	0.00714	-0.0126	-0.00224
	(0.0306)	(0.0395)	(0.0530)	(0.0263)
Husband College Graduate	-0.124	-0.310*	-0.249	0.0484
	(0.0909)	(0.167)	(0.154)	(0.0723)
Husband Graduate Degree	-0.289	-0.0483	0.0385	-0.180**
	(0.249)	(0.108)	(0.0380)	(0.0854)
Wife HS Grad#Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife HS Grad#Husband HS Grad	0.0212	-0.0695**	-0.0875*	-0.0180
	(0.0283)	(0.0341)	(0.0488)	(0.0283)
Wife HS Grad#Husband Some College	-0.0551	-0.107***	-0.0432	-0.0521*
	(0.0361)	(0.0395)	(0.0618)	(0.0309)
Wife HS Grad#Husband College Grad	-0.000718	0.174	0.147	-0.157**
	(0.0966)	(0.166)	(0.158)	(0.0764)
Wife HS Grad#Husband Grad Degree	0.243	-0.0628	-0.0769	0.187**
	(0.245)	(0.126)	(0.0739)	(0.0921)
Wife Some College#Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife Some College#Husband HS Grad	0.00638	-0.0489	-0.0320	0.00594
	(0.0355)	(0.0313)	(0.0566)	(0.0310)
Wife Some Coll#Husband Some Coll	-0.0900**	-0.0343	-0.0181	-0.0371
	(0.0379)	(0.0436)	(0.0605)	(0.0357)
Wife Some Coll#Husband College Grad	0.0235	0.197	0.141	-0.144*
	(0.0985)	(0.168)	(0.160)	(0.0786)
Wife Some Coll#Husband Grad Degree	0.142	-0.121	-0.122**	0.0417
	(0.251)	(0.119)	(0.0599)	(0.0975)
Wife College Grad# Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife College Grad#Husband HS Grad	-0.0339	0.0191	0.0178	-0.00556
	(0.0638)	(0.0653)	(0.0898)	(0.0548)

[28] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old. Further, both spouses are working, neither are self employed, neither has negative non-labor income and neither has more than two jobs.

Wife College Grad # Husband Some Coll	-0.121*	0.0312	0.0408	0.00270
	(0.0620)	(0.0704)	(0.0918)	(0.0539)
Wife Coll Grad#Husband Coll Grad	-0.00691	0.298	0.210	-0.115
	(0.112)	(0.182)	(0.172)	(0.0887)
Wife College Grad#Husband Grad Degree	0.114	0.00323	-0.0639	0.129
	(0.270)	(0.123)	(0.0804)	(0.0960)
Wife Grad Degree#Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife Grad Degree#Husband HS Grad	-0.189	0.166*	0.00212	0.239***
	(0.259)	(0.0920)	(0.391)	(0.0379)
Wife Grad Degree # Husband Some Coll	-0.265	0.200**	0.158	0.182***
	(0.257)	(0.0932)	(0.382)	(0.0388)
Wife Grad Degree # Husband Coll Grad	-0.218	0.410**	0.334	0.0954
	(0.268)	(0.192)	(0.390)	(0.0730)
Wife Grad Degree#Husband Grad Degree	0	0.166	0.0304	0.352***
	(0)	(0.134)	(0.382)	(0.0875)
Number of Kids in HH	-0.0107**	-0.00575	-0.00118	-0.0116***
	(0.00497)	(0.00348)	(0.00560)	(0.00381)
Number of Children Under Six	-0.0685***	-0.0527***	-0.0338***	-0.0617***
	(0.00819)	(0.00495)	(0.00737)	(0.00564)
Log of Wage	0.412***	0.362***	0.350***	0.449***
	(0.0105)	(0.00652)	(0.00893)	(0.0103)
Log of Nonlabor Income	-0.0604***	-0.0638***	-0.0524***	-0.0580***
	(0.00568)	(0.00465)	(0.00579)	(0.00475)
Hispanic Origin Indicator	0.0539***	0.0779***	0.0531***	0.0571***
	(0.0111)	(0.00889)	(0.0127)	(0.0106)
White	-0.0468**	-0.0457***	-0.0249	-0.0637***
	(0.0197)	(0.0105)	(0.0162)	(0.0157)
African American	0.0237	0.0316**	0.0143	-0.00966
	(0.0203)	(0.0126)	(0.0194)	(0.0170)
Age	-0.0235***	-0.0285***	-0.0201***	-0.0268***
	(0.00463)	(0.00330)	(0.00455)	(0.00352)
Age^2	0.000258***	0.000338***	0.000230***	0.000302***
	(5.97e-05)	(4.19e-05)	(5.95e-05)	(4.69e-05)
Year Indicators	Y	Y	Y	Y
Occupation Indicators	Y	Y	Y	Y
Constant	2.217***	2.566***	2.306***	2.202***
	(0.0977)	(0.0673)	(0.105)	(0.0787)
Observations	111,929	166,532	47,424	181,287
R-squared	0.485	0.398	0.380	0.540

Standard errors in parentheses
Darker shading indicates a more educated wife.
Lighter shading indicates equal education levels between spouses.
*** p<0.01, ** p<0.05, * p<0.1

Table A2: Probability of Participation: LPM Results for Wives with Full Interactions[29]

VARIABLES	(1) 1996	(2) 2001	(3) 2004	(4) 2008
Wife HS Grad	0.142***	0.176***	0.135***	0.115***
	(0.0281)	(0.0303)	(0.0296)	(0.0369)
Wife Some College/2 Year	0.278***	0.228***	0.271***	0.226***
	(0.0299)	(0.0350)	(0.0326)	(0.0363)
Wife College Graduate	0.138	0.244***	0.0284	0.213***
	(0.116)	(0.0685)	(0.0768)	(0.0750)
Wife Graduate Degree	0.160	-0.315	0.245	0.384***
	(0.250)	(0.230)	(0.212)	(0.125)
Husband HS Grad	0.0749***	0.0235	0.0120	-0.00512
	(0.0274)	(0.0333)	(0.0272)	(0.0410)
Husband Some College/2 Year	0.0674	0.0987**	-0.0112	0.0918**
	(0.0428)	(0.0481)	(0.0335)	(0.0445)
Husband College Graduate	0.0714	0.0128	-0.202*	0.0868
	(0.0876)	(0.113)	(0.114)	(0.135)
Husband Graduate Degree	-0.221***	0.156	-0.180*	-0.0665
	(0.0786)	(0.108)	(0.0948)	(0.184)
Wife HS Grad#Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife HS Grad#Husband HS Grad	0.00664	-0.0102	0.0226	0.0487
	(0.0339)	(0.0456)	(0.0380)	(0.0482)
Wife HS Grad#Husband Some College	0.000325	-0.131**	0.0551	-0.0539
	(0.0454)	(0.0543)	(0.0426)	(0.0519)
Wife HS Grad#Husband College Grad	-0.0549	-0.0546	0.265**	-0.0702
	(0.0908)	(0.121)	(0.121)	(0.142)
Wife HS Grad#Husband Grad Degree	0.209**	-0.246*	-0.0273	-0.143
	(0.103)	(0.126)	(0.102)	(0.197)
Wife Some College#Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife Some College#Husband HS Grad	-0.0481	0.0206	-0.0124	0.0675
	(0.0376)	(0.0479)	(0.0437)	(0.0500)
Wife Some Coll#Husband Some Coll	-0.0661	-0.0799	-0.0148	-0.0617
	(0.0470)	(0.0574)	(0.0449)	(0.0553)
Wife Some Coll#Husband College Grad	-0.134	-0.0746	0.0965	-0.107
	(0.0856)	(0.117)	(0.118)	(0.137)
Wife Some Coll#Husband Grad Degree	0.0751	-0.294***	-0.0117	-0.0602
	(0.0884)	(0.106)	(0.105)	(0.189)
Wife College Grad# Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife College Grad#Husband HS Grad	0.162	0.0404	0.270***	0.125
	(0.117)	(0.0663)	(0.0822)	(0.0835)

[29] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old.

Wife College Grad # Husband Some Coll	0.150	-0.0646	0.317***	0.0116
	(0.123)	(0.0835)	(0.0861)	(0.0779)
Wife Coll Grad#Husband Coll Grad	0.0700	-0.0825	0.416***	-0.0716
	(0.144)	(0.125)	(0.126)	(0.164)
Wife College Grad#Husband Grad Degree	0.308**	-0.279**	0.288**	-0.0296
	(0.138)	(0.127)	(0.123)	(0.189)
Wife Grad Degree#Husband LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Wife Grad Degree#Husband HS Grad	0.122	0.627***	0.119	-0.0272
	(0.253)	(0.236)	(0.223)	(0.129)
Wife Grad Degree # Husband Some Coll	0.189	0.600**	0.145	-0.0851
	(0.251)	(0.242)	(0.219)	(0.129)
Wife Grad Degree # Husband Coll Grad	0.168	0.602**	0.299	-0.131
	(0.271)	(0.255)	(0.244)	(0.181)
Wife Grad Degree#Husband Grad Degree	0.396	0.409*	0.247	-0.0311
	(0.286)	(0.209)	(0.229)	(0.221)
Number of Kids in HH	-0.0330***	-0.0267***	-0.0318***	-0.0403***
	(0.00454)	(0.00459)	(0.00377)	(0.00505)
Number of Children Under Six	-0.0908***	-0.0977***	-0.0824***	-0.0706***
	(0.00551)	(0.00659)	(0.00530)	(0.00733)
Log of Nonlabor Income	-0.0295***	-0.0272***	-0.0275***	-0.0259***
	(0.00257)	(0.00328)	(0.00226)	(0.00303)
Hispanic Origin Indicator	-0.0414***	-0.0584***	-0.0492***	-0.0892***
	(0.0127)	(0.0126)	(0.0105)	(0.0166)
White	0.0216	0.0227	0.0793***	0.0556***
	(0.0180)	(0.0213)	(0.0136)	(0.0137)
Age	0.0280***	0.0218***	0.0291***	0.0288***
	(0.00447)	(0.00420)	(0.00377)	(0.00460)
Age^2	-0.000397***	-0.000267***	-0.000377***	-0.000365***
	(5.93e-05)	(5.78e-05)	(4.83e-05)	(5.83e-05)
African American	0.0965***	0.113***	0.164***	0.102***
	(0.0177)	(0.0268)	(0.0183)	(0.0185)
Year Indicators	Y	Y	Y	Y
Constant	0.352***	0.389***	0.216***	0.246***
	(0.0788)	(0.0785)	(0.0764)	(0.0868)
Observations	378,879	239,363	343,093	101,529
R-squared	0.096	0.099	0.104	0.112

Standard errors in parentheses
Darker shading indicates a more educated wife.
Lighter shading indicates equal education levels between spouses.
*** p<0.01, ** p<0.05, * p<0.1

Table A3: Probability of Participation: LPM Results for Husbands with Full Interactions[30]

VARIABLES	(1) 1996	(2) 2001	(3) 2004	(4) 2008
Husband HS Grad	0.0841***	0.0293	-0.0197	-0.0524*
	(0.0196)	(0.0233)	(0.0191)	(0.0268)
Husband Some College/2 Year	0.108***	0.0373	-0.102**	0.00404
	(0.0234)	(0.0280)	(0.0389)	(0.0338)
Husband College Graduate	0.141***	-0.00692	0.0237	0.0778***
	(0.0350)	(0.105)	(0.0340)	(0.0276)
Husband Graduate Degree	0.201***	0.133***	-0.0927	0.101***
	(0.0252)	(0.0168)	(0.111)	(0.0376)
Wife HS Grad	0.0444**	0.00508	-0.0378	-0.0401
	(0.0217)	(0.0254)	(0.0268)	(0.0251)
Wife Some College/2 Year	0.0732**	-0.0179	-0.000129	-0.0658**
	(0.0300)	(0.0308)	(0.0208)	(0.0307)
Wife College Graduate	0.00476	0.0368	0.0525**	0.0240
	(0.0985)	(0.0545)	(0.0238)	(0.0378)
Wife Graduate Degree	-0.0654	0.133***	-0.0804	-0.0176
	(0.164)	(0.0226)	(0.140)	(0.0866)
Husband HS Grad#Wife LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Husband HS Grad#Wife HS Grad	-0.0135	0.0418	0.0905***	0.103***
	(0.0244)	(0.0343)	(0.0329)	(0.0356)
Husband HS Grad#Wife Some Coll	-0.0308	0.0710*	0.0655***	0.152***
	(0.0315)	(0.0360)	(0.0232)	(0.0367)
Husband HS Grad#Wife Coll Grad	0.0355	0.0345	0.000341	0.0715
	(0.0995)	(0.0600)	(0.0301)	(0.0509)
Husband HS Grad#Wife Grad Degree	0.153	-0.129***	0.167	0.116
	(0.166)	(0.0485)	(0.142)	(0.0963)
Husband Some College#Wife LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Husband Some College#Wife HS Grad	-0.0220	0.0475	0.178***	0.0795**
	(0.0272)	(0.0349)	(0.0480)	(0.0371)
Husband Some Coll#Wife Some Coll	-0.0445	0.0755**	0.147***	0.112**
	(0.0357)	(0.0372)	(0.0421)	(0.0455)
Husband Some Coll#Wife College Grad	0.0338	0.0346	0.122***	0.00714
	(0.100)	(0.0622)	(0.0431)	(0.0549)
Husband Some Coll#Wife Grad Degree	0.100	-0.0708**	0.213	0.0339
	(0.167)	(0.0324)	(0.146)	(0.0931)
Husband College Grad#Wife LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Husband College Grad#Wife HS Grad	-0.0479	0.125	0.0733*	0.0223
	(0.0358)	(0.107)	(0.0406)	(0.0354)
Husband College Grad#Wife Some Coll	-0.0555	0.136	0.0425	0.0510
	(0.0426)	(0.109)	(0.0380)	(0.0401)
Husband Coll Grad#WifeColl Grad	0.00499	0.0793	0.00359	-0.0335

[30] The sample includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old.

	(0.102)	(0.118)	(0.0425)	(0.0443)
Husband College Grad#Wife Grad Degree	0.0644	-0.0228	0.128	-0.00794
	(0.163)	(0.107)	(0.140)	(0.0982)
Husband Grad Degree#Wife LTHS	0	0	0	0
	(0)	(0)	(0)	(0)
Husband Grad Degree#Wife HS Grad	-0.0870**	-0.00917	0.224**	-0.00658
	(0.0355)	(0.0277)	(0.111)	(0.0542)
Husband Grad Degree#Wife Some Coll	-0.109***	0.00119	0.179	0.0335
	(0.0355)	(0.0325)	(0.114)	(0.0517)
Husband Grad Degree#Wife Coll Grad	-0.0318	-0.0443	0.125	-0.0444
	(0.101)	(0.0548)	(0.115)	(0.0519)
Husband Grad Degree#Wife Grad Degree	0.0381	-0.140***	0.257	0.0112
	(0.162)	(0.0249)	(0.182)	(0.0930)
Number of Kids in HH	-0.00642***	-0.00615**	-0.00404**	-0.00227
	(0.00236)	(0.00243)	(0.00177)	(0.00254)
Number of Children Under Six	-0.00385	-0.00899***	-0.00552**	-0.00110
	(0.00237)	(0.00273)	(0.00268)	(0.00355)
Log of Nonlabor Income	-0.00772***	-0.00626***	-0.00642***	-0.00735***
	(0.000575)	(0.000642)	(0.000586)	(0.000670)
Hispanic Origin Indicator	0.0269***	0.0121	0.00468	0.0161**
	(0.00745)	(0.00976)	(0.00642)	(0.00781)
White	0.0364***	0.0212**	0.0256***	0.0404***
	(0.00986)	(0.00945)	(0.00698)	(0.00814)
Age	0.0188***	0.0115***	0.0193***	0.0197***
	(0.00270)	(0.00256)	(0.00220)	(0.00282)
Age^2	-0.000278***	-0.000170***	-0.000270***	-0.000263***
	(3.55e-05)	(3.30e-05)	(2.80e-05)	(3.39e-05)
African American	0.0113	-0.0105	-0.0113	0.00201
	(0.0130)	(0.0128)	(0.0101)	(0.0127)
Year Indicators	Y	Y	Y	Y
Constant	0.554***	0.725***	0.615***	0.577***
	(0.0536)	(0.0523)	(0.0472)	(0.0573)
Observations	351,545	220,804	319,011	94,246
R-squared	0.069	0.042	0.050	0.047

Standard errors in parentheses
Darker shading indicates a more educated husband.
Lighter shading indicates equal education levels between spouses.
*** p<0.01, ** p<0.05, * p<0.1

Table A4: Instrumental Variable Regressions: 2005-2009[31]

VARIABLES	(1) Women's Hours of Work	(2) Men's Hours of Work	(3) Women in the LF	(4) Men in the LF
Wife More Educated Indicator	0.437	0.210	0.136	-0.208
	(0.348)	(0.298)	(0.380)	(0.340)
Husband More Educated Indicator	-0.371	0.166	-0.187	-0.224
	(0.698)	(0.152)	(0.463)	(0.251)
Number of Kids in HH	-0.00880	0.00114	-0.0385***	-0.00530
	(0.00615)	(0.00629)	(0.00338)	(0.00554)
Number of Children Under 6	-0.0142	-0.00469	-0.0750***	-0.00538
	(0.00963)	(0.0175)	(0.00604)	(0.00987)
Log of Wage	0.368***	0.153***		
	(0.0137)	(0.0132)		
Log of Nonlabor Income	0.00246	-0.00932	-0.0180***	-0.00751**
	(0.0258)	(0.0134)	(0.00479)	(0.00349)
Hispanic Origin Indicator	-0.0203	0.0335	-0.0865**	-0.00486
	(0.0571)	(0.0412)	(0.0338)	(0.0342)
White	-0.0864***	-0.00246	0.0523***	0.0501***
	(0.0176)	(0.0116)	(0.0170)	(0.0169)
African American	-0.0519	0.0242**	0.115***	0.00199
	(0.0327)	(0.0120)	(0.0184)	(0.0125)
Age	-0.0176***	0.00151	0.0308***	0.0212***
	(0.00416)	(0.00374)	(0.00334)	(0.00364)
Age^2	0.000250***	-4.24e-05	-0.000389***	-0.000290***
	(5.04e-05)	(4.42e-05)	(4.29e-05)	(4.20e-05)
HS Graduate	-0.117***	-0.00951	0.136***	0.0577***
	(0.0261)	(0.0307)	(0.0353)	(0.0174)
Two Year or Some College	-0.389***	0.00873	0.140***	0.0620
	(0.120)	(0.120)	(0.0397)	(0.0541)
College Graduate	-0.540***	-0.0147	0.137**	0.0946
	(0.128)	(0.164)	(0.0560)	(0.0689)
Graduate Degree	-0.722***	-0.00675	0.157**	0.133
	(0.201)	(0.230)	(0.0645)	(0.0917)
Year	-0.00892***	-0.00847***	-0.000629	-0.00111
	(0.00224)	(0.00152)	(0.00202)	(0.00125)
Occupation Indicators	Y	Y	N	N
State Indicators	Y	Y	Y	Y
Constant	19.94***	19.82***	1.433	2.895
	(4.549)	(3.106)	(4.140)	(2.538)
Observations	165,287	166,272	346,452	321,452
R-squared	0.148	0.002	0.079	-0.144
Hansen J-Stat	8.636	7.502	5.237	1.735
P-Value	0.0709	0.112	0.264	0.784
F-Stat Weak ID	2.566	8.211	9.837	6.277

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[31] The universe includes person-month observations of individuals who are married with their spouse present, where both spouses are between 18 and 65years old. Further, for Columns 1 and 2, both spouses are working, neither are self employed, neither has negative non-labor income and neither has more than two jobs.

Table A5: Standard Deviations Associated with Sample Characteristics in Table 1

	1996		2001		2004		2008	
	Women	Men	Women	Men	Women	Men	Women	Men
Average Age	10.73	11.01	10.76	11.00	10.83	10.99	11.16	11.23
Average Number of Kids	1.24	1.24	1.25	1.25	1.22	1.22	1.24	1.24
Average Number of Kids under 6	0.79	0.79	0.80	0.80	0.79	0.79	0.79	0.79
25th Percentile Nonlabor Monthly Income (nominal; where positive)	1700	734	2000	926	2100	952	2425	1077
75th Percentile Nonlabor Monthly Income (nominal; where positive)	4498	2862	5254	3460	5824	3866	6823	4689