Caregiving and Work:
The Relationship between Labor Market Attachment and Parental Caregiving*

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January 10, 2017

Preliminary and Incomplete.
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* We gratefully acknowledge financial assistance from the Social Security Administration grant R-UM-16-07 through the University of Michigan Retirement Research Center and the Alfred P. Sloan Foundation through grant number G-2015-14131.

Abstract

There has been much concern over the provision of long-term care and the stresses it imposes on the family members who provide that care. However, despite the importance of this issue, it has been difficult to assess a causal relationship between caregiving and work. A chief concern is that those with weaker attachments to the labor force may be more willing to provide care—inducing a negative correlation when caregiving itself does not negative affect employment. In this study we draw on 20 years of data from the Health and Retirement Study to examine anew the relationship between parental caregiving and work. We use two alternative identification strategies: First, we exploit the multiple observations per person existing in our data to estimate a fixed effects model for the relationship between caregiving and work. Second, we use unique data from the Social Security Administration on earnings histories to control for a woman's labor market behavior long before the potential need to provide care. We find evidence that caregivers have at least a strong, and by some measures a stronger, relationship to the labor market than non-caregivers. Rather than labor force attachment, the provision of care appears to be driven primarily by parental need and by the availability of alternative caregivers, particularly sisters. However, we also find that caregiving has negative long-term effects on employment and earnings and can thus be detrimental to the financial well-being of caregivers.

Introduction

The aging U.S. population brings with it a growing need for long-term care. This trend is exacerbated by increasing longevity; as individuals live longer, they face heightened risks of developing dementia and other disabilities that require long-term care. The cost of this care is staggering. Nursing home care averages approximately $90,000 per year, and around the clock homecare can cost even more. Because neither Medicare nor supplemental Medicare health insurance (Medigap) pays for this care, the financial costs to families can be enormous. Although insurance products covering long-term care do exist, few Americans have such policies. As a result, the vast majority of long-term care is provided informally by family members, typically daughters. This care too is costly, with estimates suggesting that the value of informal care vastly exceeds that of formal care.

As the country ages, the burden of this care—on both a micro level and macro level--will continue to increase. For the perspective of the caregiver, this burden is measured in terms of the emotional stress and physical tasks borne by the caregiver, as well as the opportunity cost of the caregiver's time. Time spent caregiving may come at the expense of time in the labor force, the ability to invest in a career and experience wage growth, and the risk of reduced or lost retirement benefits. These labor market outcomes may lead the caregivers themselves to be far less prepared to finance their own retirement, and thus more dependent on familial and public support than they would have been absent such caregiving experience. Given the dominance of daughters in caregiving roles, such costs may well portend continued elevated poverty risks among elderly widows.[1]

Key to understanding this potentially growing risk is understanding the relationship between work and caregiving. While simple descriptive statistics suggest that caregivers are less likely to work, causality has been difficult to infer. Women who need to provide care may leave the labor market to provide this care or even in anticipation of providing care. Conversely, given a distribution of attachments to the labor market, caregivers may be drawn from those with weaker attachment, lower wages, and spotty employment. If this latter hypothesis is true, then the cost of

[1] Recent estimates suggest that 60 percent of caregivers are women (AARP and NAC, 2015). With our sample from the Health and Retirement Study, we estimate that 46 percent of women will provide care at some point to a parent or parent-in-law.

caregiving would be expected to be less than if women with strong labor market attachments and a high opportunity cost of their time forego employment to care for a parent.[2]

The broader macroeconomic effects of caregiving also depend on the degree to which caregiving results in the loss of skilled workers from the formal sector; the more skilled the workers who provide care, and the more attached they are to the labor market, the more costly to the economy is any time off for caregiving. In contrast to this potential loss, one could also imagine that if caregivers are drawn from among those who would not otherwise be participating in the labor market, the use of informal care may thus free up potential paid caregivers to do other work, perhaps work requiring more medical or health care training. Again, the central question is the degree of labor market attachment of those who provide care. Understanding the decisions regarding the provision of care to family members can help to ensure that resources are allocated efficiently.

In this paper we take advantage of nearly 20 years of data from the Health and Retirement Study (HRS) to assess the relationship between caregiving and labor force outcomes for older women. We focus on caregiving for a parent as caregiving for a spouse typically does not occur until ages at which women who were working have already retired. Similarly, we focus on women because they provide the vast majority of care.

Obtaining an exogenous measure of attachment to the labor force has been a stumbling block for much past work on this topic. Here we take advantage of restricted data to provide what is arguably a measure of labor force participation that is less affected by the need to provide parental care. Specifically, we use data from Social Security records that provides us with information about employment over the woman's life course. We are thus able to test whether employment at various stages of life, and thus labor force attachment prior to care, is predictive of later caregiving. For example, one might well imagine that women who leave the labor market at younger ages to provide care to children have a less strong attachment later in life. This may be because they have chosen careers that allow for more flexibility or because they have a strong taste for caregiving.

[2] Note that while spousal caregivers are also predominately female, care for a spouse is typically provided at older ages when it is less likely to affect work, although it is still likely to cause substantial emotional and physical stress as well as a financial burden.

We focus our study on women who are observed in the original HRS survey and followed for approximately 20 years (or 10 waves)—from 1992 to 2010. We further limit our sample to women with living parents or parents-in-law in the first interview and who are not providing care at that first measure. While almost 50 percent of our sample is observed to provide care for a parent or parent-in-law during the sample period, we find no evidence that caregivers are negatively selected from those with lower opportunity cost of time. If anything, caregivers have slightly higher levels of schooling, greater earnings, and more work experience. Despite this finding, caregiving is negatively related to work, and that the result is stronger when controlling for past work history, again consistent with the notion that caregivers are positively selected. This positive selection suggests that the "costs" of caregiving are potentially even larger than if caregivers were randomly selected from the population at risk. From a policy standpoint, the provision of alternatives to family care could be productivity enhancing. We also find weak evidence that caregiving has long-term effects on the earnings of caregivers and on the likelihood of full-time work even after they are no longer providing care. This long-term effect means that the costs of caregiving are likely to be far larger than cross-sectional estimates would indicate.

Our paper is organized as follows. The first section provides some background information on the role of informal care in the United States, and Section 2 describes our data in detail. In Section 3, we provide an analysis of who in the sample provides care, and section 4 examines the cost of providing care in terms of employment and earnings. A final section concludes.

I. Background

The need for long term care is already pervasive, and the demand is expected to increase sharply with the aging of the population. It is estimated that 69 percent of elderly individuals will need help with the Activities of Daily Living (ADLs) at some point.[3] Of these, one-fifth will require sustained assistance over a period of five or more years (Kemper et al., 2006). For the vast majority of individuals, this care will come from family members, primarily from daughters and wives. Among those in the community receiving help with ADLs, 66 percent receive help exclusively from family members, 26 percent receive assistance from both family (informal) and paid (formal)

[3] The activities of daily living (ADLs) include basic tasks such as bathing, eating, dressing, and toileting.

care providers, and just 9 percent rely only on formal care (Doty, 2010).[4] This reliance on informal care means that family members shoulder much of the burden. According to estimates from the AARP Public Policy Institute, in 2009, 42.1 million individuals provided care at any given point in 2009, while a significantly greater number—61.6 million—provided care at some point over the course of the year (O'Shaughnessy, 2014), indicating that a large fraction of this care may be temporary.

The economic value of this care is immense. Reinhard, Houser, and Choula (2011) estimate that the value of informal care in 2009 exceeded $506 billion in 2016 dollars. This figure is more than twice the estimated value of formal care and is equivalent to approximately 19 percent of national health care expenditures (O'Shaughnessy, 2014).[5] Arno, Levine and Memmott (1999) provide a much smaller, although still substantial, estimate of the value of informal care in 1997 at $295 billion (in 2016 dollars). Thus, while there is great concern about the level and growth of health care expenditure in the United States, in ignoring the economic value of informal care, our official statistics are missing an important component of the true cost, and thus underestimating the economic impact of health care costs for the elderly.

However, as the differences in the costs as predicted by the two studies illustrates, these estimates are crude at best. We do not know what caregivers would be doing were they not providing care; that is, we do not know the opportunity cost of their time. Whether caregivers are leaving highly paid jobs, cutting back on hours at these jobs, or simply foregoing leisure, has important implications for estimates of the true cost of informal care. Furthermore, because these imputations are calculated by simply multiplying the hours of care provided by an hourly wage, we also likely underestimate the true economic cost borne by the caregivers if there are long-term impacts of caregiving on wages or employment that extend beyond the period of care. Finally, although difficult to evaluate, there is no estimate of the psychic cost. Note, however, that this psychic cost could be either positive of negative as one might get great satisfaction from caring for a loved-one.[6]

[4] While some individuals prefer care from family members, a similar fraction would prefer professional care (Brown, et al., 2012).

[5] According to the National Health Policy Forum (O'Shaughnessy, 2014), Americans spent $219 billion on paid long-term care for the elderly in 2012. In that year, this expenditure represented 9.3 percent of all U.S. personal health care spending. The value of informal care is not included in these figures.

[6] Amirkhanyan and Wolf (2006) find that non-caregiving children of infirmed parents report more depressive symptoms than children who are providing care as measured by CES-D scores.

Prior studies point to a reduction in hours worked associated with caregiving, The National Association of Insurance Companies / American Council of Life Insurers reports that 10 percent of caregivers cut back on hours worked because of the demands of caregiving. In addition, an estimated 6 percent of caregivers left paid work entirely, again losing benefits as well as likely taking a hit to wages should they return to the labor force after a spell of caregiving. Seventeen percent of caregivers took a leave of absence. These reductions in work would likely affects benefits like health insurance and / or a decline in wage growth as well as earnings and potentially future earnings as those busy with caregiving may have reduced probabilities of promotions. Finally, 4 percent turn down promotions, directly reducing wage growth in the near term and perhaps future opportunities for promotions as well. This latter figure is suggestive of a broader phenomenon in which caregivers invest less intensively in a job because of other responsibilities. They may do so in less obvious ways than by turning down promotions, such as by not volunteering for important / high visibility assignments, not putting in overtime to ensure that projects are done in a timely manner, or simply not accepting extra responsibility in the anticipation of greater wage increases in the future.

Complete departures from the labor force are relatively easily documented, and many researchers have examined labor market responses on this extensive margin (Ettner, 1996; Heitmueller, 2007; Lo Sasso 2006; Bolin et al., 2008; Carmichael, et al, 2010; Van Houtven et al. 2013). It is far more difficult to measure a reduction in effort on the job, or even often a reduction in hours. When examining both the intensive and extensive margin jointly, Johnson and Lo Sasso (2006) find that those women who provide care to an elderly parent reduce hours of work by approximately 40 percent.

II. Data

Our data come from the Health and Retirement Study (HRS). The HRS is a panel study that is approximately representative of the United States population ages 51 or older and their spouses or partners. The original cohort consists of those individuals born in 1931-1941 who were first interviewed in 1992 and have been interviewed biennially thereafter. In 1998, three additional cohorts consisting of older and younger groups were added to the study to make the sample approximately representative of the target population. Refresher cohorts were added in 2004 and

2010 to fill in the population ages 51-56 as respondents aged out of that bracket. The survey continues to interview all respondents biennially, until they die.

We focus our study on women who are the primary caregivers. Because we wish to observe potential caregivers over as long a window as possible, we limit our attention to those who were interviewed in 1992 and followed through 2010,[7] and in order to assess the change in labor force participation surrounding the onset of caregiving, we restrict our sample to those who were not initially providing care but who have at least one living parent or parent-in-law.[8] With these restrictions our sample consists of 1,557 women and 15,557 person years of observations.

Our central variable of interest is a measure of whether the respondent provided care. Caregiving in our sample is defined as an affirmative response to the question:

Did you (or your husband / wife / partner) spend a total of 100 or more hours (since the previous wave / in the last two years) helping your (parents / mother / father) with basic personal activities like dressing, eating and bathing?

While the question asks about total care for the respondent-couple, follow-up questions allow us to identify the hours provided by each individual. The 1992 and 1994 interviews asked about assistance provided over the previous 12 months while later interviews asked about care in the time between waves or the previous two years. There is no clear way to correct for the difference in the length of time so we simply ignore this inconsistency.[9] In addition, in all interview waves except 1994, respondents were asked to report any caregiving that exceeded a total of 100 hours over the period. In 1994, the cut-off point was 50 hours. We "force" a 100 hour minimum by setting to zero any report of 99 or fewer hours.

III. Who are the Caregivers

[7] We include spouses / partners of age-eligible respondents even if they are outside of the 51-61 age range. Because those outside this range have zero individual weight, we use household weights in all weighted analyses.

[8] In 1992, respondents were first asked if they had a living parent, if so, they were asked about caregiving to parents and / or parents-in-law. If there was no living parent, the questions about caregiving were not asked. Because we selected on having parents or parents-in-law and NOT providing care, we currently have a sample that consists of those with living parents. We will rectify this situation in our revision, selecting on living parents or parents-in-law and NOT caregiving in the second wave of the survey.

[9] The median time between interviews is two years, so the questions generally refer to caregiving over a period of approximately two years.

Descriptive Analysis: The means of a set of demographic and economic variables for our sample are presented in Table 1. Using one observation per individual, we show the means and standard errors for the sample as a whole and separately for those women who ever provided care during the sample period and those who did not. Approximately one-half (46 percent) of our sample provides care at some point after 1992. The average age of our respondents is 52.2, 78 percent is married, they average 12.6 years of schooling and 3.34 children. Just 16 percent of the sample is non-white. The average household income is over $80,000. The average years of labor market experiences is 22.5 and the average tenure on the longest job is just over 12 years. Our respondents average approximately 3 siblings (1.5 sisters) and 3 siblings-in-law (1.5 sisters-in-law).

Comparing those who provide care with those who do not, the results cast doubt on the hypothesis that caregivers have a weaker attachment to the labor market. Caregivers have slightly more years of schooling, are more likely to be employed, and have higher earnings conditional on employment (all at the 5 or 10 percent level). They also have significantly more experience (at a 1 percent level) and more tenure on the longest job (at a 5 percent level). However, we do see expected differences in the "risk" of providing care. Caregivers have more living parents and parents-in-law, they have fewer siblings and fewer sisters to provide an alternative source of care. Interestingly, there are no significant differences in alternative caregivers on the in-law side (siblings-in-law or sisters-in-law). A simple table of means is obviously not the end of the story, so a careful econometric analysis is still necessary. Yet from this first glance, it appears that the strongest predictors of providing are from the risk exposure point of view rather than because the caregivers are "available" to provide care in terms of having a lower opportunity cost of time.

Perhaps our best measure of labor force attachment is comes from the Social Security records. Here we see that caregivers average 37.9 quarters of coverage between ages 25 and 44, compared to 34.4 for non-caregivers (the difference is significant at the 5 percent level), again evidence that caregivers are not selected from among those with weaker attachment. We can also look at covered earnings for the same period of time. Conditional on having positive earnings, caregivers average $5,110 per quarter while non-caregivers average $4,800 (difference significant at the 10 percent level). As a consequence of their higher labor force attachment in their prime working years, caregivers can also expect greater Social Security benefits (a higher principal

insurance amount) if they claim at the normal retirement age.[10] These results are not sensitive to the 25 to 44 age window: we find the same pattern when we shrink the window to cover ages 25 to 34 or broaden it to include ages 25 to 64.

Figures 1a and 1b provide more detail on caregiving. Figure 1a shows the fraction of the sample that reports caregiving at each interview. (Recall that none of the respondents is providing care at the first interview.) The most likely interview for caregiving is 1998, with 13 percent reporting caregiving in this wave. Only 5 percent of the sample reported caregiving in 1994, suggesting that for the majority of individuals in our sample, work behavior in 1992 is far removed from any caregiving responsibilities. Figure 1b shows reported hours of caregiving by wave, both for the entire sample (blue bars) and conditional on providing care (red bars). Again, 1998 shows the greatest number of hours of care at 105 and very few hours of care reported prior to that time. However, care is most intensively provided in 2002 with a conditional mean of 1086 hours.

Figures 2a and 2b, again illustrating caregiving by wave, show the cumulative probability of caregiving and the mean cumulative hours of care. By the end of the survey (2010), 46 percent of the sample has reportedly provided care to an elderly parent or parent-in-law and the mean cumulative hours of care is 672 hours. Conditional on providing care, the mean number of hours is 1456. Mean hourly earnings in our sample is approximately $19; at this rate, the 672 hours represent a value of $12,768.

Table 2 provides some more detail on the amount of care provided for those providing some amount of care. Conditional on providing care, the mean number of hours over the 10 survey waves is 1451. This number is large on its own, but is particularly impressive in that the average number of interviews at which individuals report care is less than two. The median number of hours is substantially smaller at 550, though note that this is equivalent to a full-time (40 hours a week) job for one-quarter of a year. (However, an unfortunate limitation of the data is that we have no way of knowing how these hours were distributed throughout the interval between interviews.) The vast majority of this care (1451 hours) is provided to the respondent's own parents with only a small amount (116 hours) provided to parents-in-law.

The extraordinarily large difference between the amount of care to own parents and that to parents-in-law suggests that there might be a different mechanism driving the two types of care.

[10] The expected PIA figures are taken from the restricted version of the Prospective Social Security Wealth Measures of Pre-retirees data. See Kapinos et al., 2016, for a discussion of how these variables are derived.

Table 3 shows the means of a subset of variables from Table 1, separately for those providing care to a parent and those providing care to a parent-in-law, alongside those not providing any care. (Individuals who provide care to both are included in each subsample.) The asterisks indicate whether the values in each of the types of caregiving columns are significantly different from the "no care" group. As seen initially, for those providing care to a parent, there does not appear to be negative selection on labor market behavior—caregivers have more schooling, more work experience and higher earnings (conditional on working) than do non-caregivers. This pattern does not hold when looking at caregivers for parents-in-law: these women do not have significantly more years of schooling than non-caregivers, and they actually have fewer years of experience and lower earnings conditional on working, than do non-caregivers. Social Security earnings and employment figures reveal the same pattern. While those who care for their own parent have, on average, more covered quarters of employment and greater quarterly Social Security earnings than non-caregivers, we find that those caring for a parent-in-law are not statistically distinguishable from the non-caregiver population along these dimensions.

Yet despite their apparent weaker attachment to the labor force, caregivers for parents-in-law do appear to be better off in terms of socio-economic status. They have greater household income and wealth (although the latter, while large, at close to $100,000 greater than non-caregivers, is not significantly different from zero), are less likely to be non-white or Hispanic. They are also younger, more likely to be married, and unsurprisingly have more living parents-in-law. Thus, although the sample size is small so statistical significance difficult to attain, the results seem to suggest that a different selection mechanism for own parents (which appears to be based on the need to provide care more so than the availability), differs from selection into parent-in-law care where availability (opportunity cost of time) might play a larger role.

Regression Analysis: The patterns evidenced in the means are intriguing. They suggest that caregivers are not negatively selected and thus that caregiving could have significant costs in terms of foregone wages or benefits. In this section, we revisit these results in a multivariate regression context wherein we can control simultaneously for a number of individual characteristics.

In Table 4, we first examine the probability of providing care as a simple linear probability model. We stack all observations for our individuals and correct the standard errors for clustering.

The multiple observations per respondent allow us to control for age as well as year effects.[11] We control for age, schooling, experience, and tenure on the longest job, all measured as of the first wave to avoid the possibility that these measures are affected by caregiving decisions, and current health status.[12] We also include measures proxying the likelihood that they have an elderly parent in need of care: number of living parents (parents-in-law), number of siblings (siblings-in-law), number of sisters (sisters-in-law), age of oldest parent (parent-in-law). Finally we include standard socioeconomic characteristics including race / ethnicity, marital status, household wealth, spousal employment, and spousal income. Because caregiving for a parent / parent-in-law requires a living parent / parent-in-law, we drop respondents from the regression when they no longer have a parent or parent-in-law alive. We are left with 8,501 observations for our 1,557 women.

In simple OLS, contrary to expectations that individuals who provide care have only weak attachments to the labor force, we find that those who provide care have significantly more experience at the start of the sample period (1992). Approximately 10 percent of our sample is providing care at any given survey date, and an additional 10 years of experience (slightly less than one-half the average level of experience) corresponds to a 2 percent point, or 20 percent increase in the likelihood of caring for a parent or parent-in-law. We also find strong significant effects for the number of sisters, with each sister reducing the probability of providing care by 1 percentage points or 10 percent. Note that siblings themselves do not have a significant effect on caregiving, only sisters. The age of the oldest parent / parent-in-law (proxying need) also has a significant effect on the likelihood of providing care with an additional 10 years of parent / parent-in-law age increasing the probability by 5 percentage points or 50 percent.

Given the statistics in Table 1b, we repeat this OLS analysis separately with parent care and parent-in-law care as the dependent variable. Because the majority of observations are care to a parent, the results from looking at parental caregiving alone are nearly identical to those for a parent or parent-in-law: We continue to see a positive and significant effect of experience on parental care, a negative effect of sisters, and a positive effect of parental age. However, for

[11] In previous work on caregiving, we examined cohort differences in caregiving and found that more recent cohorts were more likely to provide care than earlier cohorts even conditional on a number of factors including the presence of parents / parents-in-law (Fahle and McGarry, forthcoming). We cannot control simultaneously for age, year, and cohort effects and because our focus here is on work, we chose to include year dummy variables to capture differences in labor markets (unemployment, real wages) over time. Controlling for birth cohort in lieu of year leads to similar results for the coefficients on our variables of interest.

[12] In our reported results, we include only a linear measure of age. The results are similar using either single-year or five-year age category indicators.

caregiving to parents-in-law, neither experience nor sisters is significantly different from zero—but the age of the parent-in-law does has a significant effect. A 10 year increase in the age of the parent-in-law, increases the probability of caring by 1 percentage point on a mean probability of approximately 4 percentage points or roughly 25 percent. There is also an effect of being nonwhite, with nonwhites having a significantly lower probability of caring for a parent-in-law relative to whites, the effect, while significantly different from zero at just a 10 percent level is relatively large, decreasing the likelihood of providing care by approximately 50 percent.

There are likely to be important differences in the strength of attachment to the labor force that affect the decision to provide care. To control for this attachment we try two separate mechanisms. First, we undertake a fixed effects analysis. A downside of this specification is that those variables that were previously significantly different from zero, namely experience in 1992 and the number of sisters, and race, are not identified. Therefore, as an alternative, we also include additional specifications that control for differences in labor force attachment by including measures taken from Social Security records, reflecting participation at younger ages. These variables include the number of Social Security covered quarters between ages 25 and 44 and average Social Security quarterly earnings over the same ages (individuals with zero covered quarters are assigned zero quarterly earnings). The remaining columns in Table 4 repeats the analysis with these measures entered alternately for any caregiving, parental caregiving, and caregiving for parents-in-law.

In the fixed effect analysis, none of the previously significant variables is significantly different from zero. In our analysis with the Social Security variables, we find none of these additional measures to be significant. After controlling for experience measured in 1992, which remains an important positive predictor of care to parents and parents/parents-in-law, these measures of work history earlier in life appear to provide little additional predictive power.

IV. Cost of Caregiving

Short term: Certainly caregiving can result in significant psychological stress and perhaps physical stress involved in assistance with activities of daily living. Here, however, we focus on the cost in terms of labor market outcomes. In descriptive statistics in Table 1a we found that caregivers did not appear to work less than non-caregivers, at least prior to the onset of care, and in fact, seemed to have a stronger attachment to the labor force. We begin our analysis of the cost of care by

examining changes in labor force behavior that are coincident with the start of caregiving. We then look at the longer-term effects of caregiving on work.

Table 5a shows that change in employment status at the point when caregiving begins. Here we take just those women who report caregiving for the first time in a particular wave. The rows defined on the left-hand-side report their status in the previous wave: working full-time, working part-time (less than 30 hours), not-working, and the columns show their status after the transition to caregiving in each of the same categories. We see that 17 percent of those who were working full-time in the period before caregiving are not working, and another 11 percent are working part-time; 72 percent, remain employed full-time. The corresponding change in hours agrees with this change in employment. The average change in hours for those leaving full-time work is 41 hours, and the loss in earnings is substantial, approximately $34,000. These numbers would seem to imply that caregivers leave employment. However, Table 5b shows the corresponding changes over a two year period for those who do not provide care; the numbers here are nearly identical with 14 percent of those working full-time leaving employment completely, a decline of 42 hours on average and a loss of $33,754. Thus, it appears that departures from the labor force for caregivers are in line with the non-caregiving population and likely simply due to the age of the sample that is approaching retirement.

However, there are a number of ways in which caregivers differ from those who do not provide care and for a more detailed look we turn to regression analysis. Our left hand side variable is first an indicator variable for whether the respondent if working at all. We then look at hours worked, and finally at annual earnings, both unconditional and conditional on working. As before, we use fixed effect analyses and controls for labor force attachment from the Social Security record. Our primary variable of interest is the effect of caregiving.[13] We also include, as regressors, the standard predictors of work: age, schooling, race / ethnicity, marital status, number of children, poor health, experience at the first interview, tenure on the longest job at the first interview.[14] Tables 6a reports the results.

[13] We use only a 0/1 measure of caregiving because the hours measure conflates the number of hours per week and the number of weeks over a two year period. While we would like to investigate the role of intensity as well as the role of persistency, we are unable to do so with these data.

[14] Again, our reported results include a linear control for age, but the results are similar when we control for age using single-year or five-year age category indicators.

When looking at the relationship between caregiving and work, we find that caregiving reduces the probability of work by approximately 4.6 percentage points. At a mean of 0.58, this corresponds to an 8 percent decline. Other control variables have the expected effects: there is a clear decline in work with age and the probability is lower for married women. Experience at the first interview is positively correlated with work, but tenure on the longest job has no effect.

As noted previously, there are obviously unobserved individual effects that may be correlated with the work and with caregiving. Industriousness, for example, could be positively correlated with both. Alternatively, some measure of family ties or desire to provide care may be correlated positively with caregiving itself but negatively correlated with work. This latter possibility could manifest itself in a woman taking time off to care for a child earlier in life, perhaps investing less intensively in her career. When we use a fixed effects analysis, the magnitude of the effect of caregiving declines by roughly one-third but is still negative and significantly different from zero. The results with the Social Security controls added are similar to those without. The negative association between caregiving and work appears larger though not significantly so, and the Social Security variables themselves add little additional predictive power.

Similarly, caregiving reduces hours worked by 1.7 hours, or 8.5 percent in OLS and by a similar amount in the fixed effects version. Again, the effects of other variables are as expected. If we look only at the hours worked among those employed, caregiving is not significantly different from zero in the OLS regression but is in the fixed effects version, with a magnitude only slightly smaller than for the unconditional specification. As with work, the addition of the Social Security variables has little effect on the association between caregiving and hours. Unlike in the case of work, however, we do find that average quarterly covered earnings positively predicts hours worked. In our final set of equations, those for annual earnings, we do not find a significant effect of caregiving in either the OLS or fixed effects versions. In this case, the addition of the Social Security measures does meaningfully increase the predictive power of the specifications, and we find that historical quarterly covered earnings is a significant positive predictor of current annual earnings.

Long term: The change in labor market factors associated with caregiving is unsurprising. We now look to see whether there are long-term effects of this caregiving. In Table 7, we compare the status in 1992 with that in 2010 for caregivers and non-caregivers. Values that are significantly different

are denoted with asterisks. Some of those termed caregivers, provided assistance early in the period, reporting care at the 1994 interview for example, while others provided it much later, as late as 2010. (Recall, because of our selection criteria, none of the "caregivers" were providing care at the 1992 interview or in the preceding year.) In comparing the two groups, the most apparent is the difference in the change in full-time work and earnings for caregivers and non-caregivers. Caregivers have a significantly larger decline in the probability of working full-time, of 44 percent compared to 37 percent for non-caregivers. Caregivers also have a significantly larger decline in earnings than non-caregivers: $26,080 per year compared to $18,499 for non-caregivers. While the difference is consistent with caregiving having an effect on work, the causality is not necessarily implied. There is also a larger decline in household income for caregivers, and a much smaller increase in net wealth. Although neither difference is significantly different from zero, they do potentially point to a worsening financial situation for caregiving families.

Regression: We also analyze these longer-term effects of caregiving in a similar regression context. The left hand side variable here is first work at the end of the period of observation (2010) and then earnings at the end of the period of observation. In each case, we include initial conditions in the regression, work in 1992 and earnings in 1992. We are thus looking at the change in employment and earnings as a function of caregiving but allowing for a more flexible form. In addition, we include as regressors age (in categories), schooling, race / ethnicity, marital status, number of children, poor health, experience at the first interview, tenure on the longest job at the first interview. We cannot use a fixed effects analysis because there is only one observations per respondent. Our focus is on the variable measuring whether the respondent ever provided care. The results are presented in Table 8.

We see that work in 1992 is significantly and positively related to work in 2010 as is initial experience, while age and fair / poor health are negatively related. There is no effect of caregiving on final work status. When we turn to earnings, whether conditional or unconditional, work in 1992 continues to have a positive effect, while age and health status have negative effects. However, here caregiving has significantly negative effects in all specifications, and the magnitude of the effects are large. Conditional on positive earnings, having ever provided care reduces annual earnings by over $12,400, or 51 percent. These conclusions are virtually unchanged with the

addition of our Social Security measures of work history. Again, we find that while the number of covered quarters is not associated with either of these outcomes, historical quarterly earnings positively predict wage growth between 1992 and 2010.

V. Conclusion

The retirement of the baby boom and the aging of the population more generally present a number of challenges. Two of the most pressing are the need to care for the elderly, and the need to retain a large and productive workforce when this large cohort reaches retirement age. These two issues are interrelated in that workers, particularly women, may need to reduce their labor force participation in order to care for an elderly parent. In this paper, we examined the relationship between work and caregiving, taking advantage of the Health and Retirement Study that allows us to examine caregiving and labor force participation over as long a period as 20 years, and which (through restricted data) provides access to Social Security earnings records and thus a lifetime measure of labor force participation.

We find that caregiving is quite prevalent. We find that nearly half of our sample of women in their 50s and early 60s with living parents / parents-in-law, provide care to these parents / parents-in-law at some point during our window of observation. We also find that contrary to expectations, these caregivers are not drawn from the ranks of those with a weak attachment to the labor force, but rather tend to have *more* experience at the start of our period of observation. Despite this relationship, we do find negative effects of caregiving on work, and importantly, in the long-run, negative effects on earnings for those who remain employed.

These results suggest that caregiving, for even a relatively short period of time (say less than two years) can have negative effects on long-term well-being. This finding is particularly relevant given the high poverty rates prevalent among unmarried elderly women.

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Figure 1a. Probability of Caregiving by Wave (n=15,570)

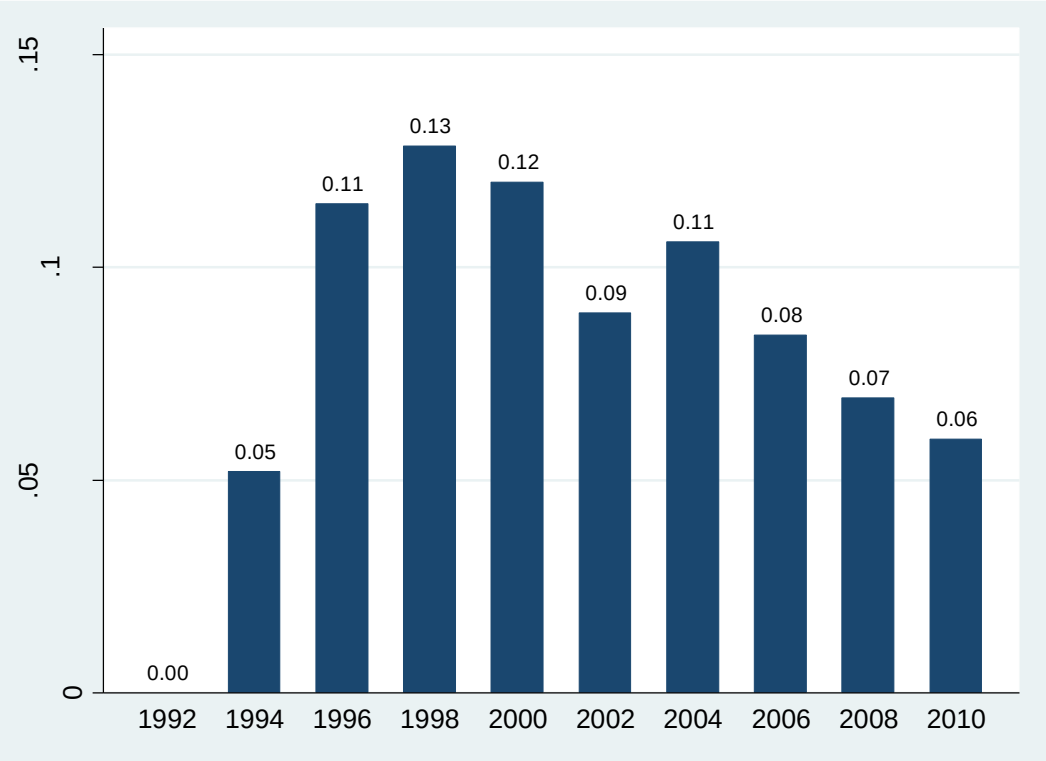

Figure 1b. Mean Hours of Caregiving by Wave (n=15,561)

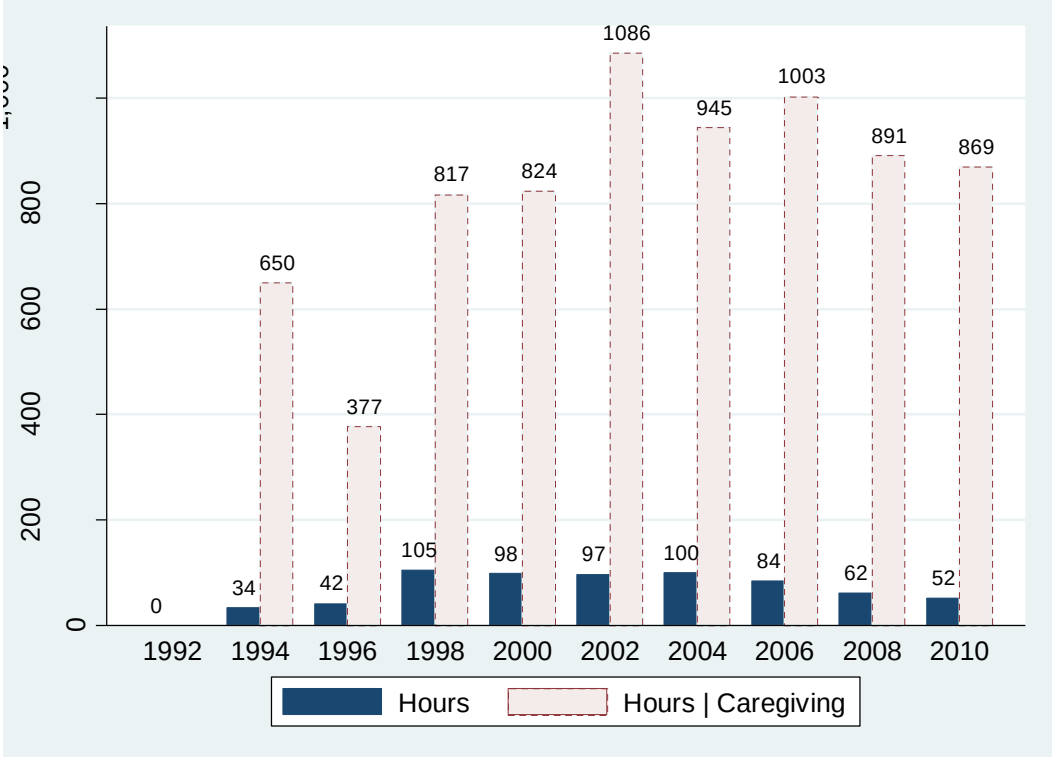

Figure 2a. Ever Caregiving by Wave (n=15,570)

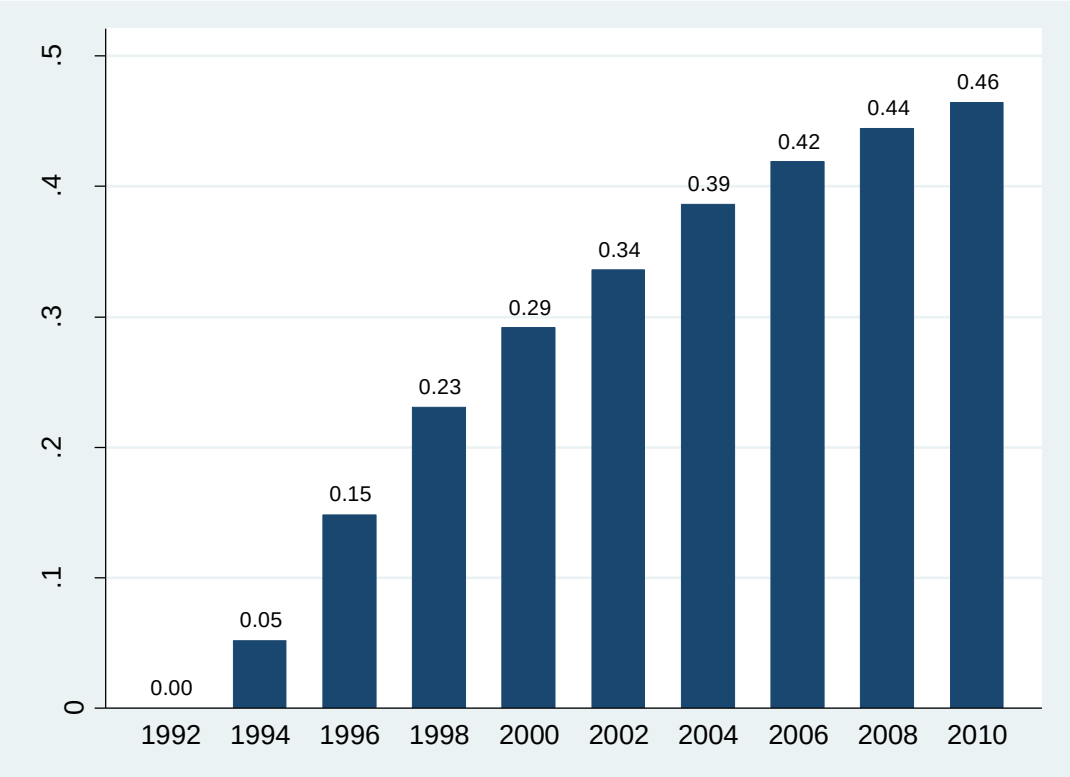

Figure 2b. Mean Cumulative Hours of Caregiving by Wave (n=15561)

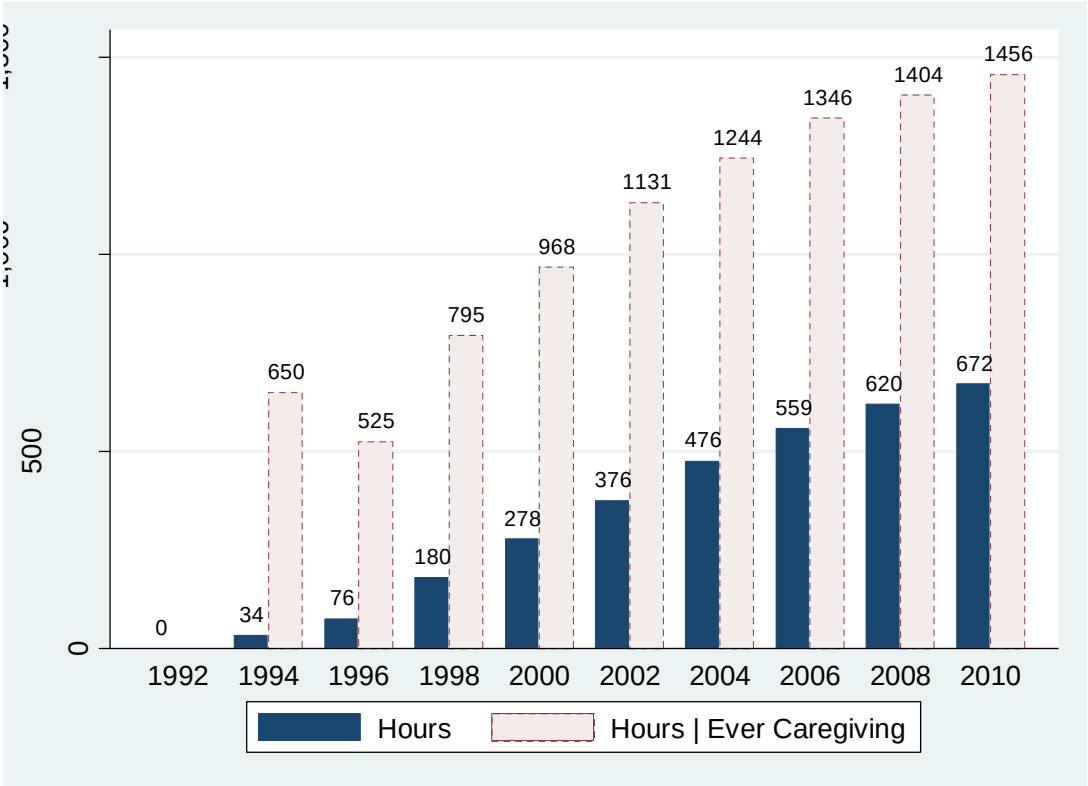

Table 1. Summary Statistics (Weighted)

	ALL (n=1557)		Ever Care (n=723)		Never Care (n=834)	
	Mean	SE	Mean	SE	Mean	SE
Ever Provided Caregiving 0/1	0.46	0.01	1.00	0.00	0.00	0.00
Age	52.16*	0.12	51.92	0.17	52.37	0.17
Married	0.78	0.01	0.79	0.02	0.77	0.01
Years of Schooling	12.61*	0.07	12.76	0.11	12.49	0.10
Number of Children	3.34	0.05	3.31	0.07	3.37	0.07
Nonwhite	0.16**	0.01	0.18	0.01	0.14	0.01
Hispanic	0.08*	0.01	0.07	0.01	0.09	0.01
Fair/poor Health	0.13	0.01	0.12	0.01	0.14	0.01
Work Full-time	0.49*	0.01	0.51	0.02	0.47	0.02
Work Part-time	0.20	0.01	0.20	0.01	0.20	0.01
Not Working	0.31*	0.01	0.29	0.02	0.33	0.02
Earnings (if working)	31,631**	772	33,370	1166	30,025	1018
Husband works (if married)	0.79	0.01	0.81	0.02	0.78	0.02
Husband's earning (if working)	58,564	1849	59,673	2414	57,548	2769
HH Income	80,878	1842	83,847	2659	78,304	2551
Median Income	69,322	NA	71,978	NA	66,418	NA
HH Wealth	351,756	18048	360,242	28847	344,399	22594
Median Wealth	191,531	NA	194,619	NA	187,360	NA
Experience	22.49***	0.30	23.49	0.43	21.62	0.41
Tenure Current Job	10.67	0.28	11.09	0.41	10.28	0.38
Tenure Longest Job	12.33**	0.22	12.82	0.33	11.90	0.30
Num covered quarters 25-44	36.0**	0.70	37.9	1.03	34.4	0.94
Average quarterly earnings 25-44	4.94*	0.08	5.11	0.13	4.80	0.11
Expected Insured status at NRA	0.88	0.01	0.89	0.01	0.88	0.01
Expected PIA at NRA	1.56**	0.03	1.62	0.04	1.51	0.04
Any Parent / Parent-in-law Alive	1	0	1	0	1	0
Any Parent Alive	1	0	1	0	1	0
Any Parent-in-law Alive	0.39***	0.01	0.45	0.02	0.34	0.02
Number of Living Parents	1.27***	0.01	1.32	0.02	1.23	0.01
Number of Living Parent-in-law	0.60***	0.02	0.69	0.03	0.52	0.03
Number of Siblings	2.95**	0.06	2.80	0.09	3.08	0.09
Number of Sisters	1.53***	0.04	1.39	0.06	1.65	0.06
Number of Siblings-in-law	2.87	0.07	2.88	0.10	2.87	0.09
Number of Sisters-in-law	1.51	0.04	1.53	0.07	1.50	0.06

Table 2. Summary over 10 Waves Among Those Ever Providing Care (N=723)

	Mean	Std Err
Care to Parents and Parents-in-law		
Total hours provided	1450.95	82.14
25 percentile	200	
50 percentile	550	
75 percentile	1890	
Total number of interviews at which they said they provided care	1.77	0.04
Care to Parents		
Fraction providing care to parents	0.91	
Total hours provided	1553.43	89.19
25 percentile	200	
50 percentile	600	
75 percentile	2016	
Total number of interviews at which they said they provided care	1.82	0.05
Care to Parents-in-law		
Fraction providing care to parents-in-law	0.18	
Total hours provided	1452.58	175.84
25 percentile	200	
50 percentile	620	
75 percentile	1812	
Total number of interviews at which they said they provided care	2.18	0.11

Table 3. Summary Statistics (Weighted)

	Ever Provided Care				No Care	
	To Parent (n=657)		To Parent-in-law (n=130)		(n=834)	
	Mean	SE	Mean	SE	Mean	SE
Ever Provided Caregiving 0/1	1.00	0.00	1.00	0.00	0.00	0.00
Age	52.17	0.20	49.76***	0.35	52.37	0.17
Married	0.77	0.02	0.96***	0.02	0.77	0.01
Years of Schooling	12.96**	0.12	12.70	0.26	12.49	0.10
Number of Children	3.28	0.08	3.13	0.12	3.37	0.07
Nonwhite	0.12*	0.01	0.02***	0.01	0.14	0.01
Hispanic	0.05	0.01	0.03**	0.01	0.09	0.01
Fair/poor Health	0.11	0.01	0.10	0.02	0.14	0.01
Work Full-time	0.49	0.02	0.47	0.04	0.47	0.02
Work Part-time	0.21	0.01	0.24	0.04	0.20	0.01
Not Working	0.30	0.02	0.29	0.04	0.33	0.02
Earnings (if working)	34,080*	1,349.73	28,136	2,256.54	30,025	1,018.00
Husband works (if married)	0.81	0.02	0.91***	0.02	0.78	0.02
Husband's earnings (if working)	63,238	3734	62,378	2598	57,548	2769
HH Income	86,468	4149.15	95,330*	4368.77	78,304	2551.00
Median Income	71,052	--	85,725	--	66,418	--
HH Wealth	391,475	37,063.90	435,560	48,512.62	344,399	22,594.32
Median Wealth	192,611	--	229,682	--	187,360	--
Experience	23.51***	0.42	21.00	0.55	21.62	0.41
Tenure Current Job	10.68	0.42	9.22	0.78	10.28	0.38
Tenure Longest Job	12.62*	0.34	10.51	0.60	11.90	0.30
Num covered quarters 25-44	38.2***	1.08	34.4	2.48	34.4	0.94
Average quarterly earnings 25-44	5.16**	0.13	4.71	0.30	4.8	0.11
Expected Insured status at NRA	0.89	0.01	0.87	0.03	0.88	0.01
Expected PIA at NRA	1.61*	0.04	1.72**	0.11	1.51	0.04
Any Parent / Parent-in-law Alive	1	0	1	0	1	0
Any Parent Alive	1	0	1	0	1	0
Any Parent-in-law Alive	0.41**	0.02	0.97***	0.01	0.41**	0.02
Number of Living Parents	1.32***	0.02	1.33*	0.04	1.23	0.01
Number of Living Parent-in-law	0.64***	0.03	1.24***	0.04	0.52	0.03
Number of Siblings	2.61***	0.10	2.75	0.18	3.08	0.09
Number of Sisters	1.30***	0.06	1.32*	0.11	1.65	0.06
Number of Siblings-in-law	2.74	0.11	2.71	0.18	2.87	0.09
Number of Sisters-in-law	1.46	0.07	1.25	0.11	1.50	0.06

Table 4. Linear Probability Model on Probability of Care Giving

	Respondent provided any care to								
	parent / parent-in-law			parent			parent-in-Law		
	OLS	OLS	FE	OLS	OLS	FE	OLS	OLS	FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age	-0.001	-0.00019	-0.002	-0.001	-0.00034	0.001	-0.001	-0.00067	-0.006
	(0.001)	(0.0012)	(0.011)	(0.001)	(0.0012)	(0.010)	(0.001)	(0.0011)	(0.016)
High school 1992	0.011	0.00070		0.010	-0.0026		-0.006	-0.0067	
	(0.013)	(0.014)		(0.013)	(0.013)		(0.019)	(0.021)	
Some college 1992	0.002	-0.0024		0.004	-0.0018		-0.010	-0.0053	
	(0.014)	(0.015)		(0.014)	(0.014)		(0.021)	(0.022)	
College+ 1992	-0.001	-0.0066		0.004	-0.0024		-0.024	-0.020	
	(0.015)	(0.015)		(0.015)	(0.015)		(0.023)	(0.024)	
Experience 1992	0.002***	-0.00076		0.002***	-0.00068		0.000	-0.00012	
	(0.001)	(0.00067)		(0.001)	(0.00066)		(0.001)	(0.00068)	
Tenure longest job 1992	-0.001	0.0014**		-0.001	0.0012*		0.000	0.00030	
	(0.001)	(0.00062)		(0.001)	(0.00060)		(0.001)	(0.00058)	
#living parents	-0.002	0.00013	-0.009	-0.012	0.00020	0.008		0.000062	
	(0.009)	(0.00028)	(0.014)	(0.009)	(0.00027)	(0.020)		(0.00027)	
#living parents-in-law	0.009	-0.0010	-0.003		-0.00083		-0.009	-0.0017	-0.005
	(0.008)	(0.0019)	(0.014)		(0.0018)		(0.011)	(0.0019)	(0.022)
#siblings	0.001	-0.00036	-0.002	-0.000	-0.013	0.000	0.002	0.0092	-0.018**
	(0.003)	(0.0087)	(0.008)	(0.003)	(0.0085)	(0.009)	(0.003)	(0.0098)	(0.008)
#sisters	-0.010**	0.016*	0.002	-0.008*	0.018**	-0.004	-0.006	-0.0099	0.027**
	(0.005)	(0.0080)	(0.014)	(0.005)	(0.0072)	(0.015)	(0.005)	(0.011)	(0.013)
#siblings-in-law	-0.002	0.0026	-0.009	-0.001	0.000058	-0.015	-0.003	0.0021	0.021
	(0.003)	(0.0033)	(0.009)	(0.003)	(0.0031)	(0.009)	(0.004)	(0.0034)	(0.016)
#sisters-in-law	0.002	-0.013**	0.015	0.002	-0.010**	0.022*	-0.003	-0.0044	-0.034

	(0.005)	(0.0052)	(0.013)	(0.005)	(0.0047)	(0.013)	(0.006)	(0.0054)	(0.023)
Covered Quarters 25-44		-0.0025			-0.00037			-0.0042	
		(0.0033)			(0.0032)			(0.0033)	
Mean Quarterly Earnings		0.0020			0.00043			-0.00082	
		(0.0052)			(0.0051)			(0.0055)	
Age of oldest parent/ p-i-l	0.005***	0.0041***	0.002						
	(0.001)	(0.00076)	(0.002)						
Age of oldest parent				0.005***	0.0045***	-0.004			
				(0.001)	(0.00084)	(0.004)			
Age of oldest p-i-l							0.001**	0.0015**	-0.001
							(0.001)	(0.00062)	(0.001)
Nonwhite (0/1)	-0.002	0.0025		0.005	0.0081		-0.022*	-0.017	
	(0.013)	(0.014)		(0.013)	(0.014)		(0.012)	(0.013)	
Hispanic (0/1)	-0.024	-0.021		-0.010	-0.0075		-0.022	-0.022	
	(0.016)	(0.016)		(0.016)	(0.016)		(0.019)	(0.020)	
Married (0/1)	-0.009	-0.0068	0.012	-0.009	-0.010	0.022	0.013	0.017	0.009
	(0.014)	(0.014)	(0.023)	(0.013)	(0.014)	(0.021)	(0.016)	(0.014)	(0.021)
2nd wealth quartile	0.001	0.0034	-0.001	0.006	0.0094	0.005	-0.006	-0.015	-0.009
	(0.012)	(0.013)	(0.014)	(0.011)	(0.012)	(0.013)	(0.016)	(0.018)	(0.018)
3rd wealth quartile	-0.008	-0.0038	0.002	-0.004	-0.0000074	0.013	-0.009	-0.014	-0.026
	(0.013)	(0.013)	(0.017)	(0.012)	(0.013)	(0.017)	(0.017)	(0.019)	(0.019)
4th wealth quartile	-0.009	-0.0027	-0.002	-0.012	-0.0032	-0.000	0.002	-0.0031	-0.011
	(0.014)	(0.015)	(0.021)	(0.013)	(0.014)	(0.020)	(0.018)	(0.021)	(0.023)
Spouse employed (0/1)	-0.008	-0.0091	-0.004	-0.018*	-0.019**	-0.012	0.003	-0.0016	-0.013
	(0.010)	(0.010)	(0.012)	(0.010)	(0.0098)	(0.011)	(0.011)	(0.012)	(0.015)
Spousal income	0.000	0.0000083	0.000	0.000	0.000012	0.000	0.000	0.000065	-0.000
	(0.000)	(0.000074)	(0.000)	(0.000)	(0.000068)	(0.000)	(0.000)	(0.00011)	(0.000)
Constant	-0.341***	-0.20***	-0.091	-0.331***	-0.22***	0.184	-0.053	-0.023	0.413
	(0.066)	(0.075)	(0.576)	(0.062)	(0.071)	(0.616)	(0.065)	(0.079)	(0.818)
Observations	8,501	7697	8,501	7,912	7145	7,912	2,611	2366	2,611

Mean of Dependent Variable	0.103	0.0994	0.103	0.0885	0.0864	0.0885	0.0435	0.0397	0.0435
R-squared	0.043	0.048	0.048	0.050	0.055	0.059	0.026	0.027	0.034
Number of hhidpn	1,389			1,384			571		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Transition Matrix where T is first observation with caregiving parent / parent-in-law (n=723)

Time T-1 / Time T		Working full-time	Working part-time	Not working
Working full-time	Number	194	30	45
(n=269)	(percent of row)	(0.72)	(0.11)	(0.17)
	Change in hrs	-1.87	-15.18	-41.09
	Change in earnings	3522	1438	-34122
Working part-time	Number	22	79	47
(n=148)	(percent of row)	(0.15)	(0.53)	(0.32)
	Change in hrs	9.17	-1.61	-20.87
	Change in earnings	2072	1106	-14735
Not working	Number	9	25	272
(n=306)	(percent of row)	(0.03)	(0.08)	(0.89)
	Change in hrs	46.88	16.84	0.00
	Change in earnings	4919	6853	0

Table 5b. Transition Matrix where there is no caregiving between T-1 and T (n=13,411)

Time T-1 / Time T		Working full-time	Working part-time	Not working
Working full-time	Number	2809	453	537
(n=3,930)	(percent of row)	(0.74)	(0.12)	(0.14)
	Change in hrs	-0.03	-15.42	-42.15
	Change in earnings	1136	-5807	-33754
Working part-time	Number	337	1360	540
(n=2,446)	(percent of row)	(0.15)	(0.61)	(0.24)
	Change in hrs	14.27	-0.64	-18.95
	Change in earnings	1547	-1221	-11956
Not working	Number	149	359	5404
(n=7,035)	(percent of row)	(0.03)	(0.06)	(0.91)
	Change in hrs	42.46	17.60	0.00
	Change in earnings	16718	5792	0

Table 6a. The Effect of Caregiving on Work

	Work (0/1)			Hours worked			Hours worked | working		
	OLS	OLS	FE	OLS	OLS	FE	OLS	OLS	FE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Care Giving (0/1)	-0.046**	-0.061***	-0.029*	-1.669**	-1.90**	-1.712***	-0.164	0.31	-1.290**
	(0.020)	(0.022)	(0.016)	(0.803)	(0.88)	(0.653)	(0.758)	(0.85)	(0.592)
Age	-0.025***	-0.024***	-0.004	-1.161***	-1.08***	-0.213	-0.577***	-0.47***	0.017
	(0.002)	(0.0021)	(0.012)	(0.078)	(0.091)	(0.494)	(0.075)	(0.093)	(0.423)
High school 1992	0.074**	0.077**		2.467**	2.33*		-0.103	-0.69	
	(0.029)	(0.031)		(1.140)	(1.20)		(1.172)	(1.19)	
Some college 1992	0.091***	0.10***		3.958***	3.82***		1.640	0.78	
	(0.032)	(0.034)		(1.250)	(1.34)		(1.228)	(1.27)	
College+ 1992	0.101***	0.11***		5.067***	4.77***		2.520**	1.18	
	(0.034)	(0.036)		(1.343)	(1.46)		(1.232)	(1.27)	
Experience 1992	0.009***	-0.00100		0.395***	-0.028		0.165***	0.021	
	(0.001)	(0.0014)		(0.043)	(0.057)		(0.046)	(0.048)	
Tenure longest job 1992	-0.001	0.0085***		0.010	0.33***		0.073*	0.12**	
	(0.001)	(0.0011)		(0.054)	(0.049)		(0.044)	(0.051)	
Covered Quarters 25-44		0.00064			0.030			0.0061	
		(0.00058)			(0.024)			(0.020)	
Mean Quarterly Earning		-0.0021			0.26			0.45***	
		(0.0041)			(0.18)			(0.15)	
Nonwhite (0/1)	0.022	0.0042		0.913	0.15		0.157	-0.17	
	(0.024)	(0.027)		(1.020)	(1.10)		(0.854)	(0.96)	
Hispanic (0/1)	0.012	0.020		1.745	1.98		2.136*	2.21**	
	(0.035)	(0.037)		(1.408)	(1.46)		(1.098)	(1.10)	
Married (0/1)	-0.061***	-0.069***	-0.131***	-2.920***	-3.22***	-4.339***	-1.294*	-1.58*	-1.562
	(0.019)	(0.020)	(0.029)	(0.830)	(0.91)	(1.153)	(0.774)	(0.86)	(1.058)
#children	-0.001	-0.0030	-0.002	-0.021	-0.041	-0.013	0.058	0.089	0.232
	(0.005)	(0.0051)	(0.010)	(0.193)	(0.20)	(0.437)	(0.169)	(0.18)	(0.294)

Fair/Poor Health	-0.272***	-0.26***	-0.097***	-9.463***	-9.14***	-2.965***	-0.280	-0.12	-0.045
	(0.021)	(0.022)	(0.019)	(0.844)	(0.90)	(0.767)	(0.823)	(0.87)	(0.670)
2nd wealth quartile	0.024	0.024	-0.006	1.453*	1.31	0.106	0.658	0.56	0.597
	(0.020)	(0.022)	(0.018)	(0.840)	(0.92)	(0.773)	(0.686)	(0.79)	(0.540)
3rd wealth quartile	0.005	0.019	-0.011	-0.151	0.17	-0.750	-0.551	-0.67	0.059
	(0.023)	(0.025)	(0.022)	(0.983)	(1.08)	(0.964)	(0.827)	(0.95)	(0.710)
4th wealth quartile	-0.070***	-0.058**	-0.070***	-3.897***	-3.45***	-2.762**	-2.436**	-2.24*	-0.301
	(0.026)	(0.028)	(0.026)	(1.138)	(1.23)	(1.207)	(1.065)	(1.15)	(0.946)
Constant	1.839***	1.83***	1.115*	78.858***	74.4***	44.160*	61.135***	56.0***	36.656*
	(0.104)	(0.12)	(0.632)	(4.443)	(5.24)	(25.330)	(4.178)	(5.22)	(21.477)
Observations	8,658	7, 824	8,658	8,602	7, 775	8,602	5,375	4, 807	5,375
Mean of Dependent Variables	0.579	0.621	0.579	20.18	21.76	20.18	35.02	35.19	35.02
R-squared	0.195	0.196	0.151	0.216	0.214	0.171	0.078	0.082	0.060
Number of hhidpn		1,398			1,398			1,197	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6b. The Effect of Caregiving on Work

Dependent Variables	Annual Earnings			Annual Earnings if working		
	OLS	OLS	FE	OLS	OLS	FE
	(1)	(2)	(3)	(4)	(5)	(6)
Care Giving (0/1)	-0.90	-1.23	-1.26	1.07	1.28	-0.27
	(1.02)	(1.03)	(0.90)	(1.45)	(1.44)	(1.33)
Age	-1.37***	-0.99***	-0.12	-1.24***	-0.60***	-1.12
	(0.15)	(0.13)	(1.35)	(0.19)	(0.17)	(2.14)
High school 1992	3.99***	3.01***		4.49***	2.20	
	(1.00)	(1.06)		(1.43)	(1.44)	
Some college 1992	9.35***	7.12***		12.20***	7.86***	
	(1.30)	(1.44)		(1.73)	(1.88)	
College+ 1992	23.17***	18.9***		29.88***	22.3***	
	(2.22)	(1.98)		(2.74)	(2.29)	
Experience 1992	0.34***	0.039		0.23***	0.097	
	(0.05)	(0.12)		(0.07)	(0.16)	
Tenure longest job 1992	0.21**	0.19***		0.36***	0.031	
	(0.09)	(0.049)		(0.12)	(0.067)	
Covered Quarters 25-44		-0.037			-0.061	
		(0.035)			(0.045)	
Mean Quarterly Earnings		2.47***			3.39***	
		(0.50)			(0.65)	
Nonwhite (0/1)	2.62*	1.59		2.45	1.37	
	(1.51)	(1.45)		(1.86)	(1.83)	
Hispanic (0/1)	2.09	2.36*		0.93	1.12	
	(1.46)	(1.33)		(2.04)	(1.65)	
Married (0/1)	-6.34***	-5.36***	-4.07***	-5.47***	-4.14***	-2.34
	(1.20)	(1.16)	(1.43)	(1.52)	(1.44)	(1.99)
#children	-0.17	-0.19	-0.83	-0.24	-0.39	-1.41
	(0.27)	(0.25)	(1.01)	(0.34)	(0.33)	(1.57)
Fair/Poor Health (0/1)	-7.41***	-6.98***	-1.13*	-3.54***	-2.94**	0.48
	(0.93)	(0.94)	(0.68)	(1.31)	(1.34)	(0.95)
2nd wealth quantile	2.90***	1.11	-0.61	2.55**	0.78	-1.17
	(1.00)	(1.04)	(1.51)	(1.28)	(1.35)	(2.37)
3rd wealth quantile	3.80***	1.72	-0.70	4.38***	1.72	-0.50
	(1.22)	(1.32)	(2.46)	(1.55)	(1.65)	(3.88)
4th wealth quantile	2.07	0.085	-2.92	5.28*	2.70	-1.62
	(1.95)	(1.73)	(2.79)	(2.86)	(2.45)	(4.35)
Constant	81.24***	59.4***	39.64	75.75***	42.2***	96.08
	(8.24)	(7.37)	(67.42)	(10.79)	(9.57)	(106.09)
Observations	8,658	7,824	8,658	5,431	4856	5,431

Mean of Dependent Variables	18.94	20.29	18.94	30.18	30.10	30.18
R-squared	0.17	0.207	0.05	0.15	0.208	0.01
Number of hhidpn		1,398			1,198	

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 7. Long-Term Comparison

	Non-Caregivers (n=834)				Caregivers (n=723)			
	1992	2010	Change		1992	2010	Change	
			Mean	Median			Mean	Median
Age	52.37	70.57	18.2	18	51.92	70.07	18.15	18
Spouse/Partner Age	56.24	73.3	17.84	18	55.31	73.03	18.10*	18
Married	0.77	0.57	-0.21	0	0.79	0.6	-0.19	0
Fair/Poor Health	0.14	0.24	0.11	0	0.12	0.23	0.12	0
Net Wealth	344,399	507,849	163,450	38,092	360,242	493,518	133,276	42,488
Household Income	78,304	56,583	-21,721	-17,525	83,847	59,021	-24,826	-22,480
Earnings | > 0	30,720	34,521	-18,499	-18,535	34,030	22,914	-26080*	-23,169
Work 0/1	0.67	0.23	-0.44	0	0.71	0.24	-0.47	-1
Work Full-time	0.47	0.1	-0.37	0	0.51	0.08	-0.44**	0
Work Part-time	0.2	0.13	-0.07	0	0.2	0.17	-0.03	0
Hours Worked | Working	35.83	27.28	-10.67	-10	37.27	27.5	-11.79	-10
Any Parents, In-laws	1	0.21	-0.79	-1	1	0.2	-0.8	-1
Any Parents	1	0.19	-0.81	-1	1	0.17	-0.83	-1
Any Parents-in-law	0.34	0.03	-0.31	0	0.45	0.05	-0.41***	0

Table 8. The Long-term Effect of Caregiving on Work in 2010

Dependent Variables	Any Work		Annual Earnings		Annual Earnings if working	
	OLS	OLS	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)
Work 1992 (0/1)	0.057**	0.058**	3.77**	4.06**	18.23**	19.3**
	(0.028)	(0.029)	(1.47)	(1.66)	(8.20)	(9.36)
Annual Earnings 1992	0.000*	0.00095	0.01	-0.025	-0.06	-0.16
	(0.000)	(0.00064)	(0.06)	(0.065)	(0.14)	(0.15)
Ever Care Giving (0/1)	-0.025	-0.024	-4.57***	-4.61***	-12.47**	-11.5**
	(0.023)	(0.023)	(1.63)	(1.63)	(5.17)	(4.98)
Age 1992	-0.023***	-0.022***	-1.41***	-1.33***	-2.67***	-2.53*
	(0.003)	(0.0029)	(0.37)	(0.43)	(1.02)	(1.31)
High school 1992	-0.012	-0.027	0.51	0.30	1.33	2.20
	(0.037)	(0.037)	(1.08)	(1.01)	(4.29)	(4.02)
Some college 1992	-0.001	0.0017	4.17***	3.83***	12.42***	12.2***
	(0.041)	(0.042)	(1.39)	(1.38)	(4.51)	(4.71)
College+ 1992	0.001	0.00038	8.11**	8.02**	19.58*	18.9*
	(0.046)	(0.047)	(3.89)	(3.33)	(10.82)	(9.78)
Experience 1992	0.006***	0.0042***	0.12**	0.051	-0.00	0.14
	(0.001)	(0.0015)	(0.06)	(0.061)	(0.22)	(0.27)
Tenure longest job	-0.001	-0.0017	-0.10	-0.17**	-0.20	-0.37
	(0.002)	(0.0018)	(0.08)	(0.079)	(0.35)	(0.31)
Covered Quarters 25-44		0.0011		0.0027		-0.14
		(0.00075)		(0.053)		(0.21)
Mean Qtrly Earnings		-0.0047		0.83*		2.41**
		(0.0059)		(0.45)		(1.21)
Nonwhite (0/1)	0.014	0.011	7.87	8.42	26.81	29.6
	(0.034)	(0.034)	(5.07)	(5.33)	(17.65)	(20.0)
Hispanic (0/1)	-0.083*	-0.086**	-2.59*	-1.95	-11.66*	-9.40
	(0.044)	(0.041)	(1.43)	(1.37)	(6.16)	(6.23)
Married 1992 (0/1)	-0.008	-0.017	-0.89	-0.75	-4.60	-1.33
	(0.030)	(0.031)	(1.23)	(1.26)	(4.49)	(4.11)
#children 1992	0.012**	0.011*	0.32	0.096	0.33	-0.086
	(0.006)	(0.0064)	(0.32)	(0.27)	(0.93)	(0.87)
Fair/Poor Health	-0.132***	-0.13***	-3.94***	-3.17***	-5.28	-7.08
	(0.032)	(0.031)	(1.03)	(0.94)	(5.62)	(6.11)
2nd wealth quartile	-0.020	0.015	0.83	1.88	0.81	0.82
	(0.033)	(0.035)	(1.61)	(1.95)	(4.62)	(5.21)
3rd wealth quartile	-0.016	0.012	4.46	4.64	13.07	11.1
	(0.037)	(0.039)	(3.88)	(3.99)	(11.48)	(10.9)
4th wealth quartile	-0.020	0.024	-0.28	0.74	4.85	2.97

	(0.041)	(0.044)	(2.52)	(2.76)	(9.02)	(8.19)
Constant	1.294***	1.22***	72.88***	67.6***	138.70***	123.6**
	(0.148)	(0.16)	(17.96)	(21.2)	(46.72)	(60.0)
Observations	1,315	1,283	1,315	1,283	339	320
Mean of Dependent Variables	0.238	0.249	6.884	7.027	24.30	23.27
R-squared	0.107	0.103	0.099	0.106	0.159	0.175

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1