CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

DO COUPLES SELF-INSURE? THE EFFECT OF INFORMAL CARE ON A COUPLE'S LABOR SUPPLY

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Abstract

How does informal care provision to an elderly parent affect the labor supply outcomes of a couple? Previous work examines the relationship between caregiving and the labor market decisions of the care provider, but ignores any labor supply response of the spouse to such decisions. Using data from the *Health and Retirement Survey*, we examine how informal care provision affects the labor supply of both members of a couple, at both the intensive and extensive margins. Such analysis is especially important for evaluating informal care's potential effect on retirement timing and household wealth accumulation. We find that providing personal care to an elderly parent reduces a married man's chance of working by 3.2 percentage points, but providing such care does not affect a married woman's chance of working. Additionally, male labor force decisions remain inelastic in response to the wife's caregiving behavior. Working married women do adjust their hours of work in response to caregiving, but in the opposite direction that within-couple insurance would suggest. Instead, the woman increases her work by one hour a week if she is the only care provider, and decreases her work when the husband is the only care provider. When both members of the couple provide informal care these effects cancel out.

1. Introduction

For elderly parents, adult children (especially daughters) are the most common type of informal care providers. Many studies have examined the effect of informal care provision for a parent on the labor force participation and wages and earnings of the adult child providing the care. While a general consensus has yet to be reached, most studies have found evidence of a negative correlation between informal care and employment (Crespo 2006; Ettner 1996; Heitmueller 2007; Michaud et al. 2010; Johnson and LoSasso 2000; Pavalko and Artis 1997; Van Houtven et al. 2010) as well as informal care and earnings (Carmichael and Charles 2003; Heitmueller and Inglis 2007; Wakabayashi and Donato 2005; Van Houtven et al. 2010). The previous studies analyze an adult child's caregiving and employment decisions without considering the labor supply response of his/her spouse to these decisions. However, caregiving may not only affect the caregiver's labor market decisions, but also those of his/her spouse. By considering the effect of caregiving on the labor supply of both members of a married couple, we can more accurately assess the impact of caregiving on household income, wealth accumulation, and retirement timing. In so doing, this paper provides an estimate of the total impact of informal care provision on labor force participation, hours worked, and wages. Given the current level and projected growth of informal care provision, this is an important step for predicting retirement behavior and retirement wealth.

The rest of the paper proceeds as follows. Section 2 of the manuscript describes the literature. Section 3 describes the underlying theory, while Section 4 discusses the methodology. Section 5 describes the data source and sample selection. Section 6 presents the results and Section 7 concludes that caregiving leads to few changes on the intensive work margin for married individuals. Married women do respond to caregiving by adjusting their hours of work,

but in the opposite direction than self-insurance would suggest. Caregiving working wives increase their work hours slightly; working wives with caregiving husbands reduce their work hours by a similar magnitude. Married men who provide personal caregiving have a 3.2-percentage-point reduction in the chance of working compared to non-caregivers, but married men consider only their own caregiving behavior in making this adjustment.

2. Background

While there is a substantial literature that finds informal care is negatively correlated with the caregiver's labor supply, *a priori*, it is difficult to tell whether caregiving would have a positive or negative impact on the non-caregiving spouse's labor supply. The spouse could increase work effort (either in hours or years of work) to compensate for the caregiver's reduced earnings or early exit from the labor force (the added-worker effect). This would mean that the previous estimates of the impact of caregiving on household wealth accumulation that focus on individual rather than household behavior are overstated. Alternatively, if the caregiver drops out of the labor force and either cannot or does not wish to return, even after the caregiving episode ends, the spouse may retire earlier in order to satisfy the desire for joint retirement and leisure time. This would indicate that the previous estimates of caregiving on wealth accumulation could be understated.

To our knowledge, Leger (2005) is the only study that addresses the potential of informal care demands on a couple's labor supply. He uses parental health shocks as a proxy for informal care provision because informal care was not directly measured in the *Panel Study of Income Dynamics* (PSID). He examines the effects of parental illness on the labor supply of adult children and acknowledges that a decrease in hours worked by one family member could be met

with a response in hours worked by another. He provides descriptive evidence to the contrary, however, that total work hours of a couple are negatively correlated with the presence of a parental illness. Estimates from his model suggest married couples in the first year of cohabiting with a sick elderly parent work a total of 350 fewer hours than couples with healthy parents. Effects for parents who live independently are smaller. His study can be thought of as a purely reduced form estimate of the effect of parental health on work, and only as the effect of *caregiving* on the labor supply of an adult child or couple if the endogeneity of informal care provision, work behavior, and living arrangements cannot be overcome. The endogenous nature of these three elements raises questions as to whether these results can be generalized to couples providing informal care. This paper builds on this earlier work by addressing the endogeneity of work and care provision to measure the causal impact of caregiving on work outcomes at the couple level.[1]

3. Theory

Without controlling for a spouse's caregiving behavior or characteristics, the previous literature suggests that own caregiving is negatively correlated with most labor market outcomes. The magnitude and direction of the effect of spouse's caregiving, however, is theoretically unclear. McGeary's (2009) study of health shocks of one spouse and the retirement decision of the other offers a useful framework for our application. Although in a different context, the model describes well the theoretically ambiguous effect of having a wife provide informal care to an elderly parent in poor health on the labor supply of her husband, and vice-versa. On the

[1] We do not explore living arrangements of the parents in the paper for a very simple reason, it is common for adult children to continue to provide supportive informal care even in the nursing home setting, and there is not much cohabitation reported in the HRS.

one hand, informal care provision by the wife may cause her to reduce work and therefore reduce the income in the family, making the husband increase his labor supply to make up the lost income (the added-worker effect). On the other, informal care provision may be a two-person job, increasing the value of the husband's home production as a supplemental caregiver. If this is the case, the husband might reduce his work hours to accommodate the caregiving demands, making the substitution effect dominate. In fact, the two effects may offset each other, masking the underlying labor supply responses to caregiving demands. Third, as Leger (2005) points out, it is possible that informal care might be positively correlated with work behavior because the adult child is anticipating having to spend money on eventual nursing home care for the parent. So, whereas one might expect hours to go down to accommodate the time constraint, we may see work time increase and leisure time decrease in anticipation of future long-term care expenses.

We also might expect different effects of caregiving on labor force outcomes, depending on which spouse is performing each task and the relationship to the care recipient. For example, if the husband contributes more to household income, we may find that wives are most responsive to caregiving needs, thus more likely to become caregivers. They also might adjust their labor force behavior, but because wives were contributing only a fraction to household income, the labor market response among husbands may be trivial. Alternatively, the identity of the care recipient may determine who becomes the care provider, regardless of historical labor market decisions. That is, if the husband's father is the person who becomes disabled and needs care, the family obligation may fall more to the husband despite his higher earnings. This may lead to an increased value of his household production relative to his wife, and a relatively greater labor market response to the caregiving demands.

4. Methodology

We analyze several labor market outcomes, including the probability of working for pay, the probability of being retired, and logged hourly wages and weekly hours of work conditional on working. McGeary's (2009) study provides an empirical framework for analyzing own and spousal caregiving's effects on the probability of working for pay and the probability of being retired, and is also useful in describing the simultaneous nature of the estimation problem we face.

Let Y_{it}^* be the latent variable of labor force participation of spouse *i* at time *t*. We begin with a structural empirical model:

$$Y_{it}^* = \alpha_0 + \alpha_1 X_{it} + \alpha_2 CG_{it} + \alpha_3 Y_{st}^* + \varepsilon_{it} \quad (1)$$

$$Y_{st}^* = \beta_0 + \beta_1 X_{st} + \beta_2 CG_{st} + \beta_3 Y_{it}^* + \varepsilon_{st} \quad (2)$$

where *i* and *s* denote each spouse, X is a vector of demographic and socioeconomic variables, CG is a caregiving indicator variable, and ε is the error term. Substitution of equation 2 into equation 1 leads to a single equation:

$$Y_{it}^* = \gamma_0 + \gamma_1 X_{it} + \gamma_3 X_{st} + \gamma_4 CG_{it} + \gamma_5 CG_{st} + \epsilon_{it} \quad (3)$$

where we model the work and retirement decisions of husbands and wives separately as functions of individual characteristics, own caregiving activity, their spouse's caregiving activity, and their spouse's individual characteristics. We adopt a similar approach for analyzing weekly work hours, but we condition the estimation of equation (3) only on those who are working. For analyzing caregiving's effect on hourly wages, we estimate a Mincer-like log wage regression for those who are working, augmented with own and spousal caregiving measures:

$$\ln w_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 CG_{it} + \alpha_3 CG_{st} + \varepsilon_{it} \quad (4)$$

We make an additional modification to equations (3) and (4) based on previous work (Van Houtven et al. 2010; Leger 2005) and our own statistical tests, and that is the inclusion of time-invariant heterogeneity via individual-spouse fixed effects (δ_i) which can be correlated with CG_{it}, CG_{st}, X_{it}, and X_{st}:

$$Y_{it}^{*} = \gamma_0 + \gamma_1 X_{it} + \gamma_3 X_{st} + \gamma_4 CG_{it} + \gamma_5 CG_{st} + \delta_i + \epsilon_{it} \quad (5)$$

$$\ln w_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 CG_{it} + \alpha_3 CG_{st} + \delta_i + \varepsilon_{it} \quad (6)$$

which leads X_{it} and X_{st} to only contain time-varying characteristics expected to influence the labor market outcome of interest.

Endogeneity Concerns. Previous longitudinal studies address the potential endogeneity of informal care with respect to labor supply and wages by allowing for time-invariant unobserved heterogeneity, usually via random effects estimation, which assumes that the individual-specific heterogeneity is independent of informal care and other explanatory variables. With the inclusion of fixed effects, this study controls for time-invariant unobserved heterogeneity that can be correlated with our caregiving measures and other explanatory variables. However, endogeneity may still be a concern if the individual- and time-varying error, ϵ_{it}, is correlated with caregiving, CG_{it} or CG_{st}.[2] To address this potential endogeneity problem, we propose a vector of instruments, Z_{it}, that is correlated with our measures of caregiving ($corr(CG_{it}, Z_{it} \neq 0) and\ (corr(CG_{st}, Z_{it} \neq 0))$ and is uncorrelated with the individual and time-varying error component ($corr(\epsilon_{it}, Z_{it}) = 0$)). The instruments must be time-varying themselves or their effect will be captured in the fixed effect, and they must explain both own caregiving and spousal caregiving behavior. We discuss the instruments in detail in Section 5. To

[2] One can think of the fixed effect as controlling for the "type" of person, but there may be remaining time-varying shocks that also could influence both caregiving and work, such as getting fired or experiencing a wage shock.

accommodate the fixed effects and instruments when analyzing the probability of working for pay and the probability of being retired, we estimate linear probability models separately for husbands and wives.

5. Data

We use data from nine waves of the *Health and Retirement Survey* (HRS) (1992-2008). The HRS is biannual survey of the near elderly in the United States (ages 50 to 61 entered the sample initially, thus, their parents are between 70 and 100, with a mean age of 82, prime candidates to be care recipients) with rich informal caregiving, employment, and wealth data. The HRS collects detailed information not only about the respondents and their spouses, but also important information about siblings and parents.

Sample. From the HRS, we selected a sub-sample of individuals who have been married or partnered for at least two years and have a parent or in-law alive in the previous two survey waves (Table 1).[3] These requirements led to the biggest loss in sample size from the full HRS panel, reducing person-wave observations to around 16,000 observations each for men and women. To ensure that respondents were of working age, we further restricted the sample to individuals where both members of the couple are between ages 45 and 70. Around 200 person-wave observations were dropped from the sample due to missing information needed for the analysis. Finally, we eliminated the 1992 wave of respondents for some specifications because in that wave the caregiving question focused on only one type of caregiving (personal care), and subsequent waves contained information about two types of care provision (chore and personal

[3] Parents or in-laws could be living in the community, with the respondent or in a nursing home. We do not distinguish between these locations because it is common for adult children to continue to provide supportive informal care even in the nursing home setting, and there is not much cohabitation reported in the HRS. Only about 3.5 percent of the couples in our sample are co-residing with a parent or in-law.

care). Whereas the exact number of observations varies across labor force outcomes (and is shown in each results table), there are 3,424 unique women and 3,411 unique men for the labor force participation equations.

Dependent variables. We examine four separate self-reported labor market outcomes, taken from the RAND HRS data files. For labor force participation, our first work measure, we categorize anyone who reports that they are working for pay (either for someone else or self-employed) as working, and those out of work, looking for work, or retired as not working. For the second work measure, self-reported retirement status, we categorize anyone who states they are completely or partially retired as retired, with the remainder as not retired.[4] We also explore the usual number of hours worked per week among workers to address the intensive margin of the work decision. Lastly, we examine logged wages per hour among workers.[5]

Primary explanatory variable. We use discrete measures of caregiving for each member of the married couple as the main explanatory variables of interest (CG_{it}, CG_{st}). Specifically, the HRS asks, "Did you (or your husband/wife/partner) spend a total of 100 or more hours (since Previous Wave Interview Month-Year/in the last two years) helping your (parents/mother/father) with basic personal activities such as dressing, eating, and bathing?" The HRS also asks, "Did you (or your husband/wife/partner) spend a total of 100 or more hours (since Previous Wave Interview Month-Year/in the last two years) helping your (parents/mother/father) with other things such as household chores, errands, transportation, etc.?" The survey then asks how many hours the respondent and, separately, the spouse provided. We use a combined measure of caregiving (personal and chore) to look at the effects of caregiving on the caregiver and his/her

[4] Housewives are categorized as not retired.
[5] If the respondent reports wages at a frequency other than hourly, the hourly wage rate is calculated using the usual hours worked per week, usual weeks worked per year, and pay rate, and adjusting for the periodicity of pay reported.

spouse's labor market outcomes. We also examine whether personal care itself has a different effect on labor market outcomes.[6]

Other Explanatory Variables. The labor force participation, retirement, and hours of work models include the same set of control variables. These models include individual fixed effects, which capture time-invariant observed and unobserved individual characteristics. Thus, many of the standard demographic variables shown to be important in other labor supply models are captured in the fixed effect, such as the respondent and spouse's race and education. However, time-varying characteristics of each spouse remain: age and age squared, an indicator for achieving the Social Security Early Entitlement Age (EEA) (62) but younger than the Full Retirement Age (FRA), an indicator for being at or over the FRA (65 or 66, depending on birth year), and discrete variables for self-reported health (poor/fair and good indicators, with excellent as the omitted category).

Attachment to the labor force is measured in years of previous work experience, separately for each spouse. Household characteristics in the models include whether there is a child under age 18 in the home, whether the couple owns their home, and household asset quartiles (lowest quartile omitted). Wave dummies control for time trends.

The logged hourly wage equation is an augmented Mincer wage equation. Controls include years of work experience, experience squared, tenure, tenure squared, an indicator for whether a person is a salaried worker (versus an hourly wage worker), discrete variables for self-reported health, and an individual fixed effect.[7]

[6] We also explored defining intensive caregivers as having provided 1,000 or more hours of care over the past two years to a parent or in-law, but because no set of identifying instruments was found to be strong when using this measure of care, we have eliminated this measure from the results section.

[7] Both the logged hourly wage and the hours worked specifications are run on the subsample of individuals working. By using a fixed effect panel model, we control for sample selection to the extent that the selection into work

Instruments. The set of instruments we use include separate indicators for mother, father, mother-in-law, and father-in-law has not been alive at any time in the last two years; separate indicators for mother (mother-in-law) became widowed since the last survey wave, which indicates whether or not a spouse is available to provide care. Building on Leger (2005), we also use health of the parent or in-law as a predictor for informal care demand. The presence of ADL limitations or inability to be left alone for more than one hour among a parent or parent-in-law are also used as instruments because parental health is not expected to directly affect work behavior of an adult child other than through the informal care path. Previous work indicates that these time-varying instruments are valid and empirically strong (Van Houtven et al. 2010).

Strength of the Instruments. The criteria for empirically strong instruments is that the joint *F*-statistic for the excluded instruments in the first stage equation is above the conventionally-accepted minimum of 10 for both own caregiving and spousal caregiving first-stage regressions (Staiger and Stock 1997), and we fail to reject the null hypothesis of the over-identification test of the excluded instruments.[8] We also test whether we can treat the suspect endogenous regressors as exogenous using the Sargan-Hansen J test.[9] Results from these tests are in Appendix Table A1. An 'x' indicates that the instruments are strong and that we cannot reject exogeneity of informal care, after including individual fixed effects in our specifications.[10] When exogeneity is rejected, we use the strongest instrument set available and present both the

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depends on time-invariant characteristics. Inclusion of fixed effects is also why education and other time-invariant characteristics do not appear in the Mincer wage equation.

[8] The Sargan-Hansen test is employed to test the over-identifying restrictions. The joint null hypothesis is that the instruments are valid instruments, i.e., uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. A rejection casts doubt on the validity of the instruments.

[9] We perform this test by analyzing the difference between two Sargan-Hansen statistics: one for the equation treating own and spousal informal care as endogenous, and one for the equation treating own and spousal informal care as exogenous. Under the null hypothesis that informal care can actually be treated as exogenous, the test statistic is distributed as chi-squared.

[10] We do not have strong instruments (either they are weak or we reject the over-identification tests), for chore only and intensive caregiving for women and men, so we focus the discussion in the results section on any care and personal care.

reduced form and IV results. Thus, for the models for married women, we present instrumental variables results for labor force participation and self-reported retirement. For all work specifications for men and for women's hours of work and wages, we present reduced form results only because we do not reject exogeneity for these outcomes (Table A1).

6. Results

Descriptives. Table 2 shows the characteristics of our sample of married (or partnered) men and women the first time we observe them, and the columns are differentiated by the observed caregiving behavior over the sample period. We classify couples into four groups: (1) neither member of the couple ever provides care in the sample; (2) the wife is the only person who ever provides care; (3) the husband is the only person who ever provides care; and (4) both members of the couple provide care at some point in the sample. One thing to note is that in our sample, if caregiving occurs, it often occurs jointly. For example, of the 3,424 women in the sample we observe over time, 43.7 percent are in a couple where neither member ever provides care; 10.9 percent are in a couple where she is the only one who ever provides care; 4.6 percent are in a couple where the husband is the only one who ever provides care; and 40.8 percent are in a couple where both members provide care at some point in the sample.[11] For men, the profile is very similar.

Surprisingly, working in the baseline wave appears to be negatively correlated with informal care provision during the survey for both men and women. Individuals in couples who both become care providers are more likely to be working in the baseline wave. They are also more educated, have more years of work experience, are healthier, are less likely to be minorities, and are more likely to be homeowners. In fact, women in couples where both

[11] This group includes those both simultaneously and sequentially caregiving where both members caregive.

members ever provide care are the most likely to be working and earn the highest average hourly wage in the baseline among the four groups. This suggests that informal care provision for elderly parents is not driven by only those who have no outside opportunities for working.

While men in couples who both provide informal care are the most likely to work in the baseline year, the average wage among those workers is actually lower than for the men in couples who never provide informal care. This could be an education effect or an age effect – men who eventually provide care with their wives are almost two years younger, on average – or the result of a more complicated selection story, but it is not likely due to differences in work history or average number of work hours per week, which are virtually constant among these groups of men.

The differences in these observable characteristics could cause concern about the estimates because one would want comparable controls. First, we control for these observable differences. Second, if there is something unobservable and non-time-varying about the individuals who do not become caregivers (i.e., a permanent disability) that makes them less likely to provide informal care and less likely to work, then the individual fixed effect would address this issue and the estimates would not be biased.

Main Results.

Women.

Women's Work and Retirement. We present the reduced form and instrumental variables results from the linear probability models of women's labor force participation and retirement in Table 3. Instrumental variables estimation is necessary for caregiving in the work and retirement outcomes models. Despite the different sample restrictions, when we replicate the regression model from Van Houtven et al. (2010) and omit spouse's caregiving behavior, CG_{st} , and spousal

characteristics, X_{st}, we confirm the previous results and find that personal caregiving reduces a woman's probability of working and providing any type of care increases a woman's probability of being retired. Surprisingly, when we add these two sets of spousal factors, these results disappear. Neither providing any care oneself nor any care from one's husband significantly affects a woman's labor force participation or retirement decisions (Table 3). The same is true for personal caregiving provided by the woman or her husband.

Not surprisingly, being able to claim early Social Security benefits (e.g., between 62 and the FRA) and being at the FRA are dominant factors predicting labor force participation and retirement behavior. A woman age 62-FRA has a 6-percentage-point reduction in the likelihood of working for pay, compared to a woman under 62. A woman who is at the FRA has a 7.4-percentage-point reduction in the probability of working compared to those under 62. The age effects get stronger by about one-half a percentage point in the models where we measure caregiving as personal caregiving (e.g., Table 3, Models II and IV).

The spouse's age also has a strong effect on the woman's work decision. For example, having a husband who is between age 62 and FRA reduces the probability of the woman working by between 3 and 3.4 percentage points relative to those with younger husbands. As expected, those in the second or third asset quartile are more likely to work compared to those in the lowest asset quartile and having a child under 18 in the household causes women to be 5 percentage points less likely to work, compared to those households without children under 18.

Being in fair or poor health increases the likelihood of self-reported retirement by 3 percentage points and having a child in the household under 18 similarly increases retirement. Assets do not significantly influence the retirement decision and few spousal factors influence

the woman's retirement decision. The spouse being at EEA or FRA does not influence retirement of the wife.

Women's Wages and Hours of Work per Week. Because exogeneity was not rejected, we present reduced form results only in Table 4. There is no detectable wage penalty for women when considering the caregiving behavior of oneself and one's spouse (Table 4). This is true regardless of how we measure caregiving, either as chore and/or personal care or as personal care. Tenure, as expected, significantly increases the log wage.

Any type of informal care provided by a working woman increases the usual number of hours she works each week by one hour, on average. The opposite effect occurs if the woman's spouse provides any type of informal care – if a spouse provides care, the woman's usual hours per week decrease by 1.2 hours, on average. In households in which both the woman and man are caregiving, we can expect no change in hours worked per week among these women workers. This pattern is not what self-insurance would predict. There are a few competing theories that might explain the pattern, but we cannot differentiate between them due to data limitations. Working women care providers may find work to be a relief from their caregiving burden, as suggested by Carmichael and Charles (2003). It may also be an anticipation effect – that a women providing informal care increases hours now while she can, anticipating future financial burdens of prolonged informal care or formal care needs of the parent. When their husbands are providing the care, perhaps they decrease their hours to take on more home production from their spouse. Interestingly, these results seem to be driven by chore care provision. When we measure caregiving as personal care only, likely signifying a greater commitment to caregiving, there is no change in hours worked per week among working women (Table 4). It is very likely that, in case of a gradual decline into disability, a parent first needs

help with chore care and then later needs more intensive personal care. Thus, it is possible that women make their work adjustments when caregiving demands begin, and that later when they provide personal care, they have already adjusted work, leading to an insignificant effect. Whatever the explanation, the pattern cannot be explained by self-insurance.

Men.

Men's work and retirement. We present reduced form models of labor force outcomes for men because exogeneity of informal care is never rejected for married men. Men providing personal care, that is, help with ADLs, to an elderly parent, are 3.2 percentage points less likely to work compared to men not providing personal care. The wife's caregiving behavior does not significantly affect the man's labor force participation or his likelihood of retiring. Given the relatively inelastic labor supply of men, this is not a surprising finding.

Similar to the results for married women, being at the EEA or FRA significantly reduces the man's chance of working and increases his chance of retirement. These age effects are even stronger for men. Being in fair or poor health reduces the chance of a married man working by nearly 10 percentage points and increases the risk of retirement by around 5 percentage points. Interestingly, the wife's characteristics have no significant impact on the work or retirement decision for married men. The exception is for a spouse being between 62 and the FRA, which makes a man 2.5 percentage points less likely to work ($p<0.10$).

Men's hourly wage and usual hours per week. Caregiving does not significantly change the number of hours married men usually work or the log wage received. Overall, the results show that the only work response that married men seem to have to caregiving is to their own personal caregiving, regardless of what their wife is doing.

Sensitivity Test.

The descriptive statistics highlight the observable differences between couples who never caregive and those who eventually do provide care to an elderly parent. If there is something unobserved and non-time-varying about the individuals who do not become caregivers (i.e., a permanent disability) that makes them less likely to provide informal care and less likely to work, then the individual fixed-effect model would address this issue and the estimates would not be biased. However, because the fixed-effects model is identified off within-person changes, if the non-caregivers have little or no variation in their caregiving and labor market behavior, then this would bias us against finding any result. To help address this concern — that the never-caregiver sample is unobservably less able to caregive or work, perhaps too sick or too old to do either — we ran the analysis on the subsample of couples who ever become caregivers to see if our results are driven by a case of non-comparable controls. However, the results are quantitatively the same, regardless of the sample restriction.

Reconciling the discrepancy of our results with past work on individual caregiving.

It is an important but difficult task to reconcile these findings with the previous work that considers only individual behavior to know whether sample selection, omitted variable bias, multicolinearity between the caregiving variables, or lack of power causes the different estimated effects when we consider the behavior of couples. If we conduct the analysis examining only individual behavior, the labor force participation results are consistent with the prior literature. For example, for women, we found that informal care led to slight reductions in labor force participation of around 2 percentage points (p=0.05) compared to 1.5 percentage points in Van Houtven et al. 2010). This suggests that the sample criteria are not the driving force behind the different results.

The result that women increase their work hours if they are caregiving counters other US studies of caregiving's effect on hours of work (albeit on samples of married and unmarried women) who found that there were either negative effects on hours worked (Ettner 1995; Ettner 1996; Johnson and Lo Sasso 2006; Van Houtven et al. 2010) or no effect on hours worked (Wolf and Soldo 1994). If we complete the analysis without spousal information in the regression, we also find no significant effect of caregiving on married women's work hours. This again suggests that by focusing only on one member of a couple, the previous literature is missing an important component. There was also a discrepancy in wages for men compared to past work. We find that married men providing intensive caregiving still have a wage premium that is similar in magnitude to our past findings (results available upon request) (Van Houtven et al. 2010), but that the effect of intensive caregiving on wage is no longer statistically significant at conventional levels (p=0.155) when one also controls for the wife's caregiving behavior. It may be that a lack of power explains this result, or that single male intensive caregivers may drive the wage premium.

Informal care is provided jointly in many cases. If there is informal care provided by a couple, 40 percent of the time both members of the couple provide care. This level of correlation in caregiving should not be causing multicolinearity problems, but may suggest that focusing on only one member of the couple is problematic. Finally, it may be a lack of statistical power that explains our results in some cases, especially for men. It is rare for men to be intensive caregivers, thus, we may not have found a work effect among intensive male caregivers simply because there was not enough variation in the data.. Further exploration of the patterns and determinants of informal care provision is needed.

7. Conclusion

Providing personal care to elderly parents reduces a married man's chance of working by 3.2 percentage points, but providing such care does not affect a wife's chance of working. A spouse's informal care behavior does not affect the chance of the wife or husband working. Considering the informal care provided by both members of a couple causes very little change in the intensive work margins. In the few models in which caregiving significantly affected work—hours of work for women—the net effect in families in which both the woman and man provided some caregiving led to no reductions in the average numbers of hours women worked, even though there were countervailing changes to a woman's work by her own versus her spouse's caregiving. However, working married women are responsive in their hours of work to caregiving, just not in the direction suggested by a self-insurance motive. Instead, working women increase their hours per week if they provide care and decrease hours if their husbands provide care. The finding of significant effects on hours of work for both the wife's and the husband's caregiving suggests that models that do not consider the caregiving behavior of one's spouse may lead to mis-measurement of the effect of caregiving on work. If both the husband and wife are caregiving, a common scenario observed in the data, she is able to maintain her usual hours of work per week. One possible explanation is that these couples anticipate the need for future long-term care needs by the parent and they adjust their respective caregiving efforts to accommodate each individual's work schedule. Regardless of the explanation, the findings do not suggest self-insurance.

We also find in this paper that the evidence of endogeneity into caregiving differs for men and for women. We control for time invariant individual heterogeneity using individual fixed effects, but even so, there is evidence of remaining endogeneity between work and

caregiving for married women, but not for married men. Furthermore, the instrumental variables that have been empirically strong for models of individual caregiving's effect on work, persist in being strong when applied to an examination of joint caregiving and work, that is, changes in an elderly parent's potential caregiving network (e.g., becomes widowed), a parent's health, and family structure. Thus, considering fixed effects and instrumental variables estimation may be appropriate in other efforts to test for self-insurance in caregiving.

Our approach in this paper suggests that future caregiving and work models need to model work separately by marital status and to include spousal caregiving directly in the model for married individuals. Even among single adult children, future efforts may want to include the additional caregiving provided by others, because it is not clear whether our results arise from the joint household formation and the intra-household bargaining between spouses or whether it is simply the presence of an additional caregiver (even if outside the household) that allows an individual caregiver to maintain his or her work behavior.

Overall, for adult children with elderly parents who are married, there is considerable joint caregiving, and this joint caregiving dampens the negative effect of caregiving on work that has been observed in other studies. Finally, we find little evidence of couples self-insuring.

There are several reasons why we have been unable to measure the effects of an informal care episode on labor force outcomes, even if there are important and significant effects. First, we are not able to measure well in the HRS what other types of care a parent may be receiving or the child may be financing on behalf of the parent (e.g., publicly or privately financed home health care), which may be dampening the effect on work. Second, it is possible that the labor market effects are stronger in the short term. Indeed we are not able to capture short-term dynamics, such as caregiving for a parent's broken hip that requires three months of caregiving

and thus three months of reduced labor supply, because the HRS is collected every two years with recall periods on work being in the past two years. We may be missing the short-spells altogether or missing the work adjustments that occur. Third, given the prevalence of caregiving around the Social Security eligibility ages, and the importance of Social Security eligibility age indicators in our models, it is also difficult to disentangle the two effects—the need to accommodate caregiving demands with the incentive to reduce work or retire offered at the partial and full retirement ages.

Table A1. Strength of the Instruments for Women and Men for each labor force outcome (Work decision; retirement decision; hours of work and wages)

		Women				Men			
Caregiving Definition	**Instrument Set**	**Work Decision**	**Retirement Decision**	**Hours**	**Wage**	**Work Decision**	**Retirement Decision**	**Hours**	**Wage**
Any Care	1	X	Reject exogeneity (1%)	X	X	X	X	X	X
	2	X	Reject exogeneity (5%	Reject over-ID (10%)	X	X	X	X	X
	3	X	Reject exogeneity (1%)	Reject over-ID (10%)	X	X	X	X	X
	4	X	Reject exogeneity (5%)	Reject over-ID (5%)	X	X	X	X	X
Personal Care	1	X	X	X	X	X	X	X	X
	2	Reject exogeneity (10%)	X	Reject over-ID (10%)	Weak	X	X	X	X
	3	X	X	X	X	X	X	X	X
	4	Reject exogeneity (5%)	Reject exogeneity (10%)	Reject over-ID (10%)	X	X	X	X	X

Note: 'X' indicates F-stats from first stage are greater than 10, we do not reject the over-identification test and we do not reject exogeneity.

We also explored chore caregiving and intensive caregiving. Because we were unable to find a set of instruments that were empirically strong and valid, we limit the analysis to any caregiving (chore or personal care) and personal caregiving (help with ADLs).

Instrument Sets:
1: Indicator for Parent or In-law Has ADL Needs, Indicator for Parent or In-law Cannot be Left Alone, Indicators for Mother, Father, Mother-in-law, and Father- in-law Died, Indicators for Mother Became Widowed and Mother-in-law Became Widowed.
2: Indicators for Mother, Father, Mother-in-law, and Father-in-law Died, Indicators for Mother Became Widowed and Mother-in-law Became Widowed
3: Indicator for Parent or In-law Has ADL Needs, Indicator for Parent or In-law Cannot be Left Alone, Indicators for Mother, Father, Mother-in-law, and Father- in-law Died, Indicator for a Parent or In-law Became Widowed
4: Indicators for Mother, Father, Mother-in-law, and Father-in-law Died, Indicator for a Parent or In-law Became Widowed

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Table 1. Sample Selection

	LFP Estimation	
	Women	**Men**
Person-wave observations (1992-2008)	50,883	40,765
Married or partnered in current survey wave	33,571	33,587
Married or partnered for at least 2 years	32,684	32,726
Parent or in-law alive in current or last two survey waves	20,024	20,015
Between 45 and 70 years old	18,527	17,830
Spouse between 45 and 70 years old	16,828	16,811
Information for both members of the couple available in current wave	16,672	16,672
Drop 1992 wave (no chore care question asked)	13,662	13,662
Unique individuals	3,424	3,411

Note: This sample size is for the any caregiving specification that predicts labor force participation. When we use the personal caregiver indicator we gain observations since we can also estimate on the 1992 wave. Sample size for each specific model is listed in the subsequent results tables for women and men.

Table 2. Characteristics of sample measured the first time they are observed, by caregiving status of the couple

	Women				Men			
	Neither	**Wife Only**	**Husband Only**	**Both**	**Neither**	**Wife Only**	**Husband Only**	**Both**
Working for pay	0.576	0.602	0.614	0.656	0.665	0.653	0.730	0.752
Hours of work /week (among workers)	36.451	35.116	35.594	36.724	43.651	44.714	42.528	44.159
Hourly wage	16.940	16.576	17.652	20.027	30.502	25.635	28.250	28.372
Age								
Average Age	55.421	55.283	55.883	54.067	59.484	59.570	58.419	57.734
Non-white	0.186	0.172	0.145	0.114	0.181	0.173	0.162	0.119
Education								
Less than high school	0.288	0.234	0.190	0.152	0.349	0.299	0.182	0.193
High school	0.368	0.433	0.411	0.414	0.291	0.302	0.277	0.341
Some years of college	0.203	0.169	0.221	0.245	0.150	0.192	0.223	0.218
College graduate	0.141	0.164	0.177	0.188	0.210	0.207	0.317	0.248
Has a child under 18	0.156	0.121	0.120	0.144	0.157	0.131	0.108	0.143
Self-Rated Health								
Excellent or very good	0.510	0.508	0.557	0.585	0.451	0.457	0.649	0.543
Good	0.284	0.306	0.272	0.269	0.306	0.312	0.230	0.298
Fair or poor	0.207	0.185	0.171	0.146	0.243	0.231	0.122	0.158
Years of work experience	21.293	22.874	23.880	23.416	36.094	37.307	36.338	37.106
Home owner	0.851	0.887	0.911	0.918	0.849	0.879	0.905	0.921
Percent of the sample	43.6	10.8	4.6	40.9	43.4	11.1	4.3	41.0
Observations	1,495	372	158	1,399	1,482	381	148	1,400

Table 3. The effect of caregiving on married women's labor force participation and retirement.

	LFP				Retirement			
	I		II		III		IV	
	Reduced Form	Instrumental Variables	Reduced Form	Instrumental Variables	Reduced Form	Instrumental Variables	Reduced Form	Instrumental Variables
Caregiver (any type)	-0.0096	-0.0648			0.0014	0.0206		
	(0.0115)	(0.1073)			(0.0127)	(0.1196)		
Spouse caregiver (any type)	0.0090	0.1160			0.0135	-0.1569		
	(0.0122)	(0.1299)			(0.0129)	(0.1441)		
Personal caregiver			-0.0135	-0.2810			0.0009	0.1000
			(0.0152)	(0.2320)			(0.0162)	(0.2708)
Spouse personal caregiver			-0.0117	0.5260			-0.0085	-0.3620
			(0.0170)	(0.3397)			(0.0182)	(0.4014)
Age	0.0032	0.0019	0.0191	0.0251	-0.1241***	-0.1178***	-0.1246***	-0.1260***
	(0.0319)	(0.0320)	(0.0279)	(0.0297)	(0.0332)	(0.0339)	(0.0279)	(0.0298)
Age squared	-0.0002	-0.0002	-0.0002	-0.0002	0.0005**	0.0005**	0.0005***	0.0005***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Between 62 and full retirement age	-0.0615***	-0.0618***	-0.0649***	-0.0616***	0.1024***	0.1016***	0.1123***	0.1096***
	(0.0141)	(0.0143)	(0.0133)	(0.0142)	(0.0170)	(0.0173)	(0.0158)	(0.0165)
Indicator for full retirement	-0.0737***	-0.0727***	-0.0780***	-0.0767***	0.1187***	0.1151***	0.1246***	0.1240***

age								
	(0.0255)	(0.0257)	(0.0246)	(0.0257)	(0.0300)	(0.0305)	(0.0280)	(0.0286)
Experience	0.0136***	0.0138***	0.0111***	0.0117***	0.0144***	0.0145***	0.0124***	0.0121***
	(0.0025)	(0.0026)	(0.0021)	(0.0022)	(0.0029)	(0.0030)	(0.0024)	(0.0025)
Child under 18	-0.0510**	-0.0518**	-0.0571***	-0.0584***	0.0245	0.0261	0.0260*	0.0286*
	(0.0209)	(0.0211)	(0.0172)	(0.0175)	(0.0196)	(0.0204)	(0.0153)	(0.0157)
Good self-reported health	-0.0141	-0.0142	-0.0036	-0.0014	0.0072	0.0055	0.0053	0.0032
	(0.0102)	(0.0104)	(0.0092)	(0.0096)	(0.0110)	(0.0112)	(0.0093)	(0.0096)
Fair/poor self-reported health	-0.0852***	-0.0860***	-0.0813***	-0.0811***	0.0264	0.0257	0.0315**	0.0323**
	(0.0162)	(0.0162)	(0.0146)	(0.0150)	(0.0170)	(0.0173)	(0.0147)	(0.0149)
Home owner	0.0050	0.0039	0.0170	0.0168	-0.0220	-0.0212	-0.0258	-0.0253
	(0.0248)	(0.0250)	(0.0212)	(0.0217)	(0.0251)	(0.0258)	(0.0209)	(0.0210)
2nd asset quartile	0.0316**	0.0324**	0.0324***	0.0334***	-0.0101	-0.0121	-0.0118	-0.0141
	(0.0143)	(0.0144)	(0.0125)	(0.0129)	(0.0150)	(0.0152)	(0.0127)	(0.0129)
3rd asset quartile	0.0343*	0.0359**	0.0267*	0.0315**	-0.0145	-0.0174	-0.0126	-0.0171
	(0.0176)	(0.0177)	(0.0152)	(0.0158)	(0.0176)	(0.0179)	(0.0147)	(0.0152)
4th asset quartile	0.0282	0.0289	0.0218	0.0248	0.0056	0.0036	0.0029	-0.0008
	(0.0201)	(0.0202)	(0.0174)	(0.0182)	(0.0200)	(0.0201)	(0.0171)	(0.0176)
Spouse age	-0.0524*	-0.0523*	-0.0310	-0.0338	0.0600**	0.0609*	0.0178	0.0182
	(0.0281)	(0.0280)	(0.0242)	(0.0250)	(0.0301)	(0.0311)	(0.0253)	(0.0261)
Spouse age squared	0.0004**	0.0004**	0.0003*	0.0003*	-0.0005**	-0.0005**	-0.0001	-0.0002
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0002)	(0.0002)
Spouse between 62 and full retirement age	-0.0344***	-0.0333***	-0.0327***	-0.0282**	0.0086	0.0067	0.0154	0.0117

	(0.0119)	(0.0120)	(0.0109)	(0.0117)	(0.0139)	(0.0142)	(0.0127)	(0.0134)
Indicator for spouse at full retirement age	-0.0639***	-0.0636***	-0.0559***	-0.0543***	0.0331	0.0326	0.0309	0.0283
	(0.0193)	(0.0194)	(0.0185)	(0.0193)	(0.0229)	(0.0232)	(0.0215)	(0.0218)
Spouse experience	0.0071**	0.0073**	0.0076***	0.0075***	-0.0042	-0.0045	-0.0039	-0.0038
	(0.0031)	(0.0031)	(0.0027)	(0.0028)	(0.0031)	(0.0032)	(0.0026)	(0.0027)
Spouse good self-reported health	0.0042	0.0049	0.0085	0.0061	0.0043	0.0026	-0.0068	-0.0047
	(0.0093)	(0.0094)	(0.0084)	(0.0088)	(0.0105)	(0.0107)	(0.0090)	(0.0095)
Spouse fair/poor self-reported health	0.0039	0.0041	0.0073	0.0086	0.0117	0.0115	-0.0031	-0.0034
	(0.0134)	(0.0134)	(0.0118)	(0.0125)	(0.0143)	(0.0146)	(0.0129)	(0.0132)
Observations	13662	13223	16672	16279	13321	12871	16248	15853
Number of individuals	3424	2985	3680	3287	3385	2935	3628	3233
R-squared	0.13	0.12	0.13	0.05	0.16	0.13	0.17	0.14

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Instrument sets used: Model I (IV for any care in LFP): Instrument set 3; Model II (IV for personal care in LFP): Instrument set 2; Model III (IV for any care in retirement): Instrument set 3; Model IV (IV for personal care in retirement): Instrument set 4.

Table 4. Effect of informal care on married women's log wage and work hours

	Log Wage		Work Hours	
	I	II	III	IV
Caregiver (any type)	-0.0289		1.0082**	
	(0.0260)		(0.4800)	
Spouse caregiver (any type)	0.0013		-1.2128**	
	(0.0263)		(0.5002)	
Personal caregiver		-0.0125		0.5851
		(0.0335)		(0.6548)
Spouse personal caregiver		0.0107		-0.9448
		(0.0398)		(0.7160)
Good self-reported health	0.0151	0.0073	-0.2283	0.0001
	(0.0204)	(0.0176)	(0.3902)	(0.3444)
Fair/poor self-reported health	0.0648	0.0435	-0.5296	-0.3023
	(0.0404)	(0.0334)	(0.6430)	(0.5934)
Experience	0.0153	0.0143	0.9669*	1.2116***
	(0.0350)	(0.0297)	(0.5430)	(0.4425)
Experience squared	-0.0002	-0.0003***		
	(0.0001)	(0.0001)		
Tenure	0.0200***	0.0210***		
	(0.0050)	(0.0041)		
Tenure squared	-0.0002	-0.0003*		
	(0.0002)	(0.0002)		
Salaried	0.0318	0.0334		
	(0.0276)	(0.0253)		
Age			4.3682***	4.1603***
			(1.2875)	(1.1309)
Age squared			-0.0300***	-0.0243***
			(0.0082)	(0.0071)
Between 62 and FRA			-1.0485	-1.2931**
			(0.6663)	(0.6049)
Indicator for FRA			-1.9715	-2.3722**
			(1.1982)	(1.1219)
Child under 18			-1.0012	-1.1791*
			(0.7455)	(0.6276)
Home owner			1.3263	1.4252
			(0.9815)	(0.8787)
2^{nd} asset quartile			0.6502	0.0301
			(0.4965)	(0.4257)
3^{rd} asset quartile			1.0812*	0.1396
			(0.5813)	(0.5028)
4^{th} asset quartile			0.4342	-0.4506
			(0.7084)	(0.6258)
Spouse age			0.5338	0.4442
			(1.1383)	(1.0020)

Spouse age squared			-0.0021	-0.0055
			(0.0089)	(0.0079)
Spouse between 62			-0.3306	-0.3044
and FRA			(0.4724)	(0.4407)
Indicator for spouse at			0.4467	0.8624
FRA			(0.8161)	(0.7820)
Spouse experience			-0.0100	-0.0322
			(0.1360)	(0.1095)
Spouse good self-			-0.1432	-0.5134
reported health			(0.4080)	(0.3451)
Spouse fair/poor self-			-0.4246	-0.2586
reported health			(0.5494)	(0.4833)
Observations	6350	8058	7289	9183
Number of	2167	2504	2330	2651
individuals				
R-squared	0.04	0.03	0.07	0.07

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5. The effect of caregiving on married men's labor force participation, retirement, log wage and work hours.

	LFP		Retirement		Log Wage		Work Hours	
	I	II	III	IV	V	VI	VII	VIII
Caregiver (any type)	-0.0064		-0.0030		0.0076		0.1808	
	(0.0114)		(0.0296)		(0.0133)		(0.5218)	
Spouse caregiver (any type)	-0.0042		0.0145		0.0117		0.0458	
	(0.0109)		(0.0301)		(0.0130)		(0.5059)	
Personal caregiver		-0.0320**		-0.0171		0.0251		-0.5586
		(0.0161)		(0.0489)		(0.0177)		(0.7641)
Spouse personal caregiver		0.0112		0.0378		-0.0171		0.4245
		(0.0139)		(0.0387)		(0.0158)		(0.5812)
Age	-0.0482	-0.0437			-0.0719*	-0.0967***	5.9650***	5.0560***
	(0.0331)	(0.0283)			(0.0387)	(0.0321)	(1.4833)	(1.2760)
Age squared	0.0003	0.0002			0.0001	0.0004**	-0.0437***	-0.0490***
	(0.0002)	(0.0002)			(0.0002)	(0.0002)	(0.0097)	(0.0085)
Between 62 and full retirement age	-0.0961***	-0.1014***			0.1456***	0.1573***	-1.8654***	-1.8890***
	(0.0128)	(0.0119)			(0.0148)	(0.0135)	(0.5296)	(0.5041)
Indicator for full retirement age	-0.1128***	-0.1137***			0.1717***	0.1819***	-2.6127***	-2.7451***
	(0.0201)	(0.0191)			(0.0228)	(0.0213)	(0.9668)	(0.9183)
Experience	0.0412***	0.0427***	0.0934***	0.1127***	0.0025	0.0014	1.6193***	1.4337***
	(0.0032)	(0.0029)	(0.0243)	(0.0197)	(0.0035)	(0.0031)	(0.4868)	(0.4001)
Child under 18	0.0022	0.0083			-0.0017	0.0062	-0.8260	-0.9291

	(0.0209)	(0.0164)			(0.0234)	(0.0184)	(0.8129)	(0.6329)
Good self-reported health	-0.0142	-0.0086	-0.0149	-0.0030	0.0112	0.0092	-0.5316	-0.3332
	(0.0097)	(0.0085)	(0.0188)	(0.0156)	(0.0108)	(0.0095)	(0.3887)	(0.3388)
Fair/poor self-reported health	-0.0996***	-0.0988***	0.0066	0.0205	0.0591***	0.0512***	-1.0673*	-0.9998*
	(0.0146)	(0.0134)	(0.0286)	(0.0247)	(0.0154)	(0.0140)	(0.6403)	(0.5526)
Home owner	0.0158	0.0064			0.0060	0.0037	0.7584	0.7597
	(0.0237)	(0.0207)			(0.0278)	(0.0234)	(0.9421)	(0.7896)
2nd asset quartile	0.0502***	0.0381***			0.0024	-0.0063	1.7408***	1.3316***
	(0.0135)	(0.0121)			(0.0164)	(0.0140)	(0.5075)	(0.4456)
3rd asset quartile	0.0338**	0.0152			0.0103	0.0055	1.9781***	1.6938***
	(0.0172)	(0.0151)			(0.0199)	(0.0169)	(0.6228)	(0.5360)
4th asset quartile	0.0059	-0.0101			0.0566**	0.0494**	2.2925***	1.8621***
	(0.0196)	(0.0173)			(0.0228)	(0.0197)	(0.7782)	(0.6657)
Spouse age	-0.0130	-0.0028			0.0356	0.0302	-0.1359	-0.4486
	(0.0240)	(0.0204)			(0.0260)	(0.0223)	(1.0105)	(0.8480)
Spouse age squared	0.0000	-0.0000			-0.0002	-0.0002	-0.0045	-0.0004
	(0.0002)	(0.0002)			(0.0002)	(0.0002)	(0.0086)	(0.0075)
Spouse between 62 and full retirement age	-0.0251*	-0.0233*			0.0150	0.0111	0.1562	-0.2940
	(0.0144)	(0.0135)			(0.0165)	(0.0154)	(0.6542)	(0.6299)
Indicator for spouse at full retirement age	-0.0183	-0.0138			0.0343	0.0251	-0.2148	-0.7869
	(0.0257)	(0.0244)			(0.0297)	(0.0281)	(1.2240)	(1.1388)
Spouse experience	0.0023	0.0016			0.0019	-0.0000	0.1044	0.0749
	(0.0026)	(0.0021)			(0.0027)	(0.0023)	(0.1322)	(0.1004)

Spouse good self-reported health	0.0052	0.0090			0.0119	0.0087	0.1363	0.0931
	(0.0103)	(0.0090)			(0.0114)	(0.0101)	(0.4275)	(0.3641)
Spouse fair/poor self-reported health	0.0140	0.0065			0.0123	0.0108	0.2085	0.2654
	(0.0151)	(0.0132)			(0.0174)	(0.0155)	(0.6283)	(0.5290)
Experience squared			-0.0003	-0.0003**				
			(0.0002)	(0.0002)				
Tenure			0.0212***	0.0225***				
			(0.0043)	(0.0036)				
Tenure squared			-0.0002*	-0.0003**				
			(0.0001)	(0.0001)				
Salaried			0.0019	0.0228				
			(0.0435)	(0.0374)				
Observations	13662	16672	7161	9141	12125	14850	8386	10680
Number of individuals	3411	3662	2362	2733	3212	3472	2546	2922
R-squared	0.21	0.23	0.04	0.05	0.26	0.28	0.14	0.14

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

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