Are All Recessions the Same? Husband's Job Loss and Wives' Labor Force Participation during Economic Downturns

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Abstract

Wives increased their labor force activity during the Great Recession when their husband stopped working. This paper compares wives labor force response to male job loss across three recessions using May 2008-09, May 1990-91, and May 1981-82 CPS data. We find differences across recessions: wives are more likely to look for work in the Great Recession than during the 1990-91 recession, but are no more likely to find a job. In contrast, wives in the Great Recession are more likely to enter the labor force and are more likely to find a job than during the 1981-82 recession, and are less likely to look for work. Preliminary analyses suggest that wives may have higher human capital during the 2008-09 recession and thus may be better poised to land a job than in the 1981-82 recession.

Introduction

The recent economic recession, widely dubbed the "Great Recession," has brought several issues that typify challenging economic times to the fore of national policy discussions, and family lives. Officially defined by the National Bureau of Economic Research as "a period between a peak and a trough" ("The NBER's Business Cycle," 2010) in a U.S. business cycle and more popularly understood as a period "when real gross national product has declined for at least two consecutive quarters," (Moore, 2002), recessions often cause a host of stresses to many families. Recessions are generally characterized by high unemployment, income declines, losses on investments (Iron, 2009), high rates of home foreclosures, and reduction in the availability of credit or loans (Albelda and Kelleher, 2010). There are often long term effects of recessions, especially deep recessions: educational attainment for the very young may decline through decreased child nutrition, less access to health care and fewer developmental learning opportunities; erosion of workers' skills may result from lengthier unemployment spells; reduced national productivity through declining private investment in new technology; and a decline in new business and entrepreneurship, through declining access to credit and lower demand for products (Iron, 2009). In addition, families face daily pressures during recessions and must often find ways of dealing with new economic challenges.

Families have been affected by the Great Recession which officially began in December 2007 and ended in June 2009 in ways that have not been seen for decades (National Bureau of Economic Research, 2009). The Great Recession has set new benchmarks in terms of job loss, unemployment rates, and length of time unemployed. From December, 2007 to January, 2010, the U.S. economy lost 8.4 million jobs, with the bulk of job loss occurring in the first quarter of 2009 (Bureau of Labor Statistics, 2010). Over the course of the recession, the unemployment

rate increased 5 percentage points, from 5 percent in December, 2007 to 10 percent in December, 2009, which translates into 15.3 million unemployed workers in America; this figure would swell to 27.0 million if the marginally attached workers and involuntary part-time workers were also included (Bureau of Labor Statistics, 2010). With the scarcity of jobs, the unemployed remained jobless for long periods of time—the average length of time in unemployment was 29 weeks, a record high, and 41 percent of unemployed workers were jobless for over 6 months (Madland, 2010). These statistics, in conjunction with high losses to investments, unprecedented housing price declines and mortgage foreclosures (see Weller, 2009) earn this recession the dubious distinction of the worst recession in decades, or the "Great Recession." Despite the official end of the recession in June of 2009, the lack of a robust recovery with continued high unemployment resulted in more families falling into poverty and caused continued financial strain. Recent estimates from the Census Bureau suggest that poverty continued to rise into 2010 to 15.1 percent, and that 22 percent of children under age 18 are now poor (an increase of 1.3 percentage points since 2009). Thus, despite the official end to the Great Recession, Americans continue to feel the aftershock of this recession.

Long and deep recessions, such as the recent recession, force American families to devise strategies to cope with financial strain due to job loss. Among married couples with a stay at home wife, one strategy is for wives to enter the labor force when their husband loses his job. Mattingly and Smith (2010) found that families relied more heavily on wives as economic providers when faced with male job loss during the Great Recession, and that this relationship was stronger than in recent years of prosperity. During the recent recession, when husbands stopped work, wives were more likely to increase their work hours, if they worked part-time, and were more likely to look for and start new jobs if they were not working. During the Great

Recession wives were more likely to enter the labor force when their husband stopped working than they were during relative prosperity. Our current research builds upon earlier work by asking whether married couples used similar coping strategies when faced with financial strain due to male job loss during the earlier recessions of 1982-83, 1991-92, as they did during the Great Recession of 2007-2009.

Table 1 compares the recent, 2007-2009 economic recession to the economic recessions of 1990-1991 and 1982-83. As shown in Table 1, the recent recession was more than double the length of the 1990-91 recession; the recent recession officially lasted 18 months ("U.S. Business Cycle," 2010), while the recession in the early nineties was only eight months (Klieson, 2003). The 1982-83 recession was also a long recession, lasting 16 months.

[Table 1 About Here]

Women's share of the labor force grew during all recessions, but was higher in the recent recession and grew more during the recent recession (women increased their share of the labor force by 1.1% during the recent recession to almost half of all workers) ("Employment, Hours, and Earnings" 2010). The gender wage gap was smaller at the onset of the recent recession, evidenced by a higher ratio of women's to men's earnings, but grew during it ("The Gender Wage Gap," 2010). In contrast, the gender wage gap decreased slightly during the earlier recession (Francis, 2009; Isbell, 1996).

Unemployment before the recent recession was lower than prior to the 1990-91 recession ("Labor Force Statistics," 2010), yet unemployment grew during the great recession to rates higher than when the earlier recession ended (ibid.). Unemployment was higher during the 1981-82 recession at both the beginning and end of the recession, but likely because the nation

had not fully recovered from the previous short recession. Job losses during all recessions were higher for men than women ("Employment, Hours, and Earnings" 2010), but the 1990-91 recession hit "white collar" employees harder (Brown and Pagan, 1998; Kamery, 2004), whereas in the recent recession manufacturing and construction jobs were hardest hit (Parker, Kusmin, and Marré, 2010). Contrary to popular discourse, a larger percent of women lost jobs during the Great Recession than in previous recessions. Further evidence of the severity of the great recession is the duration of unemployment. In September, 2009 just a couple of months after the official end of the great recession, the mean length of unemployment was 24.1 weeks ("Unemployed Persons," 2010), whereas the average duration from 1990-1992 was only 12.9 weeks ("Income and Job Mobility," 1995), and was 17.1 weeks for the 1981-82 recession.

We seek to understand how married couples adapt their labor force behavior to make ends meet, and how this differs from strategies used in a less severe, less prolonged recession (1990-91) or in a similarly long recession but one of three decades ago where the job market and social roles may have been different (1982-83). Faced with job loss among husbands who are typically the primary breadwinner, we ask whether families increasingly turn to wives to pick up the slack by entering the labor force, and then examine a more nuanced question of whether their labor force participation is due to wives looking for employment (becoming unemployed) or starting a new job (becoming employed). In the next version of this paper, we will then consider, among those who start new jobs, what jobs they are taking, the number of hours they are working, and their earnings to assess the extent to which their employment is beneficial to family economic well-being.

Theoretical Framework and Previous Literature

Economic theory on family labor supply: The added worker effect. Families respond to economic hardship by cutting back on expenditures and generating additional income (Conger & Elder, 1994). Reducing consumption of entertainment or food, postponing major purchases, and moving to less expensive housing are strategies families use to reduce expenditures (Yeung & Hofferth, 1998). Some families can generate income through participation in public assistance programs, such as food stamps and welfare, or through unemployment insurance benefits. However, a common strategy to generate additional income in the face of husband's job loss is for the wife to either enter the labor force or increase her hours spent working.

Economic theory provides a basic model of family labor supply decisions (Ashenfelter & Heckman, 1974). A reduction in income due to a husband's job loss, coupled with the inability to borrow against future earnings or rely on savings, will force some women not currently in the labor market to enter and will increase the labor supplied by those women already in the market (Moehling, 2001). This phenomenon has been dubbed the added worker effect, whereby the added worker enters the labor force to smooth out family income and consumption. Since families can adapt to financial hardship in several ways, one of which is increasing the labor supply of the wife, the magnitude of the added worker effect should be related to the costs and benefits of other methods, such as borrowing or a more intensive job search by the husband (Lundberg, 1985).

Previous research on the added worker effect has found mixed results (see Mattingly and Smith 2010 for a full discussion of this theory and overview of earlier research findings). The current study advances our understanding of how wives adjust their employment in the wake of their husbands' job loss in three important ways. First, we provide a very contemporary perspective, analyzing data that was recently released by the Census Bureau. Second, we

compare the current recession to recent recessions to determine if current patterns represent a shift from earlier adaptations to family financial strain. Third, our focus on the current recession is an interesting lens for understanding the added worker effect in atypical circumstances that may have long lasting and severe implications for families, and particularly children (see Bruce (2009) for an account of the negative and far reaching implications for children who fall into poverty during a recession).

Other factors associated with wives' employment patterns. We included several variables as controls that have been shown to be linked to wives' labor force participation in our multivariate models including wives' characteristics (such as her education, age, and race/ethnicity); family variables (such as number of children under 18 and presence of children under 5, and family income level); and geographic variables (such as region and place of residence). Women with higher human capital, such as that attained by higher levels of education, command higher earnings and are more likely to work (Becker, 1991; Blau, Ferber, & Winkler, 1998). Black women have also historically worked more than White women (see Amott & Matthaei, 1991; Casper & Bianchi, 2002). Further, the presence of young children has been shown to be a strong negative predictor of wives' employment after a husband's job loss (Cullen & Gruber, 2000; Maloney, 1991). We included region in our models to control for differences in unemployment and place of residence as there are typically more job opportunities in urban than rural areas.

Research Questions

We consider the following three research questions:

1) Are wives more likely to enter the labor force when husbands lose their job or stop working during the Great Recession compared with the 1990-91 recession and the 1982-83 recession?

2) What are the driving factors associated with wives' entering the labor force in the context of the Great Recession compared with earlier recessions?

3) To what extent does wives' increased employment help families during economic downturns, and does the nature of their employment differ across recessions?

Method

Data

We analyzed the monthly data files for three recessions: May 2008 and May 2009, May 1990 and May 1991, and May 1982 and May 1983 of the Current Population Survey (CPS). The CPS is collected monthly by the U.S. Census Bureau and includes a nationally representative sample of roughly 57,000 households each month. Each household is included in the CPS for two years, with a total of eight interviews during the same four months of each year. Thus, there are two May surveys with each household. For example, roughly half of respondents interviewed in May 2008 (1990 or 1982) were also interviewed in May 2009 (1991 or 1983). Respondents who were married at both time points constitute the base of our analytic sample (U.S. Census Bureau, 2008).

We matched respondents in 2008 (1990, 1982) and 2009 (1991, 1983) in consultation with Census Bureau employees. In addition to linking respondents' by their household identifiers and person line numbers, we required them to match on nativity, sex, and race, and allowed only minimal variation in educational attainment and age. Cross-tabulations of the data indicated that we captured individuals in Months 1-4 of their interviews in May, 2008 (1990, 1982) and 5-8 in

May, 2009 (1991, 1983). Further, we limited our sample to wives (and their husbands) between the ages of 18 and 65 with valid spouse information. These steps yielded a sample of 8,825 wives in May, 2008 and a sample of 10,198 wives in May, 1990. (The sample of wives not in the labor force in May, 2008 is 2,243, and the sample of wives working part-time in May, 2008 is 1,785. The number of wives not in the labor force in May, 1990 is 3,164, and the sample of wives working part-time in May, 1990 is 2,208).

The CPS data are well suited for our analyses for several reasons. First, the monthly files provide sufficient economic and demographic information to assess changes in family labor force status. Second, it has very detailed information about time committed to the labor force. Third, the CPS also provides very timely information that can be used to assess the impact of the recession. Finally, the CPS tracks addresses over two years, allowing us to see changes within families as the financial downturn unfolded. Since the Great Recession officially began in December, 2007 (see National Bureau of Economic Research, 2009), we were able to look at employment 6 months after the onset of the recession (in May, 2008, time 1) and well into the recession (in May, 2009, time 2). Similarly, we analyzed two points in time during the 1990s of recession years for comparison (May, 1990 is time 1; May, 1991 is time 2). This shorter recession officially commenced in July, 1990 and ended in March, 1991, lasting a total of 8 months, according to the National Bureau of Economic Research (2009). Due to survey design, the best way to capture the most respondents longitudinally was to use surveys conducted 12 months apart. Theoretically, fifty percent of all households would be in both samples. Sample attrition, household moves, and other data collection factors lowered this number in reality. One limitation of the CPS is that it does not track movers. In the context of a recession with both

higher than average foreclosures and frozen housing markets, it is unclear whether those same families experiencing husbands' job loss are more or less apt to move.

Measures

Table 2 presents the distribution of all wives by labor force participation status in May 2008, May 1990, and May 1982 for all variables used in our analyses. Some of wives' characteristics changed substantially over the two decades that separate our comparison recession years. Wives' attained higher levels of education and had fewer children in 2008 than in 1990 and 1982; they were also less likely to be white, non-Hispanic or live in rural areas.

[Table 2 About Here]

Dependent variables. There were three dependent variables in our analyses. First a dichotomous variable indicated whether the wife entered the labor force by time 2, coded 1 if the wife transitioned from not in the labor force to employed or unemployed and 0 otherwise. Second, a categorical variable indicated whether the wife transitioned a) from not in the labor force to employed, b) from not in the labor force to unemployed, or c) if she remained not in the labor force. Third, a dichotomous variable indicated whether wives who worked part-time in time 1 increased their hours spent working for pay by time 2.

Husbands' unemployment. The principal measure of interest was the variable measuring whether the husband became unemployed. This variable was coded 1 if the husband was employed at time 1 and transitioned to either unemployed or not in the labor force by time 2. This measure was broader than one looking at transitions from employment to unemployment only since we wanted to include husbands who have become discouraged and have given up their job search. A second measure of husband's job loss was the duration of time he has been

unemployed. A dichotomous variable was coded 1 if the husband had been unemployed for 12 or more months at time 2 was included.

Time variables. We included a dummy variable coded 1 if the respondent was in the CPS during 2008-2009 and 0 if the respondent was in the CPS during 1990-1991. In addition, we interacted the time variable with husband's unemployment. These variables were only included in models where we pooled all years of data.

Wives' characteristics. Categorical variables indicated whether the wife's education level was less than high school (reference category), high school graduate, some college and college graduate were included in the models. We included a continuous variable of age, and whether the wife was White, non-Hispanic (reference category), Black, non-Hispanic, other race, non-Hispanic or Hispanic. All of these measures were constructed for time 1.

Family variables. A continuous variable indicated the number of children in the household and a dichotomous variable measured the presence of a child under 5 were included. Family income in time 1 was divided into $25,000 increments up to $100,000; with dummy variables included in the model (less than $25,000 is the reference group). A dummy variable indicated whether family income was missing was also included.

Geographic controls. Four dummy variables were constructed indicating the region of residence, Northeast (reference category), Midwest, West and South. In addition, measures of rural and urban (reference category) residence were included in the models. Rural referred to persons living outside the officially designated metropolitan areas, while urban referred to persons living within metropolitan areas. Metropolitan residence was based on Office of Management and Budget delineation at the time of data collection, in 2008 or 2004.

Data Analyses

Multivariate regression analyses were used to assess the extent to which wives respond to their husbands' stopping work by entering the labor force between May 2008 and 2009, May 1990 and1991, and May 1981-82. For ease of presentation, we show odds ratios for both time periods. Coefficient estimates and standard errors are also shown. Results from pooled models, which control for year and include an interactive term for year by husband stopped working, are presented in abbreviated format to highlight important differences between the two time periods. First, we present logistic regression models to assess the relationship between a husband's job loss and a wife's transition from being not in the labor force to being in the labor force (unemployed or employed) among non-working wives. We then disaggregate our outcome variable into 3 categories: a) no change in wives' employment status, remaining out of the labor force (comparison group); b) transition from not in labor force to employed; and c) transition from not in labor force to unemployed and seeking work. Finally, we limited our sample to wives employed part-time in time 1 and ran a logistic regression model predicting whether their work hours have increased. Note that wives working variable hours are omitted from our sample, as we cannot assess changes in their hours. All analyses were weighted to account for sample design.

Results

Table 3 presents results from logistic regression models predicting wives entering the labor force by time 2. This version of our paper focuses on the results for the key variable of interest—whether the husband stops working during the year. In the next version we will compare and contrast the other variables in the models over the three recessions. The analytic sample was wives who were not in the labor force (e.g. keeping house, retired, disabled, discouraged workers) in May 2008, May 1990, or May 1981. We found a strong, statistically

significant effect of husband's job loss on wives' propensity to enter the labor force for all three recessions: Wives of husbands who stopped working during the Great Recession were twice as likely to enter the labor force as those whose husbands remained in the labor force. The coefficient for the Great Recession was much larger than the coefficient for the 1990 or 1981 recessions, suggesting that wives had a lower propensity to enter the labor force when their husbands stopped working in the earlier recession. We ran a similar model on pooled 1990-1991 and 2008-2009 data, as shown in Table 3a. The statistically significant interaction term in Table 3a indicates that families adapted to husbands stopping work differently during the Great Recession than during the 1990 recession, though this is only statistically significant with an alpha of 0.10. Table 3b shows the results for the pooled 1981-82 and 2008-09 data, and again we find that wives were more likely to enter the labor force when their husband stopped working during the Great Recession than during the 1981-82 recession.

[Tables 3 and 3a About Here]

In Table 4 we take a more nuanced look at labor force transitions among wives who were not in the labor force at time 1. Table 4 presents the results of multinomial regression models comparing wives who commenced work (became employed) and wives who sought work (became unemployed) to those who remained out of the labor force. We found that when a husband transitions out of the labor force, wives were significantly more likely to become employed and unemployed in both 2009 and 1991. The interaction term in Table 3a reveals that wives were more likely to look for employment when their husband stopped working during the 2008-09 recession compared with the 1990 recession, but the interaction term did not reveal significant differences between the two recessions in the likelihood that wives gain employment. This suggests that wives were equally likely to find a job during both recessions, although they

were more likely to look for a job during the Great Recession. In contrast, the 1981-82 multinomial results show that wives were more likely to look for work but not to gain employment and the interaction term in Table 4b shows that wives were less likely to look for work during the Great Recession but more likely to secure employment during the Great Recession compared with the 1981-82 recession. This suggests that wives may have been more able to find jobs in the more recent recessions, perhaps due to their higher human capital through the form of higher levels of education. This notion will be expanded upon in the next version of this paper.

[Tables 4 and 4a About Here]

Preliminary Conclusions

Our previous work shows that wives have adapted to their husband's job loss differently during the Great Recession than during recent years of relative prosperity. This paper examines whether wives have adapted differently in the current recession compared with previous recessions. Preliminary results from this current research also provide evidence that families are adapting to husband's stopping work differently during the Great Recession compared with previous recessions. Wives are more likely to look for work in the Great Recession than during the 1990-91 recession, but are no more likely to find a job. In contrast, wives in the Great Recession are more likely to enter the labor force and are more likely to find a job than during the recession of 1981-82, and are less likely to look for work. Preliminary analyses suggest that wives may have higher human capital during the 2008-09 recession and thus be better poised to land a job than in the 1981-82 recession. This possibility will be addressed in greater detail in the next version of this paper.

Table 1. Comparison of 2008-2009, 1990-91, & 1981-82 Recessions

	1981-82	1990-1991	2008-2009
Duration	16 months July 1981-November 1982	8 months July 1990-March 1991	18 months December 2007-June 2009
Job loss	2.8 million Higher for men	1.2 million Higher for men	7.5 (8.8) million Higher for men
Unemployment rate	July 1981-7.2% November 1982- 10.8%	July 1990-5.5% March 1991-6.8%	December 2007-5.0% June 2009- 9.5%
Mean length of unemployment	17.1 weeks, November 1982	12.9 weeks, March 1991	24.1 weeks, June 2009
Sectors hit	Goods-producing, Manufacturing	Financial services Construction Trade & goods-producing	Manufacturing Construction Trade, Professional services, Financial
Percent jobs lost by women	7.20%	1.80%	28.60%
Women's employment rate	1980: 66%	1990: 72%	2008: 73%
Women's share of labor force	July 1981-42.8%; November 1982- 43.7%	47.1% in July 1990 47.6% in March 1991	48.8% in December 2007 49.9% in June 2009
Dubbed	?	"White Collar Recession"	"Mancession" & "The Great Recession"

Table 2. Percent Distribution of Wives on Dependent and Independent Variables by Labor Force Participation Status in Time 1

Characteristics	May 2008-2009		May 1990-1991		May 1981-1982	
	All Wives	Wives Not in Labor Force	All Wives	Wives Not in Labor Force	All Wives	Wives Not in Labor Force
Wife enters labor force	4.0	14.2	5.5	17.6	6.7	16.3
Wife increases hours	15.8	10.0	24.4	14.9	22.4	14.1
Husband becomes unemployed	3.8	3.5	2.5	2.8	3.4	3.5
Husband becomes not employed	6.3	6.5	5.2	6.3	5.8	6.6
Wives' Characteristics						
Wives' Education						
Less than high school	7.4	14.4	15.3	21.4	20.0	26.3
High school graduate	29.1	33.9	33.8	33.0	47.0	46.6
Some college	28.2	25.4	23.5	21.1	18.9	16.6
Bachelor's degreee or higher	35.3	26.4	26.6	23.8	14.2	10.5
Wives' Age (mean)	43.9	44.7	40.8	42.7	40.1	41.6
Wives' Race and Ethnicity						
White non-Hispanic	74.5	70.1	83.9	83.2	87.2	88.0
Black non-Hispanic	6.7	5.6	6.1	4.5	5.9	4.7
Other non-Hispanic	7.0	8.1	3.4	4.2	1.8	1.6
Hispanic	11.8	16.3	6.6	8.1	5.1	5.7
Family Variables						
Number of Children under 18						
0 children	48.1	47.5	43.3	42.8	40.7	38.8
1 child	19.8	16.0	22.1	18.4	22.4	21.3
2 children	21.2	21.0	22.4	21.6	23.1	23.8
3 or more children	10.9	15.5	12.2	17.3	13.9	16.1
Child under 5	22.7	29.6	26.4	32.9	na	na
Family Income[1,2]						
Less than $25,000	6.4	12.9	22.6	32.0	8.3	11.8
$25,000 to $49,999	16.5	22.3	38.9	37.6	25.6	28.6
$50,000 to $74,999	20.0	17.9	19.7	12.8	52.5	44.3
$75,000 to $99,999	16.3	12.2	12.2	9.6	7.1	7.6
$100,000 or more	27.7	18.5	na	na	na	na
Missing family income	13.21	16.4	6.6	8.1	6.5	7.7
Region						
Northeast	18.5	17.9	21.0	20.6	21.7	22.7

Midwest	23.5	19.1	26.1	24.3	28.0	27.2
West	37.0	39.0	33.5	34.3	31.8	31.6
South	21.0	24.1	19.4	20.8	18.6	18.4
Residence						
Rural	17.4	17.6	23.4	23.8	29.6	28.6
Urban	81.9	81.5	75.7	75.7	70.5	71.4

Note: N/A indicates that the women are currently in the labor force and therefore can not enter the labor force.

Source: Individual Matched 2008-2009, 1990-1991 and 1981-1982 May CPS

[1]9091 recession: less than $25,000; $25,000 to $49,999; $50,000 to $74,999; $75,000 or more

[2]8182 recession: less than $10,000; $10,000 to $19,999; $20,000 to $49,999; $50,000 or more

Table 3. Logistic Regression Analysis Predicting Wives Entering the Labor Force by Time 2, Among Wives Not in the Labor Force at Time 1

	May 2008-2009		May 1990-1991		May 1981-1982	
	B		B		B	
Husband becomes not employed	0.705	***	0.367	***	0.276	***
Husband unemployed 12 or more months	-0.197		0.136	**	0.034	
Wives' Characteristics						
Wives' Education						
Less than high school	R		R		R	
High school graduate	-0.073		0.439	***	0.411	***
Some college	0.370	*	0.654	***	0.593	***
Bachelor's degreee or higher	0.484	**	0.693	***	0.486	***
Wives' Age	-0.032	***	-0.062	***	-0.048	***
Wives' Race and Ethnicity						
White non-Hispanic	R		R		R	
Black non-Hispanic	0.054		0.147	***	0.515	***
Other non-Hispanic	-0.396	*	-0.117	***	0.210	***
Hispanic	0.032		0.007		0.035	*
Family Variables						
Number of Children under 18	0.105	*	0.081	***	-0.057	***
Child under 5	-0.538	***	-0.795	***	NA	
Family Income						
Less than $25,000	R		R		R	
$25,000 to $49,999	-0.122		-0.043	***	-0.164	***
$50,000 to $74,999	-0.002		0.146	***	0.034	**
$75,000 to $99,999[1,2]	0.061		-0.163	***	-0.202	***
$100,000 or more	-0.317	+	na		-0.450	***
Missing family income	-0.353	*	na		-0.275	***
Region						
Northeast	R		R		R	
Midwest	0.091		0.144	***	0.116	***
West	-0.058	+	0.098	***	0.085	***
South	-0.102		0.220	***	0.077	***
Residence						

Rural	-0.252	*	0.077	***	0.269	***
Constant	-0.372		0.532	***	-0.1689	***
		2,243		3,164		4,795
N		3		4		5
df		20		18		19

Note: R indicates the reference cateogry

+p<.10 * p<.05 **p<.01 ***p<.001

[1]9091 recession: less than $25,000; $25,000 to $49,999; $50,000 to $74,999; $75,000 or more

[2]8182 recession: less than $10,000; $10,000 to $19,999; $20,000 to $24,999; $25,000 to $49,999; $50,000 or more

Table 3a. Interactive Logistic Regression Analysis Predicting Wives Entering the Labor Force by Time 2 Among Wives Not in the Labor Force in Time 1 Using Pooled 1981-1982 and 2008-2009 Data

	B		SE	Odds Ratio
Husband becomes not employed	0.276	***	0.013	1.318
Year				
2008-09	-0.081	†	0.044	0.992
Husband becomes not employed*Year	0.301	*	0.147	1.352

Note: Includes all independent variables included in Table 3.
†p<.10 * p<.05 **p<.01 ***p<.001

Table 3b. Interactive Logistic Regression Analysis Predicting Wives Entering the Labor Force by Time 2 Among Wives Not in the Labor Force in Time 1 Using Pooled 1990-1991 and 2008-2009 Data

	B		SE	Odds Ratio
Husband becomes not employed	0.410	***	0.015	1.507
Year				
2008-09	-0.097	†	0.056	0.907
Husband becomes not employed*Year	0.274	†	0.163	1.315

Note: Includes all independent variables included in Table 3.
†p<.10 * p<.05 **p<.01 ***p<.001

Table 4. Multinomial Logistic Regression Analysis Predicting Wives Becoming Employed or Unemployed by Time 2, Among Wives Not in the Labor Force at Time 1

	May 2008 - May 2009				May 1990 - May 1991				May1981 - May 1982			
	Wife Becomes Employed		Wife Becomes Unemployed		Wife Becomes Employed		Wife Becomes Unemployed		Wife Becomes Employed		Wife Becomes Unemployed	
	B		B		B		B		B		B	
Husband becomes not employed	0.640	***	0.922	**	0.265	***	1.045	***	-0.037	*	1.352	***
Husband unemployed 12 or more months	-0.795	*	0.818	+	0.354	***	-11.335		-1.925	***	1.479	***
Wives' Characteristics												
Wives' Education												
Less than high school	R		R		R		R		R		R	
High school graduate	0.158		-0.769	**	0.513	***	-0.020		0.484	***	0.038	
Some college	0.613	***	-0.452		0.692	***	0.562	***	0.707	***	-0.204	
Bachelor's degreee or higher	0.679	***	-0.046		0.840	***	-1.376	***	0.521	***	0.386	
Wives' Age	-0.026	***	-0.055	***	-0.056	***	-0.104	***	-0.044	***	-0.069	***
Wives' Race and Ethnicity												
White non-Hispanic	R		R		R		R		R		R	
Black non-Hispanic	-0.178		0.786	*	-0.196	***	1.436	***	0.409		1.078	*
Other non-Hispanic	-0.448	*	-0.199		-0.140	***	0.216	***	-0.265	*	-0.098	
Hispanic	-0.009		0.148		-0.062	***	0.426	***	-0.088		0.595	
Family Variables												
Number of Children under 18	-0.146	**	-0.084		-0.099	***	-0.046	***	-0.045	**	-0.135	

Child under 5	-0.516	***	-0.622	*	-0.782	***	-0.917	***	NA		NA	*
Family Income[1,2]												
Less than $25,000	R		R		R		R		R		R	
$25,000 to $49,999	-0.195		0.141		0.014		-0.529	***	-0.177		-0.077	
$50,000 to $74,999	0.070		-0.494		0.192	***	-0.380	***	0.034		-0.033	
$75,000 to $99,999	-0.055		0.064		-0.176	***	0.082	+	-0.238		0.010	
$100,000 or more	-0.282		-0.577		na		na		-0.440		-0.867	
Missing family income	-0.419	*	-0.109		na		na		-0.338	*	0.042	
Region												
Northeast	R		R		R		R		R		R	
Midwest	0.131		-0.107		0.185	***	-0.455	***	0.096		0.277	
West	-0.047		-0.123	+	0.090	***	0.148	***	0.082		0.111	†
South	0.007		-0.629	*	0.184	***	0.522	***	0.092		0.006	*
Residence												
Rural	-0.128		-1.128	**	0.108	***	-0.281	***	0.248		0.407	**
Constant	-1.098	**	-0.139		0.127	***	0.337	***	-0.447	***	-1.440	
N	2,243				3,164				4,795			

Note: R indicates the reference cateogry

†p<.10 * p<.05 **p<.01 ***p<.001

[1]9091 recession: less than $25,000; $25,000 to $49,999; $50,000 to $74,999; $75,000 or more

[2]8182 recession: less than $10,000; $10,000 to $19,999; $20,000 to $24,999; $25,000 to $49,999; $50,000 or more

Table 4a. Interactive Multinomial Logistic Regression Analysis Predicting Wives Becoming Employed or Unemployed Time 2, Among Wives Not in the Labor Force Time 1 Using Pooled 1981-1982 and 2008-2009 Data

	Wife Becomes Employed				Wife Becomes Unemployed			
	B		SE	Relative Risk Ratio	B		SE	Relative Risk Ratio
Husband becomes not employed	-0.036	***	0.022		1.353	*	0.022	
Year								
2008-09	-0.149	**	0.047		0.380	***	0.100	
Husband becomes not employed*Year	0.699	***	0.172		-0.883	***	0.260	

Note: Includes all independent variables included in Table 4.
†p<.10 * p<.05 **p<.01 ***p<.001

Table 4b. Interactive Multinomial Logistic Regression Analysis Predicting Wives Becoming Employed or Unemployed Time 2, Among Wives Not in the Labor Force Time 1 Using Pooled 1990-1991 and 2008-2009 Data

	Wife Becomes Employed				Wife Becomes Unemployed			
	B		SE	Relative Risk Ratio	B		SE	Relative Risk Ratio
Husband becomes not employed	0.266	***	0.017		1.039	***	0.033	
Year								
2008-09	-0.354	***	0.047		0.176	†	0.106	
Husband becomes not employed*Year	0.140		0.170		0.595	*	0.259	

Note: Includes all independent variables included in Table 4.
†p<.10 * p<.05 **p<.01 ***p<.001

References

Albelda, R. and C. Kelleher. (2010). Women in the Down Economy: Impacts of the Recession and the Stimulus in Massachusetts. Policy Brief March 2010. The Center for Women in Politics and Public Policy, the Center for Social Policy, and the Massachusetts Commission on the Status of Women. Retrieved from (http://archives.lib.state.ma.us/bitstream/handle/2452/50058/ocn649853456.pdf?sequence=1).

Amott, T., & Matthaei, J. (1991). *Race, gender, and work: A multicultural economic history of women in the United States*. Boston, MA: South End Press.

Ashenfelter, O., & Heckman, J. J. (1974). The estimation of income and substitution effects in a model of family labor supply. *Econometrica, 42*(1), 73-85.

Bane, M. J., & Ellwood, D. T. (1986). Slipping into and out of poverty: The dynamics of spells. *The Journal of Human Resources, 21*(1), 1-23.

Becker, G. (1991). *Treatise on the family*. Cambridge, MA: Harvard University Press.

Bingley, P., & Walker, I. (2001). Household unemployment and the labour supply of married women. *Economica, 68*(270), 157-185.

Blau, F. D., Ferber, M. A., & Winkler, A. (1998). *The economics of women, men, and work*. Upper Saddle River, NJ: Prentice-Hall.

Boushey, H. (2009). *Gender and the recession: Recession hits traditionally male jobs hardest*. Washington, DC: Center for American Progress.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*, 371-399.

Brown, C. J. and J. A. Pagan. (1998). Changes in Employment Status Across Demographic Groups During the 1990-1991 Recession. *Applied Economics, 30,* 1571-1583.

Bruce, L. (2009). *Turning point: The long term effects of recession-induced child poverty*. Washington, DC: First Focus.

Bureau of Labor Statistics. (2009). *Economic news release, employment situation summary for June, 2009.* Retrieved from http://www.bls.gov/news.release/empsit.nr0.htm

Bureau of Labor Statistics. (2010). *Economic news release, employment situation summary for December, 2010.* Retrieved from http://www.bls.gov/news.release/empsit.nr0.htm

Casper, L. M., & Bianchi, S. M. (2002). *Continuity and change in the american family*. Thousand Oaks, CA: Sage Publications.

Conger, K. (forthcoming). Economic hardship, parenting, and family dynamics in a cohort of rural adolescents. In K. Smith & A. Tickamyer (Eds.), *Economic restructuring and family well-being in rural America*. Rural Studies Series. Penn State University Press.

Conger, R. D., & Elder, G. H. (1994). *Families in troubled times*. New York: Aldine De Gruyter.

Cullen, J. B., & Gruber, J. (2000). Does unemployment insurance crowd out spousal labor supply? *Journal of Labor Economics, 18*(3), 546-572.

Employment, Hours, and Earnings from the Current Employment Statistics Survey. 2010. Bureau of Labor Statistics, US Department of Labor. Retrieved from http://www.bls.gov/data

Francis, David R. (2005). Changing Work Behavior of Married Women. *NBER Digest Online*, National Bureau of Economic Research. Retrieved from http://www.nber.org/digest/nov05/w11230.html

The Gender Wage Gap: 2009. (2010). Factsheet IWPR #C350. Washington, D.C: Institute for Women's Policy Research. Retrieved from http://www.iwpr.org/pdf/C350.pdf

Heckman, J. J., & Macurdy, T. E. (1980). A life-cycle model of female labor supply. *Review of Economic Studies, 47*(1), 47-74.

Income and Job Mobility in the Early 1990s. (1995). Statistical Brief, Bureau of the Census. Retrieved from http://www.census.gov/apsd/www/statbrief/sb95_1.pdf

Iron, J. S. (2009). Economic Scarring: The Long-Term Impacts of the Recession. Briefing Paper No. 243. Washington, D.C.: Economic Policy Institute.

Isbell, B. T. (1996). Recent Development: Gender Inequality and Wage Differentials Between the Sexes: Is It Inevitable or is There An Answer? Washington University Journal of Urban and Contemporary Law, *50,* 369.

Isidore, C. (2009). *The great recession.* Retrieved from http://money.cnn.com/2009/03/25/news/economy/depression_comparisons/index.htm

Juhn, C., & Murphy, K. M. (1996). *Wage inequality and family labor supply.*Working Paper No. 5459. Cambridge, MA. National Bureau of Economic Research.

Kamery, R. H. (2004). A Brief Review of the Recession of 1990-1991. *Proceedings of the Academy of Legal, Ethical and Regulatory Issues, 8,* 61-66.

Klieson, K. L. (2003). The 2001 Recession: How Was it Different and What Developments May Have Caused It? The Federal Reserve Bank of St. Louis. Retrieved from https://www.research.stlouisfed.org/publications/review/03/09/Kliesen.pdf.

Labor Force Statistics from the Current Population Survey. (2010). Bureau of Labor Statistics, US Department of Labor. Retrieved from http://data.bls.gov

Lundberg, S. (1985). The added worker effect. *Journal of Labor Economics, 3*(1), 11-37.

Madland, D. (2010).*Getting out of the deep unemployment hole: High job losses in recession overshadows economic recovery.* Washington, DC: Center for American Progress.

Maloney, T. (1991). Unobserved variables and the elusive added worker effect. *Economica, 58*(230), 173-187.

McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53*, 158-204.

Mistry, R. S., Vanderwater, E. A., Huston, A. C., & McLoyd, V. C. (2002). Economic well-being and children's social adjustment: The role of family process in an ethnically diverse low-income sample. *Child Development, 73*(3), 935-951.

Moehling, C. M. (2001). Women's work and men's unemployment. *Journal of Economic History, 61*(4), 926-949.

Moore, G. H. (2002). Recessions in *The Concise Encyclopedia of Economics*, 1st Edition, Library of Economics and Liberty. Retrieved from http://www.econlib.org/library/Enc1/Recessions.html

National Bureau of Economic Research. (2009). *Business cycle expansions and contractions.* Retrieved from http://www.bls.gov/news.release/empsit.nr0.htm

The NBER's Business Cycle Dating Committee. (2010). The National Bureau of Economic Research. Retrieved from http://www.nber.org/cycles/recessions.html

Parker, T., L. D. Kusmin, and A.W. Marré. (2010). Economic Recovery: Lessons Learned From Previous Recessions. *Amber Waves*, March, US Department of Agriculture and Economic Research Service. Retrieved from http://www.ers.usda.gov/AmberWaves/March10/Features/EconomicRecovery.htm

Rampell, C. (2009, February 6). As layoffs surge, women may pass men in the job force. *New York Times.* Retrieved from http://www.nytimes.com/2009/02/06/business/06women.html?_r=1

Skoufias, E., & Parker, S. W. (2006). Job loss and family adjustments in work and schooling during the Mexican peso crisis. *Journal of Population Economics, 19*(1), 163-181.

Smith, K. 2009. *Increased reliance on wives as breadwinners during the first year of the recession*. Durham, NH: Carsey Institute, University of New Hampshire.

Strully, K. W. (2009). Job loss and health in the U.S. labor market. *Demography, 46*(2), 221-246.

Tano, D. K. (1993). The added worker effect - A causality test *Economics Letters, 43*(1), 111-117.

Unemployed Persons by Duration of Unemployment. (2010). Economic News Release, Bureau of Labor Statistics, US Department of Labor. Retrieved from http://www.bls.gov/news.release/empsit.t12.htm

U.S. Business Cycle Expansions and Contractions. 2010. Public Information Office, National Bureau of Economic Research, Cambridge: MA. Retrieved from http://www.nber.org/cycles/cyclesmain.html

U.S. Census Bureau. (2008 and 2009). *Current population survey, May data and documentation.*

Weller, C. E. (2009). *Economic snapshot for June 2009.* Retrieved from http://www.americanprogress.org/pressroom/releases/2009/06/economic_snapshot_june_2009.html

Winkler, A. E., McBride, T. D., & Andrews, C. (2005). Wives who outearn their husbands: A transitory or persistent phenomenon for couples? *Demography, 42*(3), 523-535.

Winslow-Bowe, S. (2006). Persistence of wives' income advantage. *Journal of Marriage and the Family, 68*(4), 824-842.

Yeung, W. J., & Hofferth, S. L. (1998). Family adaptations to income and job loss in the U.S. *Journal of Family and Economic Issues, 19*(3), 255-283.