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Disability Insurance and Female Labor Supply

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DISABILITY INSURANCE AND FEMALE LABOR SUPPLY

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ABSTRACT

This paper studies the household characteristics where husbands receive disability income. It tries to analyze the characteristics of the married men based on age, race, education and wage. This paper also concentrates on the labor supply pattern of married women in the disabled households and tries to find whether women in these households work more in response to the disability income received by the husbands.

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CHAPTER ONE

INTRODUCTION

Social Security Disability Insurance is the largest income replacement program in the United States. The program provides support to the workers who are unable to continue their work due to their physical, mental impairment or disability. The study of Disability Insurance is becoming more important because the number of nonelderly adults receiving income from Social Security Disability Insurance (SSDI) is increasing at a rapid rate over time.

The number of beneficiaries of Disability Insurance was projected to grow rapidly after 1984, the year in which Congress passed a legislation that broadened the definition of disability. It relaxed the eligibility and screening criteria for the program and also ended the continuing disability review process for the existing recipients. As a result, the share of nonelderly males (aged in between 25 to 64) receiving Disability Insurance grew at a rapid rate since the mid 1980s. From 1984 to 2000 the number of beneficiaries of Disability Insurance benefits more than doubled from 3.8 million to 7.7 million.

This paper examines the labor supply of wives whose husbands are receiving income from income from Social Security Disability Insurance. My study is in two parts. The first part examines the characteristics of the male heads in these households according to their wage, education, age and race. In the second part, I examine the labor supply behavior of the wives in these households.

CHAPTER TWO

BACKGROUND

Social Security Disability Insurance is administered by Social Security

Administration. An individual who has a disability and meets the medical criteria under

the program is eligible to receive income from Social Security Disability Insurance. The

definition of disability according to this program is: 'The inability to engage in

substantial gainful activity based on a medically determinable impairment that is

expected to last at least 12 months or result in death'.

Social Security Disability Insurance is an earned status, meaning that a person has

to work and pay his social security taxes long enough to be eligible to apply for the

program in condition of disability. Eligibility is gauged by the number of work credits

earned; the number of work credits needed to qualify for the program depends upon the

age of an individual. The amount of disability income of an individual is based on a

measurement of life time pre-disability earnings, called average indexed monthly

earnings (AIME). When an individual qualifies for Disability Insurance, he has to wait

for a 5 month period before the benefit can start. Medicare coverage is also available to

the individual after he has been entitled to the program for 24 months.

When an individual qualifies for SSDI, members of his family may also qualify

for benefits based on his earnings. A spouse can receive benefit if she is of 62 years of

age, if she is taking care of a child less than 16 years old. Children can receive benefit if

they are less than 18 years of age. A child of 19 years of age can also receive benefit if

he/she is a full time student (no higher than grade 12). An adult child of over 18 years of

age is eligible to receive benefit if his/her disability impairment started before the age of 22.

Although Disability Insurance is a federal program with nationally uniform standards, the initial decision about eligibility is made by the state Disability Insurance boards. The denied applicants can appeal and at a later stage can appear to a decision maker, who is a federal employee.

CHAPTER THREE

A BASIC LABOR SUPPLY MODEL

In this chapter a simple labor supply model is considered for an individual to understand the effect of wage change and non labor income on his labor supply decision. Consider an individual with a utility function $U(y, l)$ where 'y' is his income and 'l' is leisure. Both 'y' and 'l' are considered as goods here, meaning more income and leisure makes the individual better off. Suppose the person has non labor income 'G' and can work for 'h' hours. Total time T is available, which he needs to choose for work or leisure. Using the constraints $h+l=t$ and $y=wh+G$, the problem can be written to solve for maximization as: Choose h to maximize $U(wh+G, T-h)$.

This represents familiar tangency condition between the slope of budget constraint (w) and the slope of an indifference curve (U_2/U_1). The solution to this problem can be interior as well as corner. For example, if the non labor income is high and wage rate is low, then a person would choose not to work, a corner solution. The effect of non labor income on an individual's labor supply (dh/dG) can be positive, negative or zero. It will always be negative if non labor income is considered as a good.

A wage effect on labor supply participation decision is always positive. There are two effects that work to measure the change of wage effect, substitution effect and income effect. Substitution effect is always positive. At a wage rate less than reservation wage, individuals prefer not to work. But as wage rate increases, individuals choose to work more. Individuals will work less in response to increase in wage rate only if substitution effect is greater than income effect. It can only happen if an individual

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reaches a point where his marginal utility of leisure outweighs his marginal utility of income.

CHAPTER FOUR

LITERATURE REVIEW

In this section I reviewed some literature that mainly focused on unemployment and non participation of primed aged men. I also tried to review some other literature that concentrated on the trend in labor supply of married women.

Juhn, Murphy and Topel (2002) discussed about the trend in unemployment and nonparticipation among the prime aged males in the United States. They analyzed the labor market condition of these men from the year 1967 to 2000. The main conclusion was that the decline in the unemployment rate over the 1990s provided a misleading picture about the improved labor market condition over this period.

Although the unemployment rate lowered during the 1990s, the rate of nonparticipation among prime aged men increased at a higher rate, which kept the employment to population ratio constant over this period. The duration of jobless spells also increased among the non employed males.

An interesting finding of Juhn, Murphy and Topel (2000) is that the long term growth in non employment is heavily weighted towards less skilled men. It was found that more than 40 percent of the growth in nonparticipation was due to illness or disability. They found a pattern that nonparticipation due to disability decreased during the years when eligibility rules were tightened for Social Security Disability Insurance.

Finally, the authors tried to find whether rising wage and improved labor market condition of married women are attracting men to work less. But it was found that the proportion of men with a working wife actually fell among the low waged least skilled

group. On the other it increased among men in the top 40 percent of the wage distribution where wage rise and employment rates were stable.

Few studies have focused on the labor supply pattern of married women. Juhn and Murphy (1997) analyzed the labor supply decision of both men and women from a family labor supply context. They tried to seek whether married women increased their labor supply in response to the decrease in male labor supply over time.

The paper analyzed the labor supply pattern and earnings of married women according to their husband's wage decile. They found that although the employment rate of married men has generally declined, it increased enormously among married women. In aggregate, the employment rate of married women increased by 27 percentage points from 1969 to 1989, and the increase was more among the wives of men in the middle and top of the wage deciles.

Juhn and Murphy (1997) found a positive correlation between the wages of husbands and wives within families, which is more consistent assortative mating interpretation than a story based on specialization and comparative advantage. Wages of all married women rose over the period, more so for highly skilled women. Because such women also tend to work more hours per year, average annual earnings of highly skilled women are substantially higher than from less skilled women.

The findings of Juhn and Murphy (1997) matched with the findings of Blau and Kahn (2007). Blau and Kahn found that the labor supply function for annual hours shifted rightward among married women in the 1980s and 1990s. In both the papers, the authors

found significant negative effects of husbands' wages on wives' labor supply. But these negative effects got smaller in absolute value over time.

Cullen and Gruber (2000) analyzed whether the unemployment insurance program reduces the labor supply a spouse during the unemployment spells. When a household head faces unemployment, other family members may increase their labor supply to compensate the earnings loss. During the unemployment spells, the opportunity cost of market work is lowered for the wives as the husbands and wives can substitute each other's nonmarket time for home production. Moreover a family in liquidity constraint would need additional earnings to smooth out consumption. It is estimated in this paper that wives' total hours of work would rise by 30% during the unemployment spells in the absence of Unemployment Insurance.

The paper estimates that families with large anticipated unemployment spells use different mechanism than spousal labor supply to make up the earning loss as it is found that spousal response would make up only a small share (about 13%) of the associated reduction in the family income. It is estimated through a liner regression that wives work 22.7 hours less for each $ 100 increase in potential benefits per week.

CHAPTER FIVE

DATA AND SUMMARY STATISTICS

The data used in this paper are drawn from the Annual Demographic Files on the March Current Population Surveys (CPS) from the year 1980 to 2005. I have focused on a matched husband wife pair where no other family members except children are present in the households. The age of the husbands in my sample is in between 25 to 54. The age of the matched wives is in between 20 to 54. This age restriction is imposed to avoid planned jobless spells for students and early retirees.

All the income variables were adjusted for inflation using the consumer price index of the year 2000. Hourly wages of married men and women were calculated as the ratio of annual earnings to the product of weeks worked and usual weekly hours. After selecting the sample of matched husband-wife pair, I have assigned wage percentiles to all the married women in the sample.

I followed Juhn and Murphy (2000) procedure for imputing wages of the non working women using data on married women who worked 1 to 13 weeks in the previous year. I used ordinary least squares to estimate a log wage regression as a function of husband's and wife's age, age squared, dummy variables for three education categories of the married women and labor force status of the husband.

Table B-1 contains means and standard deviation for the data. The first column presents the means of the full sample. The second and the third column present means for the households where the husbands are employed and disabled respectively.

From the table, it can be seen that on average disabled husbands and wives tend to be older compared to typical households. Employed husbands and wives tend to be more educated. Wives of employed husbands tend are more likely to be themselves employed than wives of disabled men (66 versus 51 percent), and works about 7 weeks more in a year and 4.5 hours more in a week. Interestingly though, conditional on working wives of disabled husbands work more.

CHAPTER SIX

CHARACTERSTICS OF SOCIAL SECURITY DISABILITY INSURANCE

RECIPIENTS

This chapter analyzes the trend in labor force non participation of married men

and women in the sample. It focuses on the disabled heads in the households who are

receiving income from social security and analyze their characteristics based on their

wage, education, age and race.

6.1. Trend in Labor Force Non Participation:

Figure A-1 graphs the rate of non participation in labor force among married men

and women in the sample. Women's nonparticipation declined rapidly starting in the

1980s, remaining in between 25 to 30 percent after 1990. By contrast, nonparticipation

increased for married men from about 3.7% in 1980 to 5.1% in 2005, over which period

non participation for married women declined from 40.4% to 26.6%.

6.2. Non Participation Due to Disability:

Figure A-2 below shows the percentages of non participating married men and

women who report being disabled. Disability is the most commonly cited reported reason

for non participation among married men. The other non participants reported reasons as:

not being able to find work, taking care of home/family, retired etc.

Non participation among married women due to disability is increasing over time.

But in contrast to married men, the most commonly cited reported reason of non

participation was because of 'taking care of home/family'.

6.3. Social Security Disability Insurance:

Figure A-3 shows the percentages of married men and women in the sample who are receiving income from Social Security Disability Insurance. The percentage of SSDI recipients among both men and women has increased since the mid 1980s when the eligibility criteria for the program were liberalized. Disability Insurance is becoming more popular among married women and the percentage of women receiving disability income is increasing over time almost reaching the rate of married men.

6.4. Wage Structure and Disability Benefits:

Many researches in the labor supply have found a close relationship between low real wages and labor force withdrawal among prime aged men. Figure A-4 shows the wage structure of married men in the sample according to their education level. Real hourly wages of married men with more than 4 years of college education has increased rapidly over time. Among less skilled men (with at least a high school degree or less) the real hourly wages have decreased since the 1980s and the wage inequality has increased much.

Figure A-5 shows the percentages of Disability Insurance recipients at each education/wage level. The percentage is much higher for the least skilled married men (11 years of education or less) for whom the decline in real hourly wages was the highest. The percentage is very low (below 0.2%) among men with more than 4 years of college education where the growth in real hourly wage was highest. Interestingly, the percentages of people receiving Disability Insurance increases in the years of recession.

6.5. Rate of Disability Insurance Beneficiaries at Different Age Levels:

Many studies of Social Security Disability Insurance have found that there is a potential causal relationship between the generosity of disability transfers and non participation among older men. Figure A-6 shows the breakdown of Disability Insurance recipients according to ages of married men.

Recall that an individual needs enough work credits to apply for Disability Insurance benefit. In general, the required work credits relax with age. This is one reason why disability rates rise with age, particularly among the less skilled. Figure A-6 shows that the highest percentage of married men receiving Disability Insurance in the sample is of 49 to 54 years of age.

6.6. Race and Social Security Disability Insurance:

Figure A-7 shows the percentages of recipients of Disability Insurance according to the race of married men. Social Security Disability Insurance is more concentrated among non white individuals.

CHAPTER SEVEN

TRENDS IN LABOR SUPPLY OF MARRIED WOMEN

This chapter analyzes the trends in labor supply of married women in the disabled households and compares them with women in the traditional households.

7.1. Households with a Working Wife:

Figure A-8 shows the percentages of households with a working wife in each year. The employment rate of married women is increasing in both types of households. Although women tend to work less in the disabled households, the participation rate has been found to increase over the years.

7.2. Fertility and Employment Rate of Married Women:

Figure A-9 shows the employment rate of married women with children below 5 years of age. The employment rate has been found to increase in both types of households. Among women married to disabled husbands, employment rate has increased at a faster rate almost reaching the rate of women in the traditional households.

7.3. Household Earnings Characteristics

Table B-2 reports the average annual earnings of households where the husbands received disability income. The table records the percentages of households with a working wife, husband's annual social security income, wife's annual income (wage/salary) and annual household income.

The employment rate of wives and their annual earnings have increased in all types of households over time, although the increase is more skewed towards high skilled households. The increase in the employment rate is more than four times higher in the

households where husbands have more than 4 years of college education in contrast to the households where husbands have less than 11 years of education (7% versus 32%).

7.4. Predicting labor force participation of married women:

Table B-2 showed that the employment rate of married women has increased over time in the disabled households. To predict the probability of labor force participation among married women, I used a probit model which is described in this section.

The dependent variable in this probit model is a dummy variable 'labor force participation'. The independent variables are wife's age, dummy variables for the three education categories of married women and a dummy variable for the presence of young children below 16 years of age. The results of the probit regression are given in table B-3.

The coefficients show that age and education are positively and significantly related to the labor force participation decision of a woman. Women, also tend to work more when they have children above 16 years of age. In the disabled households, the probability of labor force participation is .6 when the women have at least 12 years of education. The probability increases to .7 and .8 when the women have 1 to 3 years of college education and more than of 4 years of college education respectively. Women in the traditional households have higher probabilities of labor force participation except when they have more than 4 years of college education.

7.5. Labor supply and annual earnings of employed married women:

This section focuses only on the employed women in both types of households, analyzing the differences in their pattern of labor supply and annual earnings.

Figure A-10 shows the percentages of employed women in the sample working more than 80% time of a year (more than 40 weeks). The trend is fairly similar for both types of households.

Table B-4 records the average annual hours worked by employed women according to their education level. Women tend to have worked more with more years of education. The trends in annual hours of work are fairly similar, although women in the disabled households seem to have worked more.

Table B-5 records the average annual earnings of employed women according to their education level. Women with more years of education earned more. The table shows almost similar patterns in the annual earnings characteristics of employed women in both types of households.

CHAPTER EIGHT

WIVES' LABOR SUPPLY IN RESPONSE TO SOCIAL SECURITY DISABILITY

INCOME

This chapter tries to analyze the labor supply pattern of married women in response to the Disability Insurance income of the husbands. It tries to answer the question, 'do wives work less when husbands receive income from Social Security Disability Insurance?'. Disability Income is a type of insurance for the families when the household head is unable to work. This form of insurance may crowd out the labor supply of the wife as the income loss of the husband can be compensated by Disability Insurance.

To estimate the labor supply of the wives, I used the following model:

$$E_f = \beta_0 + \beta_1 \ln (W^f) + \beta_2 SSI_H + \beta_3 SSI_W + \beta_4 Ed + \beta_5 Z + \varepsilon$$

Where E_f is wife's employment rate, W^f is her hourly wage rate, SSI_H is the husband's social security income, SSI_W is the wife's social security income, Ed is a set of education dummies and Z is a set of other variables that may also affect wife's employment.

The dependent variable, wife's employment rate is calculated by dividing the number of weeks worked in the previous year by 52. Social Security Income of the husband and wife is calculated as per thousand dollars. A dummy variable for the presence of children below 16 years of age is used as an instrument for estimating the effect of wife's social security income. Recall that a wife can receive income in the presence of a child below 16 years of age, a factor that exogenously impacts wife's social security income inducing corresponding effects to her employment decision.

Table B-6 reports the result of my regression. Wife's employment rate is negatively related to her own and positively related to her husband's social security income. A thousand dollar increase in wife's social security income decreases her employment rate by 2.3 percentage points. Wife's employment rate increases by .9 percentage point in response to a thousand dollar increase in her husband's social security income.

The reason of the positive correlation between wife's employment rate and husband's social security income is may be due to the fact of positive assortative mating. Husbands with higher education has a probability of receiving higher social security income as it is calculated based on his average annual index of earnings. And the wives of these high educated men tend to participate more in the labor force. Therefore, a positive correlation occurs between husband's social security income and wife's employment rate. A positive correlation is also observed between wife's own log wage and her employment rate. Estimate shows that a 10% increase in wife's own wage would lead to a 1.1 percentage point increase in her employment rate. The presence of young children decreases wife's employment rate by 10.81%.

To estimate the separate effects of husband's and wife's non labor income, I run a regression of the form:

$$E_f = \beta_0 + \beta_1 \ln (W^f) + \beta_2 \text{ Non\_Lab}_H + \beta_3 \text{ SSI}_W + \beta_4 \text{ Non\_lab}_W + \beta_5 \text{ Ed} + \beta_6 \text{ Z} + \varepsilon$$

Where Non_Lab_H is the husband's non labor income, SSI_W is wife's income from social security, Non_lab_W is wife's non labor income excluding social security, W^f is wife's

hourly wage rate, Ed is a set of education dummies and Z is a set of other variables that may also affect female employment.

Notice that wife's non labor income is separated into two parts: non labor income without her social security income and social security income itself. Estimates of this equation are reported in table B-7. Table B-8 reports the estimates for the same equation where husband's non labor income is instrumented using dummies for his education levels.

Table B-8 estimates that with a thousand dollar increase in husband's non labor income, wife's employment rate goes up by .2 percent. This is higher compared to the estimate reported in table B-7 (.006) may be because of positive assortative mating. When education level is used as an instrument for husband's non labor income, it affects wife's employment rate because higher educated men tend to marry women with higher education who tend to participate more in the labor force. As a result, we find larger effect in the employment rate of women in table B-8.

Wife's employment rate decreases by .6% with a per thousand dollar increase in her other non labor income. Employment rate decreases by .9 percentage point with a per thousand dollar increase in her social security income. It decreases at a higher rate (1.8%) when husband's non labor income is instrumented using dummies for his education levels.

Other findings from table B-7 and B-8 include the positive correlation between wife's own log hourly wage and her employment rate, positive correlation between

wife's own education level and her employment rate and a negative correlation between

the presence of young children below 6 years of age and her employment rate.

CHAPTER NINE

CONCLUSION

This research focused on the non participant married men throughout the year 1980 to 2005. Non participation among married men increased during this period. According to many studies of the labor supply, the increased program generosity of Disability Insurance and deteriorating labor market condition are encouraging least skilled workers to leave the labor force. I found that Disability Insurance program is more concentrated among least skilled, older and non white married men.

In the family context, I found that, married women in the disabled households are working less compared to the traditional households. The employment rate of these women is increasing over time, although the increase is more skewed towards high skilled households. The employed women in the disabled households showed similar patterns in labor supply and annual earnings when compared with employed women in the traditional households.

Finally, I found that Disability Insurance crowds out female labor supply. Women tend to work less when they receive income from Disability Insurance based on their husbands' earnings records. Although in general women tend to work less, high skilled women in these households tend to work more compared to the traditional households.

APPENDICES

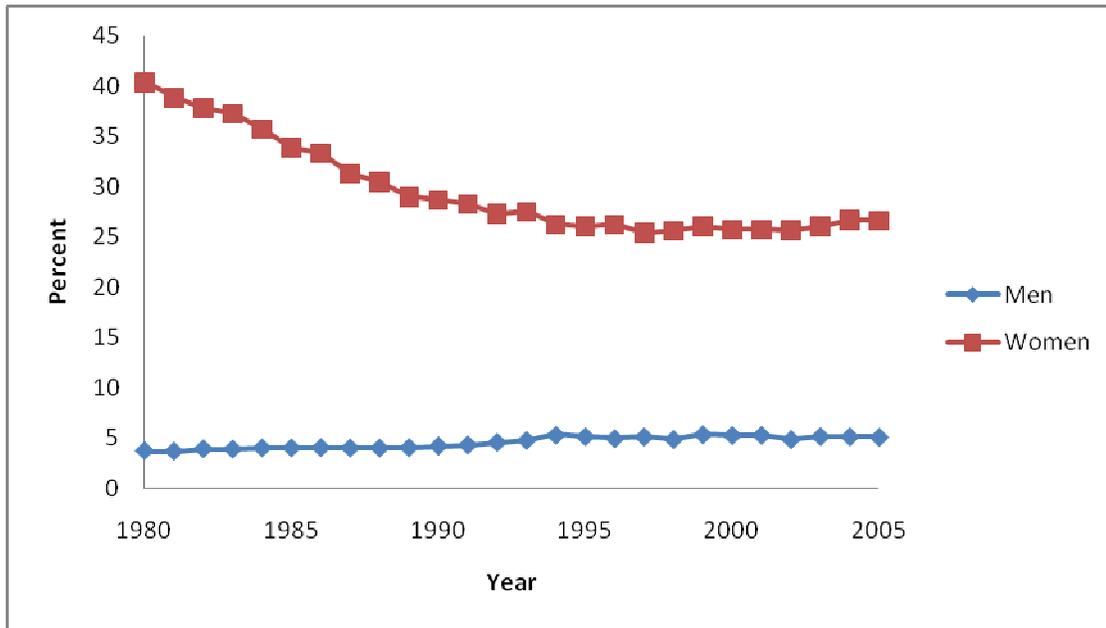Figure A-1: Non participation in the labor force.
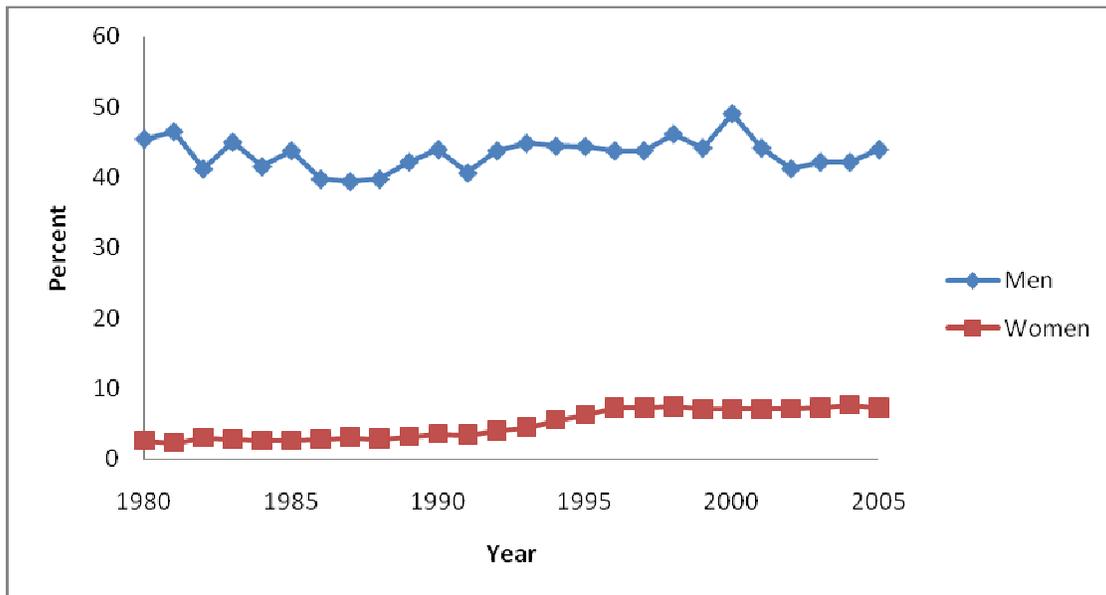
Figure A-2: Non participation claiming disability.
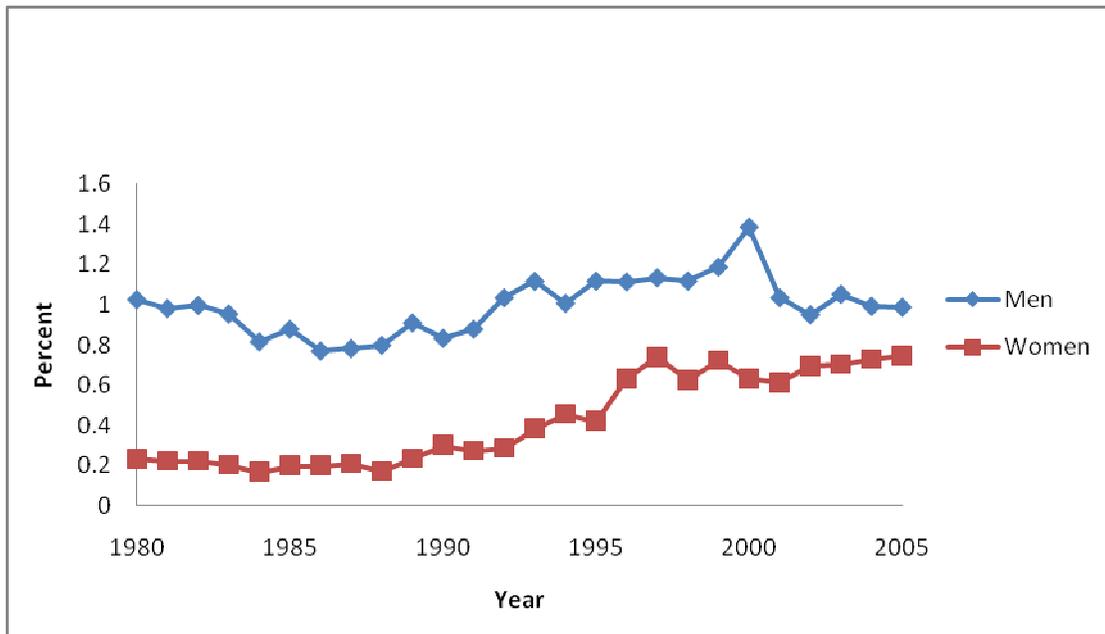
Figure A-3 Recipients of Social Security Disability Insurance.
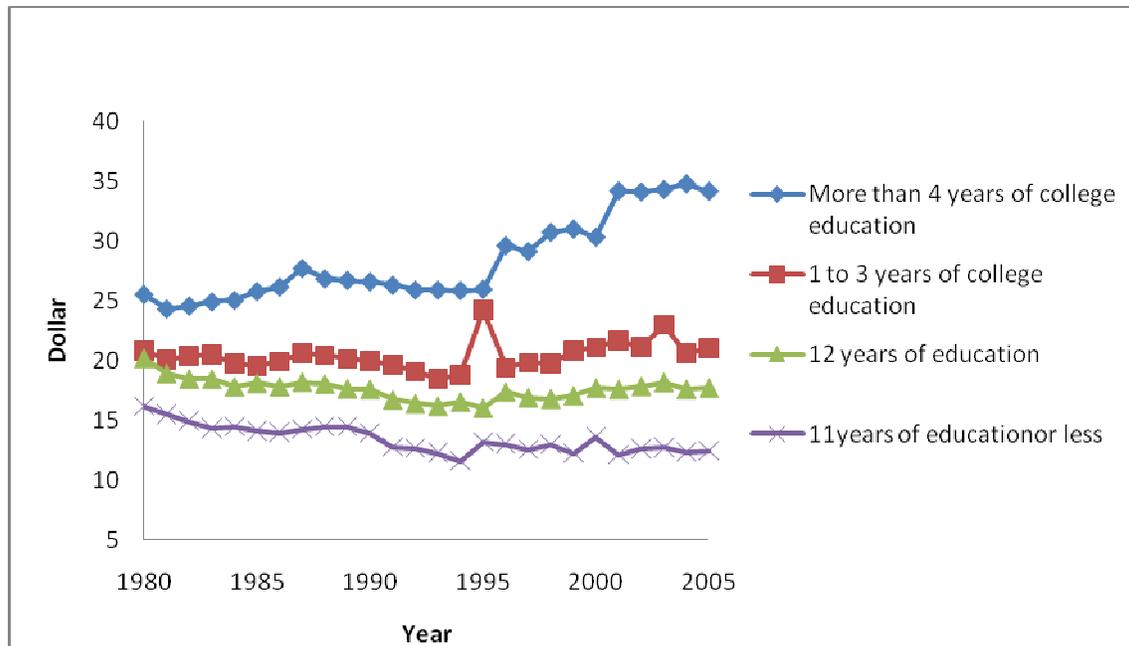
Figure A-4: Hourly wage distribution according to education level of men.
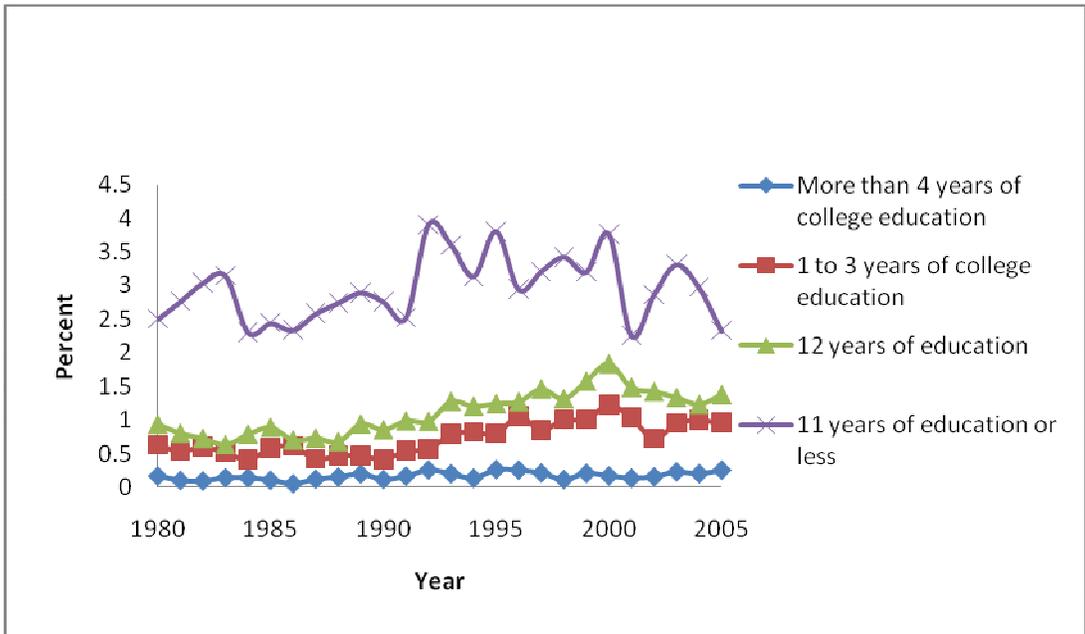
Figure A-5: Percentage of disability insurance recipients at each education level.

Figure A-6: Disability Insurance beneficiaries at different age level.
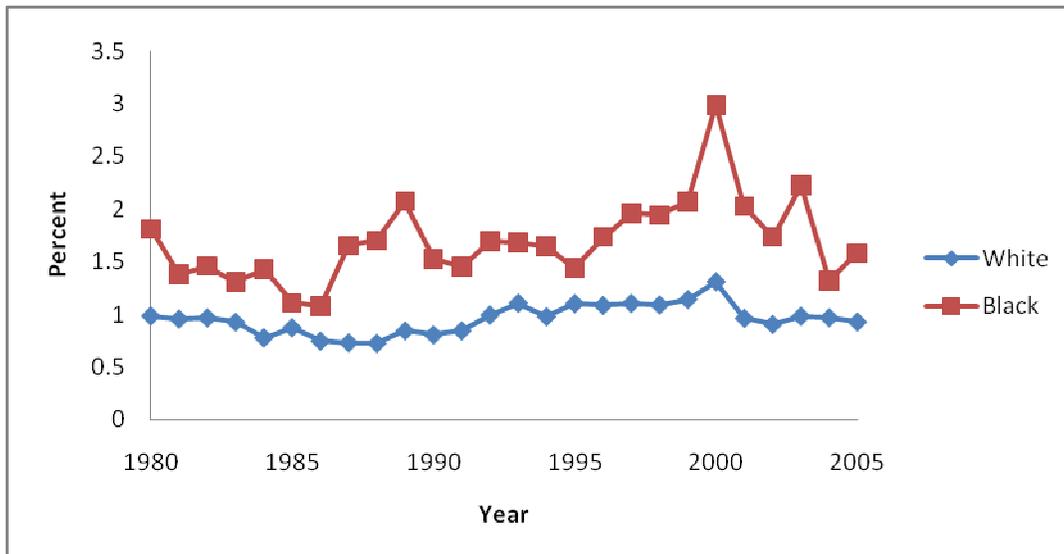
Figure A-7: Recipients of Social Security Disability Insurance according to race.
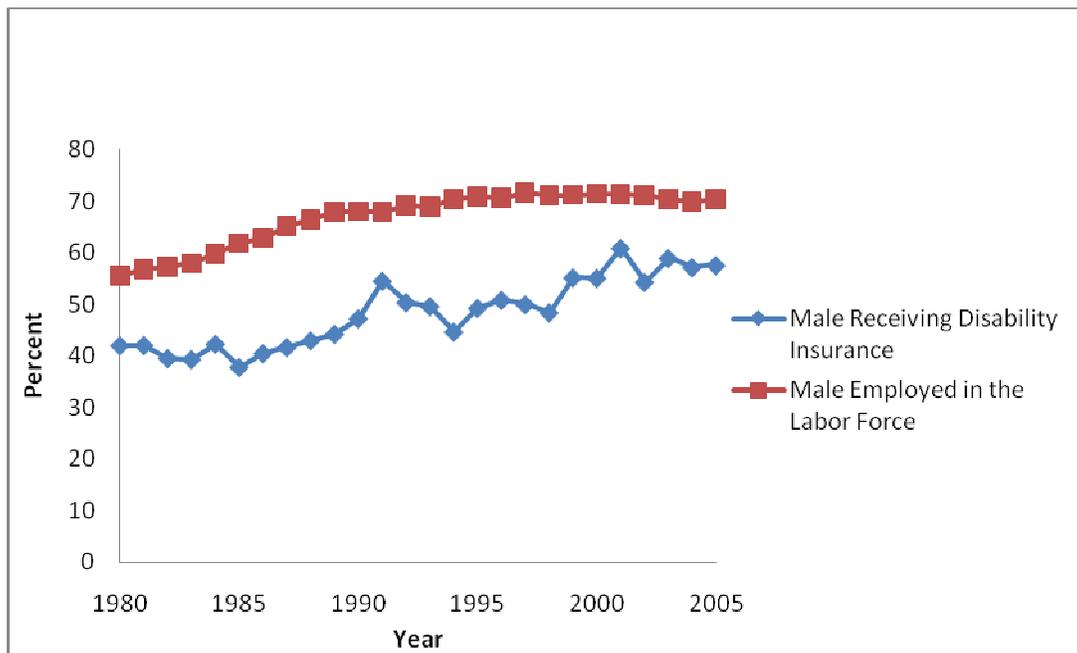
Figure A-8: Households with working wife.
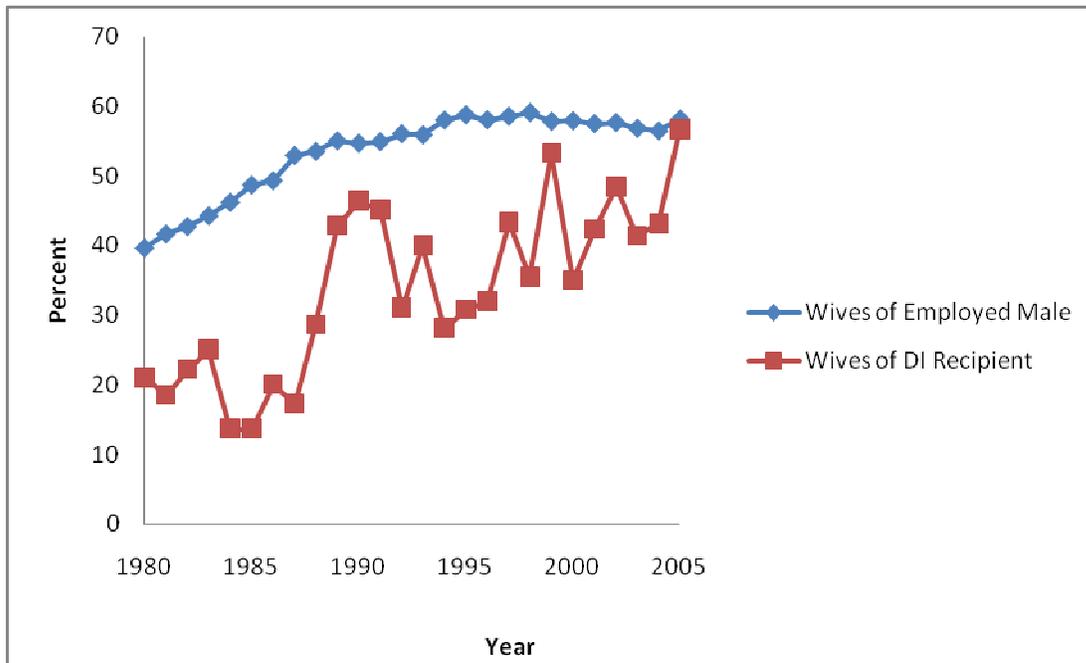
Figure A-9: Percentage of married women employed with children under age five.
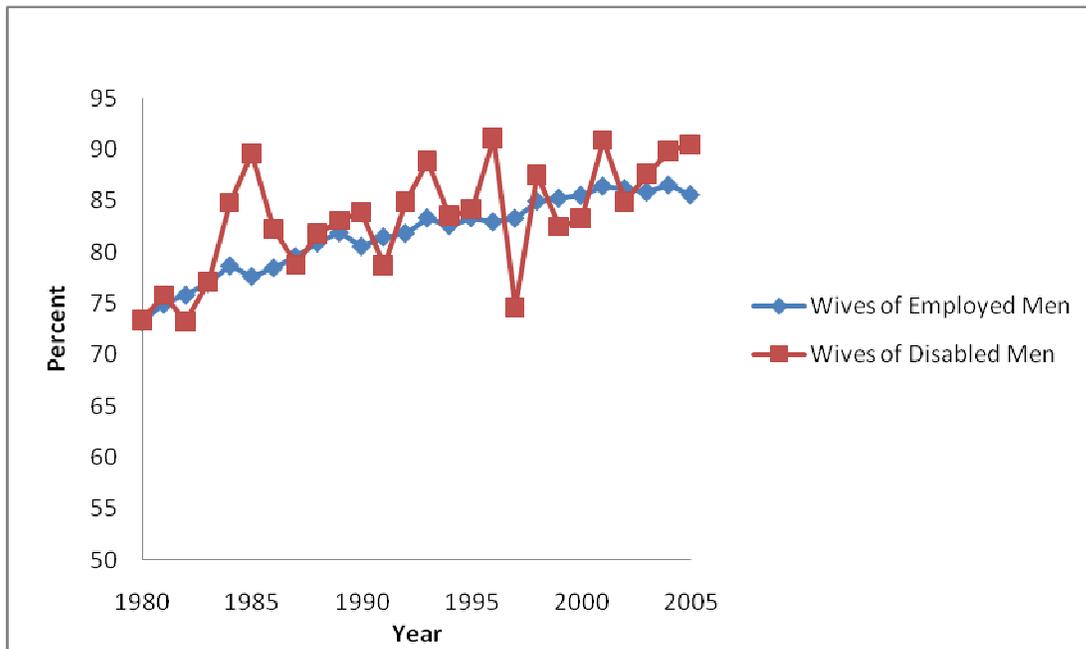
Figure A-10: Women working more than 40 hours

Appendix B

Tables

Table 1: Means

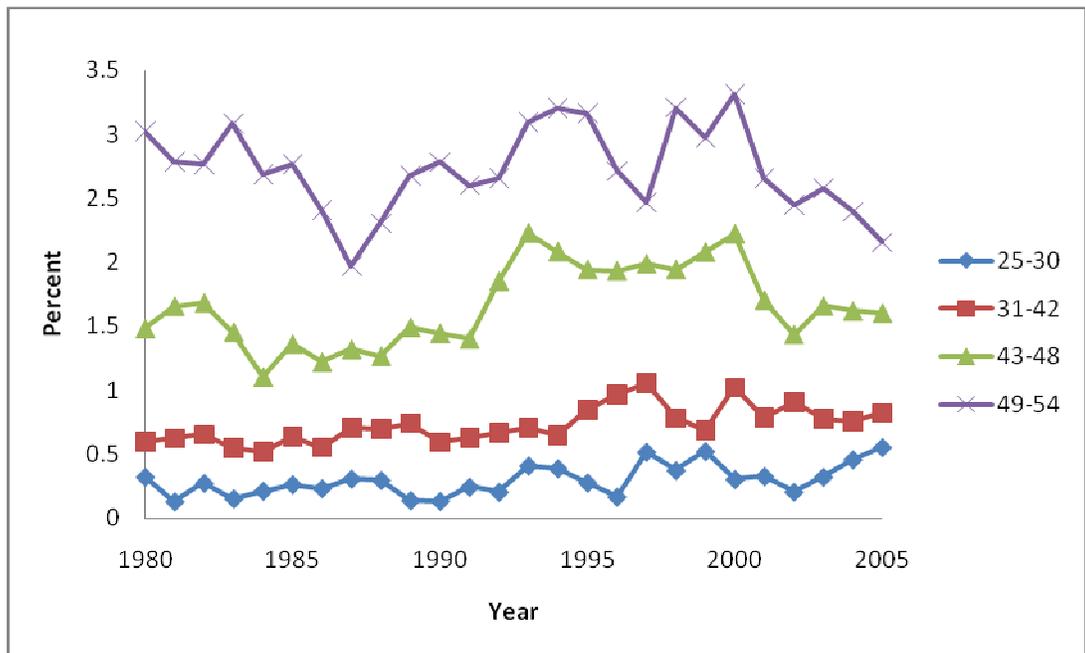|	Full Sample	Husbands Employed	Husbands Disabled
Husband's age	39.31 (8.00)	39.18 (7.94)	45.26 (6.9)
Wife's age	37.01 (8.03)	36.9 (7.97)	41.89 (7.55)
Husband's year of education	13.77 (2.85)	13.9 (2.79)	11.36 (3.05)
Wife's year of education	13.57 (2.66)	13.67 (2.62)	11.91 (2.7)
Wife employed	0.6525	0.6634	0.5096
Number of child	1.66	1.67	1.44
Number of child under age 5	0.39	0.39	0.138
Husband's number of weeks worked	47.15 (12.78)	48.75 (6.29)	0
Wife's number of weeks worked	32.92 (22.58)	33.41 (22.43)	26.44 (24.23)
Husband's usual hours work per week	42.83 (13.44)	44.08 (9.78)	0
Wife's usual hours work per week	26.24 (18.34)	26.46 (19.79)	21.92 (18.23)
Wife's number of weeks worked (employed)	46.78 (10.91)	46.86 (10.8)	47.44 (10.33)
Wife's usual hours work per week (employed)	35.93 (11.1)	35.84 (11.18)	37.36 (9.99)
Wife white	0.9034	0.9066	0.8474
No. of observations	422662	399801	4166

Standard deviations are in parentheses

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Table B-2: Household Earnings Characteristics by Husband's Education Level

	1980-1985	1986-1990	1991-1995	1996-2000	2001-2005
Husband with less than 11 years of education					
Percent of household with working wife	0.37	0.38	0.44	0.45	0.44
Wife's earning	6507	7089	7461	12125	8143
Husband's social security income	9552	9482	9759	9539	9416
Total household income	26647	26352	26452	30890	27016
Husband with 12 years of education					
Percent of household with working wife	0.49	0.55	0.64	0.52	0.63
Wife's earning	9662	12348	13300	11720	13032
Husband's social security income	10825	11197	10420	10747	11044
Total household income	35063	37499	33714	32756	32921
Husband with 1 to 3 years of college education					
Percent of household with working wife	0.45	0.53	0.62	0.62	0.61
Wife's earning	8920	10495	12506	16208	15989
Husband's social security income	11027	11283	11036	11436	11690
Total household income	36216	40670	39326	41388	38477
Husband with more than 4 years of college education					
Percent of household with working wife	0.42	0.68	0.76	0.75	0.76
Wife's earning	10722	18731	18862	25110	21667
Husband's social security income	12029	12382	11016	10018	16448
Total household income	52826	53270	59273	55033	53996

Table B-3: Probit Estimation for Labor Force Participation

Explanatory Variables	Wives of Employed Men			Wives of Disabled Men		
	Coefficients	p>|Z|	Predicted Probability	Coefficients	p>|Z|	Predicted Probability
Wife's age	0.0355*	0.000		0.102*	0.000	
Wife's education		0.000			0.000	
12 years of education	0.4589*	0.000	0.7968	0.5251*	0.000	0.6669
1 to 3 years of college education	0.6245*	0.000	0.8478	0.7581*	0.000	0.785
more than 4 years of college education	0.7401*	0.000	0.8674	1.1332*	0.000	0.8844
Youngest child greater than age 16	0.2049*	0.000	0.7024/0.7692	0.1076*	0.038	.5512/.5934
Constant	-0.7267*	0.000		-2.395*	0.000	
Number of Observations	399801			4166		

*Significant at .05 level

Table B-4: Usual Hours Worked By Married Women According to Education Level

Wives of Employed Husbands

Year	11 yrs of education or less	12 yrs of education	1 to 3 years of college education	More than 4 years of college education
1980-1985	1379	1457	1453	1558
1990-1995	1485	1619	1626	1726
2000-2005	1597	1735	1727	1801

Wives of Disabled Husbands

Year	11 yrs of education or less	12 yrs of education	1 to 3 years of college education	More than 4 years of college education
1980-1985	1487	1537	1456	1893
1990-1995	1440	1692	1752	1872
2000-2005	1506	1747	1828	1899

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Table B-5: Annual Earnings of Wives According to Education Level

Wives of Employed Husbands

Year	11 years of education or less	12 years of education	1 to 3 years of college education	More than 4 years of college education
1980-1985	12179	15735	18395	24466
1990-1995	12514	17904	21657	32104
2000-2005	14788	21471	25736	40348

Wives of Disabled Husbands

Year	11 years of education or less	12 years of education	1 to 3 years of college education	More than 4 years of college education
1980-1985	13419	16753	19689	28550
1990-1995	11000	16942	20339	33966
2000-2005	11163	17346	22676	38901

Table B-6: Estimates of Wives' Employment Equation

Dependent Variable= Wife's Employment Rate

	Coefficients	t-statistics	Standard Error
Log hourly wage	0.1127*	7.34	0.015
Husband's social security income	0.0096*	6.8	0.009
Wife's social security income	-0.0234*	-2.09	0.011
Education			
12 years of education	0.1521*	9.05	0.152
1 to 3 years of college degree	0.2046*	8.84	0.204
more than 4 years of college education	0.2664*	8.41	0.266
wife's age	0.0268*	3.19	0.008
wife's age^2	-0.0003*	-3.26	0.000
Husband's year of education	0.0044	1.74	0.002
Children under age 6	-0.1081*	-4.92	0.021
R square	0.1068		
No. of observations	4166		

*Significant at .05 level

Table B-7: Estimates of Wives' Employment Equation

Dependent Variable= Wife's Employment Rate

	Coefficients	t-statistics	Standard Error
Log hourly wage	0.1225*	7.94	0.011
Non labor income of husband	0.00006	0.11	0.005
Non labor income of wife (excluding SSI)	-0.006*	-4.31	0.001
Wife's Social Security Income	-0.0183**	-1.64	0.011
Education			
12 years of education	0.1723*	10.7	0.016
1 to 3 years of college degree	0.2368*	11.04	0.021
more than 4 years of college education	0.3156*	10.46	0.030
wife's age	0.0256*	3.03	0.008
wife's age^2	-0.0003*	-2.99	0.001
Children under age 6	-0.1005*	-4.53	0.022
R square	0.1433		
No. of observations	4166		

*Significant at .05 level
**Significant at .1 level

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Table B-8: Estimates of Wives' Employment Equation

Dependent Variable= Wife's Employment Rate

	Coefficients	z-statistics	Standard Error
Log hourly wage	0.1151*	7.42	0.015
Non labor income of husband	0.0029	1.01	0.002
Non labor income of wife (excluding SSI)	-0.0062*	-2.78	0.002
Wife's Social Security Income	-0.0094	-0.82	0.011
Education			
12 years of education	0.1680*	9.32	0.018
1 to 3 years of college degree	0.2268*	9.35	0.024
more than 4 years of college education	0.3020*	8.15	0.037
wife's age	0.0236*	2.83	0.008
wife's age^2	-0.0002*	-2.76	0.001
Children under age 6	-0.1106*	-5.02	0.022
R square	0.1217		
No. of observations	4166		

*Significant at .05 level

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REFERENCES

Cullen, J. B., Gruber, J. (2000). Does Unemployment Insurance Crowd out Spousal Labor Supply? *Journal of Labor Economics*, 18, 546-70.

Juhn, C., Murphy, M. M. (1997). Wage Inequality and Family Labor Supply. *Journal of Labor Economics*, 15, 72-97.

Blau, F. D., Kahn, M. L. (1997). Changes in the Labor Supply Behavior of Married Women: 1980-2000. *Journal of Labor Economics*, 25, 393-438.

Juhn, C., Murphy, K., Topel, R. (2002). Current Unemployment, Historically Contemplated. *Brookings Paper of Economic Activity*, 33, 79-136.

Haveman, R. H., de Jong, P., Wolfe, B. L. (1991). Disability Transfers and the Work Decision of Older Men. *Quarterly Journal of Economics*, 106, 939-49.

Gruber, J., Kubik, J. D. (1997). Disability Insurance Rejection Rates and the Labor Supply of Older Workers. *Journal of Public Economics*, 64, 1-23.

Mroz, T. (1987). The Sensitivity of an Empirical Model of Married Women's Hours of Work to Economic and Statistical Assumptions. *Econometrica*, 55, 765-99.