

The Material Well-being of Disabled Retirees: Evidence from the PSID

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Abstract

This study aims to provide a comprehensive picture of the prevalence and well-being of pre-retirement disabled men, as they enter retirement. Though the number of Social Security Disability Insurance claimants has risen over the last few decades, the impact of pre-retirement disability on a retiree's economic well-being remains relatively unexplored. Using a sample of the male household heads from the Panel Study of Income Dynamics over 1968–2013, we examine the prevalence of pre-retirement disability and the material well-being of those disabled during their prime working ages as they transition into retirement. While the literature documents that chronic and severe disability reduces an individual's economic well-being for many years, we find that this negative consequence persists for income and consumption as disabled men enter their retirement phase, despite the availability of retirement benefits and Medicare. Those disabled at a younger age appear to be faring poorer compared with those disabled at an older age. Time use data do not suggest conclusively that disabled men increase home production as they enter retirement to compensate for lower expenditures on food and housing. Our results will be important in further understanding old-age poverty and the adequacy of current policies.

KEYWORDS: Disability, Retirement, Income, Consumption, Time-use

1. Introduction

The determinants of the solvency of the U.S. Social Security system has been a controversial subject with intense debate over factors ranging from demography (e.g., the aging population, longer life expectancy) to policy (e.g., the legal retirement age, benefit and contribution formulas). Established in 1935, the Social Security system currently provides important economic support to 56 million retirees and almost 11 million disabled (as of May 2016).¹

There is a large volume of academic research on retirement, as well as a small but growing literature on disability. A substantial amount of the retirement literature focuses on the adequacy of savings for retirement for the overall retired population (e.g., Banks et al. 1998, Scholz et al. 2006). Most disability studies to date have focused on the moral hazard problem of the Social Security Disability Insurance (SSDI) program, especially its labor supply effect (Parsons 1980, Bound 1991, French and Song 2012, Maestas et al. 2013). Few studies have looked at what disability means for retirement, especially in the context of whether the current system has provided adequate support for retired individuals who suffered from disability during their working years. From the perspective of disability as permanent damage to an individual's human capital, the resulting permanent decline in earnings could result in lower living standards beyond the individual's working years. Meyer and Mok (2014a) find that on average the self-reported "*Chronic-Severe*" disabled experience a large fall in household income and consumption following disability that persists for many years. The average fall in income is approximately 30 percent, while the fall in food and housing consumption is approximately 20 percent. The group experiencing this decline in material well-being is not small; it is about twice as large as the share of individuals receiving SSDI or Supplemental Security Income (SSI). We might expect the disabled to fare particularly poorly in retirement given this negative experience. Another way to look at the disabled is that they are a group of early retirees about which we might be especially concerned. In line with this view, Coile (2015) finds that the structure of the SSDI program encourages

¹ See Monthly Statistical Snapshot, May 2016, https://www.ssa.gov/policy/docs/quickfacts/stat_snapshot/2016-05.html (accessed July 2016).

workers, especially those with poor health and low education, to use SSDI as a channel for early retirement.² Given the rising SSDI receipt rate, we might also expect to see an increasing share of retired individuals disabled prior to retirement age. This share and its trend have not been extensively researched. Similarly, very little is known about the economic well-being in retirement of these disabled recipients or those disabled unable to meet program requirements, compared to the non-disabled retired.

Current Social Security arrangements have, to a certain extent, made provisions for the disabled. First, in calculating the amount of SSDI benefits, only the history of earnings when the individual was non-disabled is used (assuming that the individual files for SSDI immediately after the onset of disability). Second, as the SSDI benefit recipient turns 62, his or her benefit rate does not change other than the mechanical rule, which requires that the benefits be paid by the retirement trust fund. However, whether this arrangement has adequately insured the disabled individual after entering retirement is unclear, since regular retirees and these disabled retirees may have different resources and consumption needs during their retirement years. The amount of pre-retirement savings is likely be different for these two groups, their ability to compensate for the decline in earnings may differ, and how they value spending during retirement may differ. How such differences impact their material well-being during retirement is of great policy interest, especially in the context of retirement poverty.

The purpose of this study is to contribute to our understanding of disabled retirees. We divide disabled men into those with less and more persistent and limiting disabilities, calling the latter group chronic-severe. We also divide these disabled groups in two alternative ways based on: 1) whether or not a disabled individual was a former SSDI or SSI program recipients and 2) whether or not a disabled individual's onset of disability was early or late in their working years. We first provide descriptive statistics documenting the prevalence of these groups since 1980 and then look at their material well-being along several dimensions, including income, consumption, and time use. We compare how these outcomes differ for these groups of disabled retirees and non-disabled retirees. This broad view likely provides useful information when considering the

² Unlike the OASI, SSDI recipients are not subject to a penalty for early enrollment into the system.

consequences of possible Social Security reforms and provides an alternative angle in understanding material well-being among the aged.

The rest of the paper is organized as follows: Section 2 describes the data and the methodology, and presents estimates of shares of retirees who were disabled across 1990-2013. Section 3 examines additional changes of key economic outcomes, as well as time-use, for disabled men as they enter retirement. Section 4 concludes.

2. Data and Methodology

Both disability and retirement are sometimes viewed as absorbing states. However, a more sophisticated analysis recognizes that individuals often have health conditions that evolve in complicated ways. This situation as well as a desire to understanding the long-run economic consequences of disability requires many years of panel data. We use the Panel Study of Income Dynamics (PSID), a longitudinal data set launched in 1968, with an initial sample of about 4,800 US households and 18,000 individuals.³ The survey has conducted interviews annually since 1968 (and biannually since 1997). Split-offs, such as divorcees or children forming their own family, are followed and interviewed. Besides general demographic information, the survey provides comprehensive data on transfer program receipt, earnings, income, food, and housing consumption. The longitudinal nature of these data allows an investigator to track these economic outcomes for an individual over a long period. As of the 2013 wave, the PSID has collected data from 75,253 individuals.

We use the entire PSID panel, covering data from 1968–2013. However, the PSID survey does not collect the same information from every individual and the questionnaire changes from time to time. In particular, the survey initially focused on family heads, normally defined as the principal male family member. We focus only on male heads and their families and focus on how the onset of disability during their working years has affected their material well-being during retirement. To ensure sufficient data for each male head, we require at least eight years of data of the individual (as head) through age

³ The Health and Retirement Study also has many of the needed data features but does not interview younger workers and covers a shorter time period.

64 and he must be observed at least once (as head) in the ages 62 and above. Those with missing demographic information are dropped.

Identifying the Disabled

Disability status is obtained through the question “*Do you have any physical or nervous condition that limits the type or amount of work you can do?*”⁴ We use the response to this question to identify those who were disabled prior to retirement. Since we are interested in the impact of working age disability on retirement, our non-disabled sample includes those who never reported a positive limitation during their prime working ages.⁵ The disabled are those who reported a positive limitation at least once during their prime working ages 18 to 64.

Similar to previous studies (Charles 2003, Mok et al. 2008, Meyer and Mok 2014a), we use two methods to determine the year and age of disability onset in our disabled sample. In the survey years 1968–1978, a retrospective question on disability was asked and we combine the responses to determine the year of disability onset (for more technical details, see Meyer and Mok, 2014a). For those whose first observed disability took place after 1978, the year of disability onset is the year when such was observed, conditional on two consecutive years of non-disability immediately before. Disabled individuals who do not satisfy this criterion are dropped, as well as those whose age of disability onset was determined to be less than 18. We further delete those with missing key demographic characteristics. This gives us a sample of 1,851 male heads.

Classification of the Disabled

Meyer and Mok (2014a), among others, have recognized the substantial heterogeneity among the disabled population. They have noted the particularly bad

⁴ Past research has documented the endogeneity of this self-reported disability question. See Meyer and Mok (2014) for a list of related studies on the pros and cons of using this self-reported response for identifying disability.

⁵ This approach implies that those who were first observed to report a positive limitation at age 65 or later will be classified as non-disabled. It is unclear how a retiree would answer the work disability question, since many would not work anyway. We believe post-retirement disability is better identified by questions on specific disability conditions (e.g., difficulty lifting an item) than a general work disability question.

experience along several economic outcome dimensions of a group of disabled they call *Chronic-Severe*. They also emphasize that looking at the “average disabled person” can be very misleading. Since the authors focus on the material well-being of disabled men during the working years, the question of whether such a group continues to fare poorly or otherwise during their retirement period remains unanswered.

Following the question of the existence of a positive work limitation, a question on the extent of such a limitation was asked, which we use to determine the severity of the disability (for details, see Meyer and Mok, 2014). We divide disabled men into two groups. The “*Chronic-Severe*” disabled are those who reported a positive limitation in at least four years and at least three years of “Severe” disability (all in the age range 18–64). We do not require these reports to be consecutive or within any time window.

Besides splitting disabled men into these two disability groups, we further subdivide these individuals along two of their characteristics prior to when they enter retirement to see if they fare differently. First, we split the disabled by their age of disability onset, and second by whether or not they received benefits administered by the Social Security Administration (SSA). Specifically, we split the two disabled groups into 1) the *early onset disabled* (age of onset 18–49) and the *late onset disabled* (age of onset 50–64) and 2) those who reported receiving SSI and Social Security (OASDI) in the age range 18–61 and those who did not (hereinafter labeled *SSA benefit recipients* and *non-recipients*, respectively). Much of our analysis below is based on the experience of these different sub-groups.

Lifetime Prevalence of Disability

The panel nature of the PSID allows us to examine the lifetime prevalence of working-age disability, that is, the percentage of current male household heads of various ages who *have had* a disability during their prime ages. Based on our sample, we calculate the lifetime disability prevalence rates for the older age groups. Table 1 reports these rates and the sample sizes since 1990. Although the rates of many age groups display a declining trend over 1990–2013, we note that these rates are still quite high as of 2013 and are likely to be substantially understated given the unbalanced panel we use

to compute them. For those above the full retirement age, the lifetime prevalence of working-age disability has been around 50 percent throughout the two decades. In 2013, about 47 percent of male heads aged 62–64 had a disability during their working years, with corresponding rates of 47 percent, 44 percent, and 44 percent for those aged 65–69, 70–74, and 75+, respectively.

Table 2 provides a general picture of the retirement age sample in terms of their disability and pre-retirement SSA benefit receipt. Among the 1,851 individuals, 1,013 were found to be disabled prior to age 65, with 308 classified as Chronic Severe. This result yields a prime working-age disability prevalence rate of 55 percent and a *Chronic-Severe* disability prevalence rate of about 17 percent. These numbers are comparable to those reported by Meyer and Mok (2014a). We also see that, among disabled men, most did not report receiving SSA benefits before age 62. In the *Chronic-Severe* group, only about 43 percent received SSA benefits prior to age 62.⁶ This finding highlights that not all disabled receive SSA benefits and identifying the disabled based on benefit receipt alone would be unrepresentative and miss a large share of the disabled.

Table 3 shows the descriptive statistics for our sample of disabled and non-disabled when we split disabled men by severity and age of onset. The disabled are less likely to be white, married and less likely to have some college education. Across the four disability groups in question, again we see that the two *Chronic-Severe* groups are less likely to be white, married and less likely to have any college education, relative to their *Not Chronic-Severe* counterparts. All groups have similar number of years in the survey. Table 4 shows the employment rate of these groups: in the age range 58–61; about 88 percent of the non-disabled group are working and more than three-quarters of the *Not Chronic-Severe* individuals are working. In contrast, only about a quarter of the *Chronic-Severe* groups are working. As we examine the older groups in turn, we see the not surprising result that they are less likely to work than their younger disabled counterparts. More surprisingly, those with an early age of onset are initially less likely to work at a given age, and then switch to being more likely to work at older ages than those

⁶ This number is likely an underestimate given the underreporting of government transfers in household surveys (Meyer, Mok and Sullivan 2015), however the understatement may not be that pronounced given that SSI and SSDI are quite well reported in the aggregate in the PSID.

with onset at an older age. In particular, in the 65–69 age range, about 6 percent of the early onset *Chronic-Severe* disabled group are working but only 3 percent of the late onset *Chronic-Severe* disabled work.

Econometric Framework

We are interested in the incremental changes in various economic outcomes for our disabled groups as they reach retirement. Employing the approach of Jacobson et al. (1993), we estimate the following individual fixed effect panel regression for our sample of non-disabled and disabled male heads:

$$(1) \quad y_{it} = \alpha_i + \gamma_t + X_{it}\beta + \sum_h \sum_k \delta_h^k A_{hit}^k + \varepsilon_{it}$$

where y_{it} is an outcome of interest for person or family i in year t (such as family food and housing consumption); α_i is an individual fixed effect; γ_t is an indicator variable for year t ; X_{it} is a set of time-varying explanatory variables, including the age of the individual (using 12 age groups), marital status, state of residence, number of children, and adults in the family;^{7,8} and A_{hit}^k is an indicator variable that equals one if, in year t , individual i belongs to disability group h , after disability onset, and is in the age bracket k . In this study, we mostly focus on five age brackets based on the head's current age: 58–61 (*before retirement*), 62–64 (*around retirement*), 65–69 (*short run*), 70–74 (*long run*), and 75+ (*very long run*). The term ε_{it} is a potentially serially correlated error term. Our coefficients of interest are the δ_h^k , which measure the level of the dependent variable for individuals in disability group h and in age range k relative to its pre-onset level and accounting for the age pattern for the non-disabled. The inclusion of α_i removes all time-constant unobservables of the person or family. Estimates from this equation allow us to examine how changes in outcomes (income, consumption) differ for previously disabled retirees from those who did not experience disability in their working years. Since our outcomes of interest are non-negative numbers, we estimate the regressions using the

⁷ Note the effect of education is likely to be absorbed by individual fixed effects, as are other time-constant factors.

⁸ The 12 age groups are 18–24, 25–29, 30–34, 35–39, 40–44, 45–49, 55–57, 58–61, 62–64, 65–69, 70–74, and 75+ years. The omitted group is 50–54 years.

Poisson regression framework.⁹ How a variable affects the outcome of interest in terms of percentage change can be easily obtained by exponentiating the corresponding regression estimate and subtracting one.¹⁰

3. Results

Quality of Life and Material Well-Being of Disabled Retirees - Family Income

Estimating equation (1) using our sample, Table 5 shows the average estimated percentage changes in various outcomes over the retirement years for non-disabled retirees and the estimated incremental percentage changes in these outcomes for disabled retirees as a whole. Focusing on income per person (calculated using an equivalence scale), these estimates are shown in column (2) and are also displayed in Figure 1 (the All Disabled series).¹¹ Not surprisingly, we see a sizable drop in income as the family head enters the retirement period. Average family income drops by almost 50 percent by the time a regular non-disabled retiree reaches 75 years of age (earnings drop by almost 100 percent by this time), relative to the time when he was aged 50–54. For disabled retirees as a whole, family income drops by an additional 10 percent when 58 to 61 years of age, by 14 percent when 62 to 64 years of age and by 11-12 percent in the ages afterwards, relative to the years before onset. As disabled retirees reach age 75 and above, the drop in income is about 10 percent, albeit imprecisely estimated.

Next, we split the disabled retirees into groups based on the age of disability onset. These results are also displayed in Figure 1 (actual coefficient estimates are shown in column (2) of Table 6). Comparing the two *Not Chronic-Severe* disabled groups, one sees that the additional drop in income is larger and more apparent for the early onset disabled than for their late onset disabled counterparts. In addition to the 34–44 percent drop in income experienced by the non-disabled retirees, the early onset disabled are estimated to suffer from a further 12–16 percent drop in income as they enter their 70s, while we

⁹ This is estimated using the `Poisson` command in STATA.

¹⁰ The percentage change is $\exp(\hat{b}) - 1$.

¹¹ The equivalence scale used is $(A + 0.7K)^{0.7}$, where A and K are the number of adults and children (under age 18) in the family, respectively.

observe no significant fall for their late onset disabled counterparts. We expect that the higher asset accumulation and higher pre-disability earnings of the late onset disabled explains most of the difference here. Higher pre-disability earnings would translate into higher SSDI/OASI benefits, while higher asset accumulation means higher asset income. It should be emphasized again that the late onset disabled in this disability group constitute a small sub-sample.

Turning to the two *Chronic-Severe* disabled groups, it is perhaps surprising to see that the income drop is similar across the retirement years until ages 75 and above. The additional drop is especially high in the 62–64 age range and, then, the magnitude declines to around 30 percent as disabled retirees enter the 65–69 age range. This result is likely due to the increasingly large fraction of individuals receiving OASI. The additional drop then stabilizes for the early onset disabled, while the drop for the late onset disabled decreases but overall income remains about 20 percent lower than that of the non-disabled retirees.

Overall, these results show a significant and substantial fall in income for disabled retirees during the retirement years relative to non-disabled retirees. The large drop in pre-retirement earnings presumably resulted in permanently lower retirement benefits for disabled male retirees and hence lower income as they enter retirement.

Quality of Life and Material Well-Being of Disabled Retirees - Food and Food plus Housing Consumption

Numerous studies have pointed out the limitations of using income as a measure of material well-being. From a theoretical point of view, we think of consumption as what enters into an individual's utility function. In practice, low income may not translate into low consumption, given the possibilities of borrowing, dis-saving, and the possibility of in-kind transfers. From an empirical view, income is often poorly measured due to the underreporting of income sources in terms of receipt at all as well as amounts. Meyer and Sullivan (2003) show that income is badly measured for poor families in the Consumer Expenditure Survey and the PSID. Furthermore, consumption correlates with objective indicators of poor material well-being better than those of income. Moreover, Meyer,

Mok and Sullivan (2015) further provide evidence of problems of income measures in household surveys through the underreporting of government transfers, though SSA benefits (OASI, SSDI, and SSI) are quite well reported in the aggregate. While not focusing on the PSID, U.S. Census (2015) shows very high rates of under-reporting of pension income among the retired. All these factors favor the use of consumption as an indicator of material well-being.

The PSID asks about the family's expenditure on food (food consumed at home, food consumed outside of the home, food stamps) in a typical week, as well as the value of the home (if owned) and rent paid. We use these measures to assess the material well-being of disabled retirees. Food expenditure is defined as the sum of food expenditures, as well as the amount of food stamps received. Housing expenditures include the rent paid (or predicted rent for those in subsidized or free housing) or 8 percent of the current home value for homeowners.¹²

Column (3) of Table 5 shows the estimated percentage changes in food expenditures for non-disabled retirees and disabled retirees, in the same way that we just examined income changes. We observe a post-retirement drop in food for the non-disabled retirees ranging from 5.8 percent to 15.3 percent. In the aggregate, disabled male retirees' additional drops in food expenditures, relative to that of non-disabled retirees in the corresponding age ranges, were 4.6 percent (ages 58–61), 2.9 percent (ages 62–64, albeit imprecise estimates), and 5–6 percent (ages 65–69, 70–74, and 75+). While a drop in food expenditure for the retired is well documented and sometimes called the “Retirement-Consumption Puzzle”, our results show that disabled retirees do suffer from an additional decline in food expenditures. The important study of Aguiar and Hurst (2005) finds that the retirement consumption puzzle can be explained by higher shopping frequencies and more time spent on food preparation. To generalize this argument to disabled retirees, our disabled retirees must be spending even more time shopping and preparing food. As shown later, we do not find evidence in favor of these two channels via the time-use data. Nevertheless, our results do not definitively indicate that disabled retirees are indeed suffering from an additional fall in material well-being, since we

¹² See Meyer and Mok (2014a) for the prediction of rent for those in subsidized or free housing.

cannot rule out that they have experienced changes in their preferences. However, we should emphasize that consumption is at the household level, so it is not just the preferences of the disabled head that are relevant.

For food and housing consumption, the estimated additional fall beyond that for the non-disabled (column (4) of Table 5) for disabled retirees is generally greater than the food estimates (though we see the reverse for the non-disabled retirees). The additional fall for disabled retirees is 8.7 percent (ages 58–61), 10.8 percent (ages 62–64), 13 percent (ages 65–69), 12.8 percent (ages 70–74), and 10.2 percent (ages 75 and above). The drops are all statistically significant at the 5 percent level.

We next turn to the age of onset division. The results are again displayed in Figure 1 (Food), Figure 2 (Food plus Housing) and estimates are shown in Table 6. For the *Not Chronic-Severe* groups, the drops in food are all smaller than the corresponding drops in food plus housing. For those with onset when 18-49, the drop in food plus housing is greater as an individual enters his 60s, dropping further to as much as 13 percent upon reaching 58–61 years old and remaining about 20 percent lower after 65 years of age. For those with onset after age 50, however, the drop in food and food plus housing consumption is always smaller in magnitude than for those with early onset, with additional drops of 6.4–7.9 percent at ages 58 and beyond.

For the two *Chronic-Severe* groups, the fall in food and food plus housing consumption is almost always larger than that of their *Not Chronic-Severe* counterparts. Among the early onset disabled, food expenditures drop by 15.7 percent when they reach 58–61 years old and roughly stabilizes thereafter. Food plus housing, however, drops by as much as 26.7 percent for those 65–69 years and remains about 14.6 percent lower through age 75, albeit it is imprecisely measured then. The late onset disabled suffer from a somewhat smaller decline in food and food plus housing consumption relative to their early onset counterparts, with food plus housing of the former dropping by about 19 percent in the age range 70–74 and by about 16.7 percent thereafter (albeit imprecisely estimated).

These results show that the substantial heterogeneity in changes in material well-being with disability documented in Meyer and Mok (2014a) persists in the retirement

years. In general though, the divergence of consumption between the non-disabled and the disabled does not seem to “close-up” when both groups enter retirement.

Poverty Measures

Our results above illustrate the change in well-being experienced by disabled retirees. However, the absolute level of deprivation cannot be inferred from these changes. To address this point, we calculate the poverty rates of different age and disability groups using our sample. We use both an income-based and a consumption-based poverty rate measure in this section. The definition of *income poverty* is analogous to the definition of the official Census Bureau poverty rate measure: an individual is defined as living in poverty if his family income is below the official poverty threshold (which varies by family size and age of the head). An individual is defined to be in *consumption poverty* if family food plus housing expenditures are below 50 percent of the designated income poverty threshold, given that food and housing expenses typically account for about half of a household’s expenditures.

Figure 3 shows the income poverty rates of the non-disabled and the disabled groups by age of disability onset. The income poverty rate for the *Not Chronic-Severe* groups is typically low, around 7 percent, before age 69 but increases as the groups progress into their 70s. The early onset disabled are also more likely to live below the income poverty line than their late onset counterparts are after the full retirement age. For the *Chronic-Severe* groups, income poverty is generally very high, with rates of around 25 percent and 20 percent for the early and late onset disabled, respectively. The rate for the early onset disabled is always higher than that of the late onset disabled among the *Chronic-Severe* group.

Figure 4 reports the rates of consumption poverty. The qualitative features are similar to those above. The difference in poverty between the two *Chronic-Severe* groups increases after age 64 and about 30 percent of the younger disabled group live below the consumption poverty line after age 75. It is also evident that the gap in poverty between the two *Not Chronic-Severe* groups widens after age 65, again with the rate of the younger disabled being higher. Overall, our results show that the material well-being of

disabled retirees is worse than that of non-disabled retirees at both the intensive and extensive margins, and this is especially true for the *Chronic-Severe* disabled retirees.

Table 7 provides information on how important disability is as a source of poverty for those of retirement age. We see that overall while the disabled are only about half of the population of that age, they are about seventy-five to eighty percent of the poor, depending on age and how we measure poverty. The Chronic-Severe disabled are particularly over-represented among the poor, constituting about fifteen percent of the population, but about forty percent of the poor.

Split Based on Receipt of SSA Benefits

To better understand the role of SSA programs, we examine how the drop in income and consumption differs between benefit recipients and non-recipients. While we acknowledge that the receipt of benefits is far from exogenous, it is still important to look at whether current arrangements have adequately prevented large declines in material well-being for disabled retirees. We are primarily interested in these outcomes for the *Not Chronic-Severe* and *Chronic-Severe* disabled who were observed to have received benefits administered by the SSA at least once prior to age 62 and how they differ from those who did not.

Table 8 shows the estimated changes in food and food plus housing consumption for the four disability groups in question while Figure 5 (Food) and Figure 6 (Food plus Housing) display these estimates. For food, the estimated changes are mostly small and not statistically different from zero for the two *Not Chronic-Severe* groups. For the *Chronic-Severe* groups, the estimated drop is large and is often larger for those who did not receive SSA benefits prior to age 62, with an estimated 15–17 percent drop in food expenditure beyond age 65. For those who did receive SSA benefits prior to age 62, however, the fall is relatively smaller. A somewhat different picture can be described when we turn to the food plus housing estimates, and true also for the *Not Chronic-Severe* non-SSA recipients, with magnitudes ranging from 9-11 percent after age 65. Going back to the *Chronic-Severe* groups, the estimated drop in food plus housing consumption is generally much larger in magnitude than that of food alone and, again, it

is larger for SSA benefit non-recipients. Comparing these estimates across the different age ranges, the drop is about 20 percent (in the 58–61 age range), 19.8–24.7 percent (in the 62–64 age range), and 20.3–27.7 percent (in the 65–69 age range). From this point on, we estimate a 25.5 percent decline for the benefit non-recipients and a 13.3 percent fall for recipients (albeit statistically not different from zero) in the 70–74 age range. From age 75 onward, the estimated changes are still large but not statistically different from zero.

The poverty estimates paint a somewhat different picture by showing absolute levels material deprivation. Figures 7 to 8 show the income and consumption poverty rates, respectively, for the SSA recipient sample split. The poverty rate among the *Chronic-Severe* SSA benefit recipients is the highest, with an income poverty rate of 25 percent to 30 percent among those under age 65. From age 65 on, the income poverty rate increases, rising to about 30 percent among those aged 75 and above. The consumption poverty rate after age 65 follows a similar trend, albeit greater in magnitude, with also about 30 percent of individuals in consumption poverty among those above age 75. We generally see that that SSA benefit recipients have higher poverty rates than non-recipients.

Time-Use Patterns of Disabled Retirees and Their Wives

While the drop in food and food plus housing consumption for the disabled retirees shown above are large and persistent, several authors have questioned the interpretation of expenditure estimates. Aguiar and Hurst (2005) show that retirees spend more time on home food production; hence their consumption (which can be viewed as a function of food expenditure and time input) can remain unchanged despite a decrease in food expenditure. Meyer and Mok (2014a) document changes in the use of time by prime-age disabled men. Using the cross-sectional American Time Use Survey (ATUS), they show no significant evidence that disabled men (and their wives) spend more time shopping for and preparing food. Therefore, the decline in food and housing expenditures appears to represent a true decline in material well-being.¹³

¹³ Meyer and Mok (2014b) provide evidence on the time use of disabled women.

In this section, we provide descriptive evidence on how the use of time among disabled retirees differs from that of their non-disabled counterparts. We use the Disability and Use of Time (DUST) supplement of the PSID. The DUST supplement collects data on the use of time for older interviewees and was carried out in 2009 and 2013. The 2009 DUST supplement interviewed a sample of couples, with both spouses at least 50 years old and at least one spouse 60 or older on December 31, 2008. Each spouse was interviewed separately. No unmarried household heads were included. The 2013 DUST supplement interviewed unmarried household heads aged 60 or older. For married/partnered households, only one spouse had to be 60 or older, and each spouse was interviewed separately.¹⁴

We merge our PSID estimation sample with 2 years of DUST data and obtain time-use information for 1,580 male heads and 1,330 wives. Of the male heads, 564 are *Not Chronic-Severe* and 176 are *Chronic-Severe* disabled. Due to the rather small sample sizes, we only split our sample into the three disability groups and look at the average use of time in each group, by whether or not the male head's current age is above or below 65.

Table 9 reports descriptive statistic for our sample and the average time spent in various activities (in minutes per day). In terms of time spent sleeping, we observe that the older male heads generally sleep more, by about 20 minutes per day, as in the case of the non-disabled and the *Not Chronic-Severe* disabled. Comparing the non-disabled and disabled, the latter tend to sleep more but the difference is not statistically significant.

Turning to the two time-use categories that affect consumption, we find mild evidence supporting the time-use pattern documented by Aguiar and Hurst (2005). Among the non-disabled men, the older group does not seem to shop more and neither do their wives. For food preparation, however, both the older men and their wives spend more time than their younger counterparts do. Older men are observed to spend four minutes more per day on food preparation relative to their younger counterparts, representing a 17 percent increase in time use in this activity. The same pattern holds for

¹⁴ For the 2009 DUST supplement, 832 couples were identified as eligible for interviewing, 543 were then sampled, and 394 couples completed at least one diary, yielding a response rate of 73 percent. For the 2013 DUST supplement, 1,698 households were eligible and 1,217 completed at least one diary, for a response rate of 71.7 percent.

their wives: The wives of older men do not seem to shop more but their time spent on food preparation is observed to increase by 23 percent.

Focusing on the older men, we see that both the *Not Chronic-Severe* and *Chronic-Severe* disabled groups spend slightly more time sleeping than their non-disabled counterparts, though the differences are generally small. The *Chronic-Severe* disabled do not appear to spend more time in the use of medical services than the non-disabled do in a statistical sense. For time spent shopping, we observe that the *Not Chronic-Severe* disabled spend more time than their non-disabled counterparts do, while the reverse is true for the *Chronic-Severe* disabled men. In terms of time spent on food preparation, the *Chronic-Severe* disabled spend more time than their non-disabled counterparts do, while the *Not Chronic-Severe* disabled spend less. It should be noted that these differences between the non-disabled and disabled are generally not statistically significant and, on the surface, do not support the idea that the decreases in food and food plus housing expenditures among the disabled retirees are offset by increases in time spent preparing food and shopping.

If we adopt the view that the well-being of disabled retirees should be viewed at a non-unitary level and there is substitutability in food production between husband and wife, then perhaps we should further look at how the wives of disabled retirees spend their time. The results presented in Table 9 show that while the wives of the *Not Chronic-Severe* disabled retirees spend more time on shopping, they do not spend more time preparing food. The wives of current *Chronic-Severe* disabled retirees actually spend less time on these shopping and cooking activities but spend about twice as much time caring for the household head as the wives of non-disabled male retirees do.¹⁵ While one could argue that care giving can be seen as part of consumption if one views care giving provided by the spouse as a form of service from which the disabled head derives utility (or, if we take a broader view, family consumption depends on both raw ingredients obtained and the overall time the husband and wife spend turning these ingredients into goods and services for the family). However, such additional time spent by the wife could reduce her happiness. Although it is controversial in the literature whether happiness (usually

¹⁵ The 2009 DUST does not provide enough information of whether the care given by the wife was specifically for the head, and so we consider all types of caring given by the wife.

measured by a life satisfaction scale) should be viewed as the outcome or an element of a utility function, either way, the wife's reduction in happiness might not imply unchanged well-being at the family level. Furthermore, there is no evidence from Table 8 that wives provide more time caring for the *Chronic-Severe* head after he turns 65.

The raw mean differences in time use that we have just seen may be distorted by demographic differences. We account for these differences by estimating a regression of time spent (on an activity) by the head on a set of retirement and disability controls, as well as income per person in the family (equivalence scale adjusted), number of family members, number of children, year, and an indicator for being married. These regression results are shown in Table 10. The coefficients of interest are those on the indicator "Head Age 65 and above interacted with disability" that capture the change in time spent by a disabled retiree as he enters retirement. The estimates suggest that for the Not Chronic-Severe and Chronic-Severe disabled male heads, there is an increase in time shopping and a decrease in time spent on preparing food as they enter retirement, but these estimates are very noisy. Turning to the time use of their wives (columns (3) and (4)), while the estimated coefficients suggest that wives increase time spent shopping as their disabled husbands enter retirement, but again they are very imprecisely estimated.

Overall, we do not find that the drop in food and food plus housing consumption of disabled retirees observed above can be explained by an increase in time spent on home production by them and their wives, and it appears that the decline in material well-being during retirement may be quite real.

4. Conclusion

We find that the negative effects of disability persist through retirement as indicated by a greater fall in consumption and higher poverty rates than the non-disabled. Those who were disabled at a young age appear to fare worse than those with a late onset of disability in terms of both outcomes. Being a SSA benefit recipient is associated with a smaller decline in material well-being, but this group suffers from an overall higher poverty rate during retirement years. We also do not find that disabled retirees (and their wives) spend more time on food preparation and shopping to explain their lower consumption.

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Table 1
Lifetime Disability Prevalence, 1990-2013

Calendar Year	Age				
	58-61	62-64	65-69	70-74	75+
1990	0.456	0.572	0.605	0.563	0.490
	171	145	195	126	100
1991	0.480	0.555	0.600	0.549	0.500
	173	155	185	133	112
1992	0.509	0.507	0.571	0.599	0.484
	159	146	184	147	124
1993	0.536	0.472	0.559	0.603	0.507
	151	123	211	141	134
1994	0.541	0.515	0.505	0.615	0.479
	135	134	220	148	140
1995	0.555	0.552	0.525	0.571	0.507
	119	134	217	154	146
1996	0.496	0.583	0.507	0.562	0.493
	119	127	221	153	150
1997	0.467	0.578	0.494	0.484	0.457
	120	90	162	126	127
1999	0.417	0.543	0.531	0.433	0.486
	120	81	147	150	140
2001	0.418	0.522	0.541	0.436	0.463
	134	90	135	149	160
2003	0.394	0.489	0.515	0.512	0.436
	170	90	136	123	195
2005	0.434	0.457	0.547	0.514	0.430
	219	105	139	111	223
2007	0.426	0.454	0.514	0.496	0.459
	289	130	142	115	222
2009	0.404	0.483	0.494	0.487	0.483
	297	180	168	115	230
2011	0.432	0.452	0.472	0.512	0.430
	139	239	195	121	214
2013		0.467	0.474	0.444	0.439
		227	268	124	214

Notes: For each calendar year-age cell, the upper number shows the percentage of the male heads in this age group that had suffered from disability during the working years.

Table 2
Disability Rates and Sample Sizes

	N	% Overall	Among the Disabled
NON-DISABLED (by 62)	838	45.27%	
DISABLED (by 62)	1,013	54.73%	
<i>Not Chronic-Severe Disabled</i>	705	38.09%	69.60%
Not Chronic-Severe, Not SSDI/SSI Recipient	654	35.33%	64.56%
Not Chronic-Severe, SSDI/SSI Recipient	51	2.76%	5.03%
<i>Chronic-Severe Disabled</i>	308	16.64%	30.40%
Chronic-Severe, Not SSDI/SSI Recipient	176	9.51%	17.37%
Chronic-Severe, SSDI/SSI Recipient	132	7.13%	13.03%
TOTAL	1,851		

Table 3
Descriptive Statistics, by Disability Group and Age of Onset

	Non-Disabled	All Disabled	Not Chronic-Severe, age of onset 18-49	Not Chronic-Severe, age of onset 50-64	Chronic-Severe, age of onset 18-49	Chronic-Severe, age of onset 50-64
Age at Disability Onset		49.2 (10.7)	39.4 (7.8)	58.1 (4.3)	40.0 (7.5)	55.0 (2.9)
Age	53.2 (9.1)	53.7 (8.4)	49.1 (8.1)	56.2 (8.0)	52.8 (7.4)	56.9 (7.0)
White	0.798 (0.401)	0.709 (0.455)	0.808 (0.395)	0.725 (0.447)	0.611 (0.489)	0.574 (0.497)
Married	0.901 (0.221)	0.863 (0.254)	0.872 (0.227)	0.896 (0.228)	0.784 (0.315)	0.857 (0.268)
Highest Level of Education - High School	0.243 (0.429)	0.262 (0.440)	0.283 (0.451)	0.280 (0.449)	0.228 (0.421)	0.200 (0.402)
Highest Level of Education - College	0.549 (0.498)	0.357 (0.479)	0.500 (0.501)	0.359 (0.480)	0.207 (0.406)	0.261 (0.441)
Years in Survey	29.4 (8.6)	28.5 (8.2)	32.1 (6.5)	27.0 (8.8)	28.8 (6.8)	24.9 (8.8)
Years in Survey after Onset		17.2 (9.7)	23.1 (8.6)	11.5 (8.0)	23.9 (7.0)	13.5 (6.6)
Age in the Last Interview		71.2 (7.4)	70.2 (7.1)	72.5 (7.9)	69.9 (6.4)	70.9 (6.7)
Number of Observations	838	1,013	276	429	193	115

Table 4
Age-Specific Employment Rates, by Disability Group and Age of Onset

Age	Not-Disabled		Not Chronic-Severe, age of onset 18-49		Not Chronic-Severe, age of onset 50-64		Chronic-Severe, age of onset 18-49		Chronic-Severe, age of onset 50-61	
	N	%	N	%	N	%	N	%	N	%
<=57	15388	0.966	6396	0.932	6202	0.950	3554	0.685	1457	0.841
58-61	2501	0.877	752	0.781	1425	0.788	650	0.274	439	0.267
62-64	1786	0.635	532	0.592	1026	0.443	450	0.127	285	0.056
65-69	2209	0.332	579	0.337	1322	0.199	483	0.064	335	0.030
70-74	1438	0.191	326	0.218	811	0.122	256	0.051	213	0.014
75+	1523	0.095	272	0.110	784	0.082	163	0.025	136	0.000

Table 5
Percentage Changes in Outcomes

Non-Disabled by Age	Earnings (1)	Income (2)	Food (3)	Food+Housing (4)
58-61	-7.64* (3.89)	-2.71 (2.79)	-0.89 (1.49)	4.13* (2.01)
62-64	-32.98** (3.06)	-10.66** (3.13)	-4.23* (1.93)	2.31 (2.32)
65-69	-65.95** (3.32)	-24.48** (3.42)	-5.78* (2.28)	2.27 (3.78)
70-74	-86.90** (1.51)	-34.16** (3.73)	-9.08** (2.78)	-1.8 (3.46)
75+	-95.28** (0.99)	-44.51** (4.65)	-15.27** (3.35)	-7.04 (4.21)
All Disabled Interacted with Post Disability by Age				
<=57	-17.06** (3.00)	-8.66** (2.43)	-1.39 (1.46)	-2.78 (1.96)
58-61	-27.57** (3.81)	-11.39** (3.42)	-4.56** (1.65)	-10.56** (2.41)
62-64	-32.32** (5.20)	-14.41** (2.99)	-2.91 (2.01)	-10.81** (2.35)
65-69	-43.27** (6.88)	-11.71** (3.53)	-6.12** (1.94)	-12.96** (3.31)
70-74	-20.27 (14.70)	-10.54* (5.19)	-5.71* (2.61)	-12.79** (3.01)
75+	39.93 (55.79)	-9.53 (7.47)	-5.09 (3.26)	-10.21** (3.94)

** p<0.01, * p<0.05, + p<0.1.

Table 6

Percentage Changes in Outcomes, by Disability Group and Age of Onset

Disability Group	Age	Earnings (1)	Income (2)	Food (3)	Food+Housing (4)
Age Dummies (Non-disabled)	58-61	-6.36 (3.89)	-2.23 (2.80)	-0.68 (1.50)	4.18* (1.98)
	62-64	-31.60** (3.08)	-10.30** (3.18)	-4.15* (1.94)	2.07 (2.27)
	65-69	-65.20** (3.37)	-24.20** (3.46)	-5.73* (2.28)	1.94 (3.70)
	70-74	-86.57** (1.54)	-33.87** (3.79)	-8.99** (2.79)	-2.15 (3.42)
	75+	-95.11** (1.02)	-44.16** (4.73)	-15.12** (3.36)	-7.45 (4.17)
Not Chronic- Severe, age of onset 18-49, age and post- onset interactions	<=57	-9.46* (4.00)	-7.63* (3.50)	-2.52 (2.26)	-6.79* (2.92)
	58-61	-14.35* (6.60)	-4.88 (6.44)	-3.63 (2.69)	-12.99** (3.82)
	62-64	-14.39 (8.68)	-9.82 (5.42)	-2.51 (3.18)	-14.06** (3.95)
	65-69	-15.7 (14.66)	-8.04 (7.01)	-8.79** (3.25)	-19.01** (4.69)
	70-74	39 (33.01)	-11.83* (6.00)	-10.24* (4.36)	-20.53** (4.39)
75+	42.42 (56.02)	-16.15* (6.60)	-10 (8.39)	-17.57* (7.22)	
Not Chronic- Severe, age of onset 50-64, age and post- onset interactions	<=57	-11.16* (5.06)	-3.54 (4.25)	0.36 (2.37)	-1.38 (2.92)
	58-61	-12.31* (5.48)	-4.64 (4.54)	0.06 (2.32)	-6.59** (2.51)
	62-64	-18.16* (8.05)	-7.71 (4.00)	1.16 (2.78)	-4.80* (2.39)
	65-69	-40.01** (8.09)	-8.52* (3.89)	-1.71 (2.33)	-6.4 (3.35)
	70-74	-24 (18.31)	-4.84 (8.04)	-2.8 (3.06)	-7.85* (3.39)
75+	75.54 (85.02)	-3.65 (10.91)	-0.66 (3.71)	-6.4 (4.22)	

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Table 6 – continued

Percentage Changes in Outcomes, by Disability Group and Age of Onset

Disability Group	Age	Earnings (1)	Income (2)	Food (3)	Food+Housing (4)
Chronic- Severe, age of onset 18-49, age and post- onset interactions	<=57	-43.78** (4.10)	-24.17** (3.98)	-7.64** (2.86)	-8 (8.26)
	58-61	-69.49** (4.26)	-36.83** (4.81)	-15.65** (3.22)	-19.55* (7.73)
	62-64	-84.15** (2.79)	-37.68** (4.17)	-14.45** (3.47)	-23.30** (6.94)
	65-69	-85.21** (4.25)	-28.66** (5.43)	-18.19** (3.93)	-26.66** (7.10)
	70-74	-73.43** (14.26)	-28.49** (6.57)	-11.08 (7.91)	-20.28* (9.32)
	75+	-75.29** (22.37)	-28.59** (6.58)	-15.85** (5.84)	-14.55 (10.13)
Chronic- Severe, age of onset 50-61, age and post- onset interactions	<=57	-44.16** (8.23)	-18.81** (5.60)	-12.54** (3.35)	-17.75** (3.32)
	58-61	-71.10** (5.45)	-34.52** (4.50)	-14.10** (3.18)	-21.32** (3.28)
	62-64	-91.32** (2.84)	-41.34** (3.51)	-11.98** (4.36)	-21.89** (4.33)
	65-69	-90.75** (3.72)	-31.21** (4.05)	-11.42** (3.88)	-20.73** (5.27)
	70-74	-94.81** (3.50)	-28.94** (5.04)	-10.99* (5.00)	-19.01** (6.13)
	75+	N.A.	-19.57* (7.71)	-11.06 (8.22)	-16.68 (11.64)

** p<0.01, * p<0.05, + p<0.1.

Table 7

Shares of Male Head Sample in Different Disability Groups, by Poverty Status and Age

<i>A. All Male Heads</i>										
Age	N	Not Disabled	Not Chronic-Severe, Not SSA	Not Chronic-Severe, SSA	Chronic-Severe, Not SSA	Chronic-Severe, SSA	Not Chronic-Severe, Onset 18-49	Not Chronic-Onset 50-61	Chronic-Severe, Onset 18-49	Chronic-Severe, Onset 50-61
62-64	4079	0.438	0.349	0.033	0.092	0.088	0.130	0.252	0.110	0.070
65-69	4928	0.448	0.349	0.037	0.078	0.088	0.117	0.268	0.098	0.068
70-74	3044	0.472	0.331	0.042	0.068	0.086	0.107	0.266	0.084	0.070
75+	2878	0.529	0.316	0.051	0.047	0.057	0.095	0.272	0.057	0.047
<i>B. Male Heads below Income Poverty</i>										
62-64	373	0.155	0.292	0.072	0.206	0.273	0.113	0.252	0.300	0.180
65-69	416	0.173	0.353	0.055	0.166	0.252	0.115	0.293	0.269	0.149
70-74	311	0.186	0.367	0.084	0.125	0.238	0.148	0.302	0.212	0.151
75+	314	0.268	0.404	0.137	0.032	0.159	0.162	0.379	0.140	0.051
<i>C. Male Heads below Consumption Poverty</i>										
62-64	380	0.221	0.316	0.066	0.189	0.208	0.103	0.279	0.253	0.145
65-69	431	0.227	0.362	0.046	0.169	0.195	0.128	0.281	0.220	0.144
70-74	279	0.233	0.348	0.079	0.129	0.211	0.143	0.283	0.211	0.129
75+	223	0.291	0.345	0.108	0.081	0.175	0.175	0.278	0.170	0.085

Notes: Panel A shows the shares of male heads of different ages in the various disability groups. Panel B shows these shares for those classified as living below income poverty. Panel C shows these shares for those classified as living below consumption poverty.

Table 8

Percentage Changes in Outcomes by Disability Group and SSA Benefit Receipt

Disability Group	Age	Earnings (1)	Income (2)	Food (3)	Food+Housing (4)
Regular age dummies	58-61	-6.33 (3.93)	-2.15 (2.81)	-0.6 (1.50)	4.33* (2.00)
	62-64	-31.75** (3.09)	-10.17** (3.16)	-3.96* (1.94)	2.46 (2.31)
	65-69	-65.31** (3.38)	-24.11** (3.45)	-5.51* (2.29)	2.38 (3.78)
	70-74	-86.61** (1.54)	-33.80** (3.76)	-8.75** (2.79)	-1.68 (3.45)
	75+	-95.13** (1.02)	-44.05** (4.70)	-14.83** (3.37)	-6.89 (4.20)
	Not Chronic-Severe, non-SSA recipients and post-onset interactions	<=57	-11.28** (3.35)	-5.69 (2.92)	-0.07 (1.87)
Not Chronic-Severe, SSA recipients and post-onset interactions	58-61	-14.22** (4.70)	-3.26 (4.21)	-1.09 (1.91)	-8.07** (2.63)
	62-64	-16.43* (6.43)	-7.39* (3.54)	0.39 (2.34)	-7.50** (2.56)
	65-69	-31.93** (8.55)	-7.69 (4.02)	-3.87 (2.14)	-10.06** (3.55)
	70-74	-2.48 (18.80)	-5.87 (6.48)	-5.42 (2.77)	-11.33** (3.19)
	75+	69.97 (70.93)	-6.39 (9.17)	-2.46 (3.94)	-8.75* (4.28)
Not Chronic-Severe, SSA recipients and post-onset interactions	<=57	-11.77 (9.68)	-11.35* (5.74)	-1.04 (5.44)	3.88 (6.99)
	58-61	-14.7 (9.25)	-21.77** (6.58)	3.03 (6.35)	-5.35 (5.28)
	62-64	-30.97** (11.53)	-25.54** (5.50)	-0.62 (6.92)	-7.09 (5.38)
	65-69	-33.69 (19.54)	-17.47* (8.65)	-0.72 (6.25)	-10.2 (5.85)
	70-74	-24.58 (31.02)	-22.76** (7.54)	1.44 (7.60)	-13.09* (6.50)
75+	26.11 (67.16)	-15.61 (11.51)	-6.96 (7.41)	-13.71 (8.88)	

(Continued on next page)

Table 8 (continued)

Percentage Changes in Outcomes by Disability Group and SSA Benefit Receipt

Disability Group	Age	Earnings	Income	Food	Food+Housing
		(1)	(2)	(3)	(4)
Chronic-Severe, non-SSA recipients and post-onset interactions	<=57	-42.91** (4.38)	-21.07** (3.75)	-8.33** (2.67)	-7.88 (6.49)
	58-61	-61.32** (4.79)	-32.09** (4.55)	-12.67** (2.88)	-20.65** (5.41)
	62-64	-83.62** (2.84)	-38.54** (3.51)	-16.62** (3.12)	-24.66** (5.11)
	65-69	-86.22** (4.17)	-28.32** (4.48)	-17.34** (3.74)	-27.65** (5.68)
	70-74	-88.70** (5.33)	-23.66** (6.01)	-15.33** (4.95)	-25.54** (6.17)
	75+	-98.69** (1.38)	-18.00* (7.68)	-15.70** (5.10)	-19.53 (10.50)
Chronic-Severe, SSA recipients and post-onset interactions	<=57	-53.29** (6.54)	-29.08** (4.57)	-5.09 (3.42)	-10.31** (3.85)
	58-61	-86.01** (2.98)	-42.77** (4.00)	-15.96** (3.63)	-18.91** (3.36)
	62-64	-93.37** (2.02)	-41.73** (3.72)	-8.2 (4.87)	-19.84** (3.65)
	65-69	-90.57** (3.30)	-33.90** (4.19)	-12.05** (4.27)	-20.33** (3.92)
	70-74	-79.92** (13.95)	-36.31** (4.69)	-5.72 (7.98)	-13.34 (7.54)
	75+	-72.68** (25.52)	-33.28** (5.42)	-10.25 (8.13)	-11.01 (8.80)

** p<0.01, * p<0.05, + p<0.1.

Table 9: Descriptive Statistics for the DUST sample, by Head's Disability

	Age	N	Male Head				Wives			
			Sleeping	Medical	Shopping	Food prep	N	Shopping	Food prep	Caring
Non-Disabled	<65	217	477 (657)	3 (121)	44 (579)	23 (302)	187	54 (612)	56 (447)	19 (384)
	>=65	623	498 (855)	10 (358)	38 (555)	27 (269)	525	46 (551)	69 (620)	26 (805)
Not Chronic- Severe Disabled	<65	189	482 (801)	7 (242)	35 (419)	22 (264)	170	44 (519)	58 (481)	13 (332)
	>=65	375	517 (1033)	14 (335)	42 (566)	23 (273)	295	54 (569)	69 (466)	17 (445)
Chronic- Severe Disabled	<65	64	498 (866)	3 (74)	28 (352)	50 (653)	58	23 (297)	61 (439)	59 (688)
	>=65	112	506 (1238)	12 (272)	31 (355)	31 (320)	95	40 (450)	58 (372)	58 (783)

Notes: This table shows the mean and standard deviation of time spent in different activities, for the male heads and their wives (if married). Results are weighted using the diary weights.

Table 10
DUST Time Use Regression Estimates

	Head		Wife	
	Shopping	Food Preparation	Shopping	Food Preparation
	(1)	(2)	(3)	(4)
Head Age 65 and above	-4.847 (7.202)	2.021 (3.696)	1.701 (8.480)	8.663 (6.868)
Head Not Chronic-Severe Disabled	-8.727 (8.395)	-1.093 (4.930)	-7.573 (9.255)	-1.042 (7.448)
Head is Chronic-Severe Disabled	-18.81 (10.594)	26.767 (29.851)	-24.080* (9.927)	-6.147 (15.143)
Head Age 65 and Above x Not Chronic Severe	12.781 (10.284)	-3.515 (5.558)	15.804 (11.173)	0.251 (9.466)
Head Age 65 and Above x Chronic Severe	10.588 (12.374)	-22.895 (29.975)	17.936 (13.266)	-10.623 (16.778)

Notes: Each column shows the results of a regression of time spent on an activity (in minutes per day) by the male head (columns 1-2) and the wife (columns 3-4). Regressions are weighted using the diary weights. Robust standard errors are in parentheses. The regression controls include: income per person in the family (equivalence scale adjusted), number of family members, number of children, year, indicator of being married (for columns 1-2 regressions), indicator of whether the wife is age 65 and above (for columns 3-4 regressions). ** p<0.01, * p<0.05, + p<0.1.

Figure 1

Change in Food Consumption, by Disability Group and Age of Onset

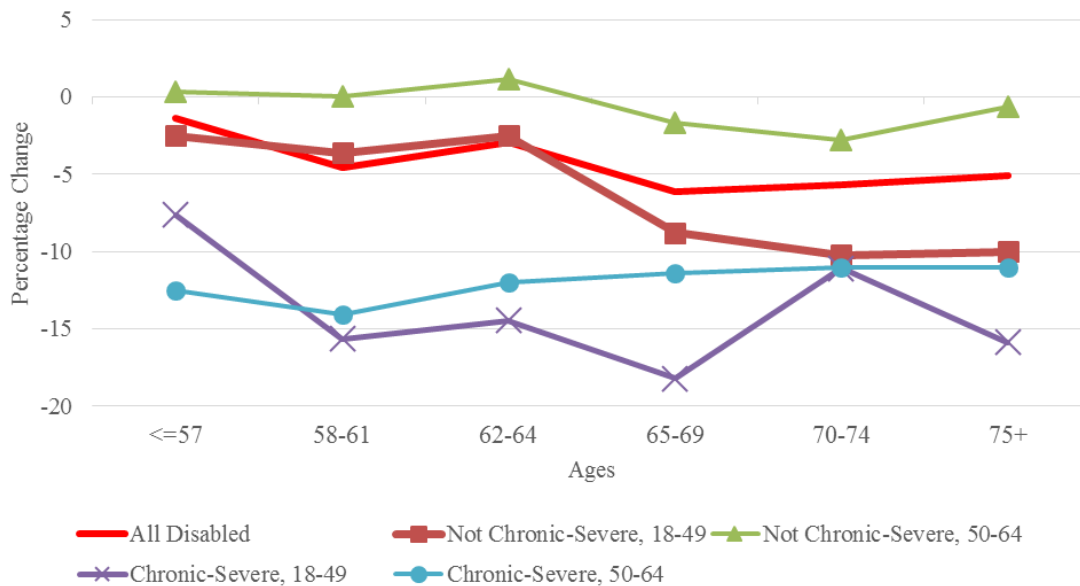


Figure 2

Change in Food plus Housing Consumption, by Disability Group and Age of Onset

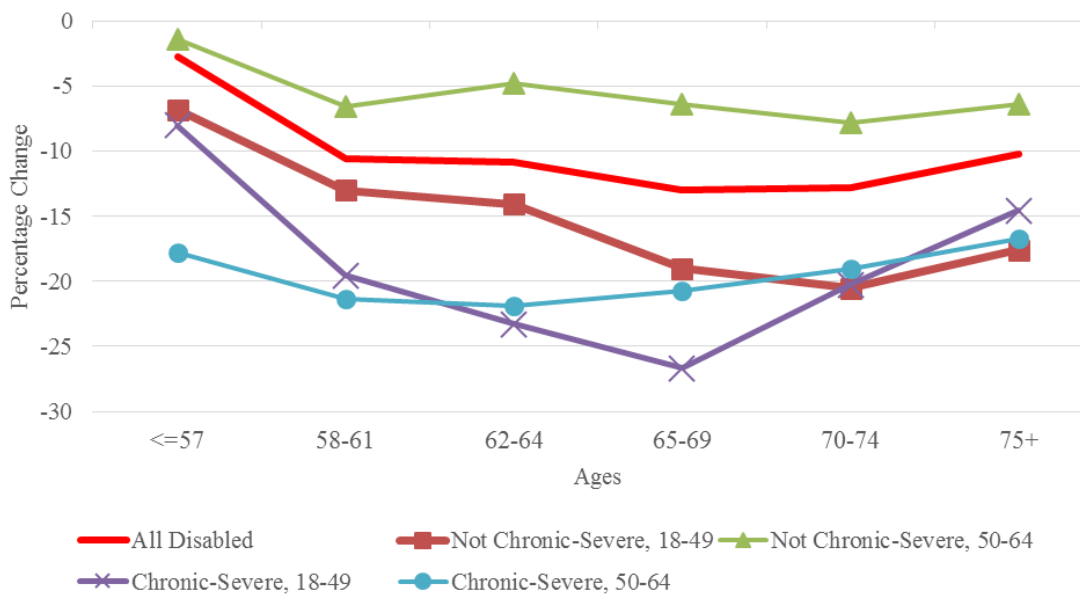


Figure 3
Income Poverty Rate, by Disability Group and Age of Onset

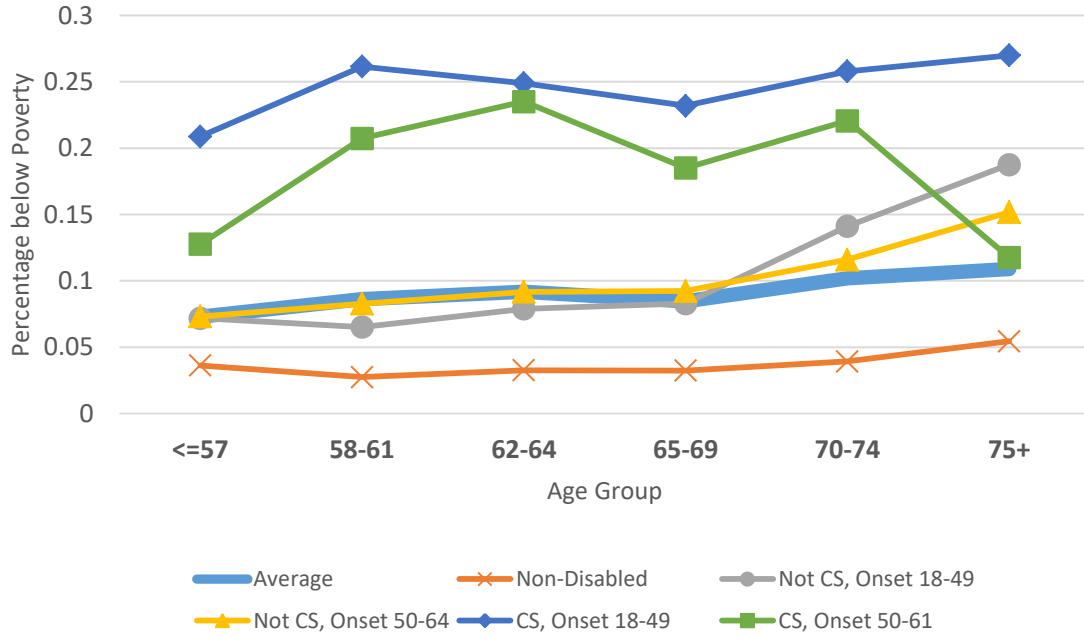


Figure 4
Consumption Poverty Rate, by Disability Group and Age of Onset

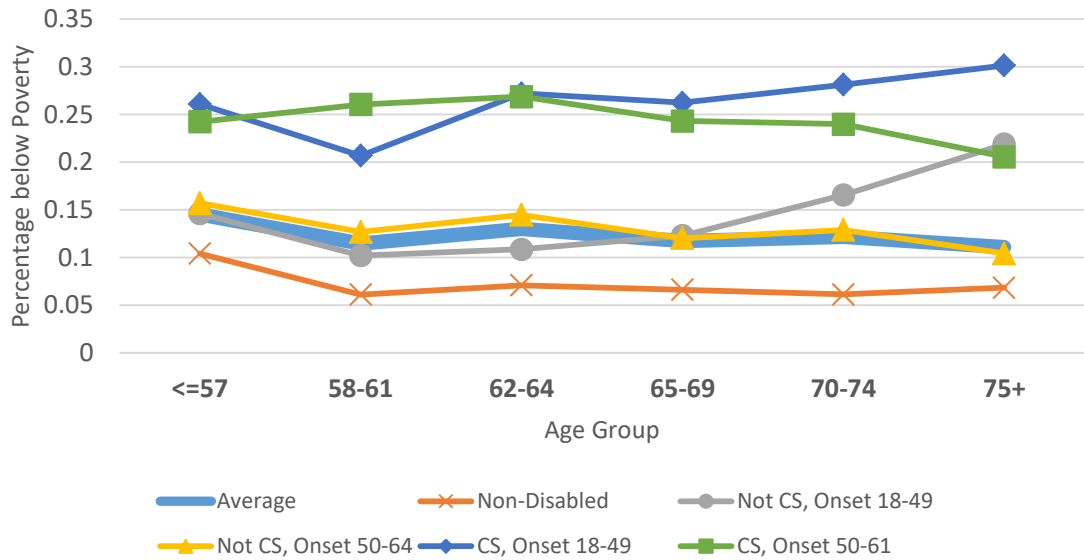


Figure 5

Change in Food Consumption, by Disability Group and SSA Benefit Receipt

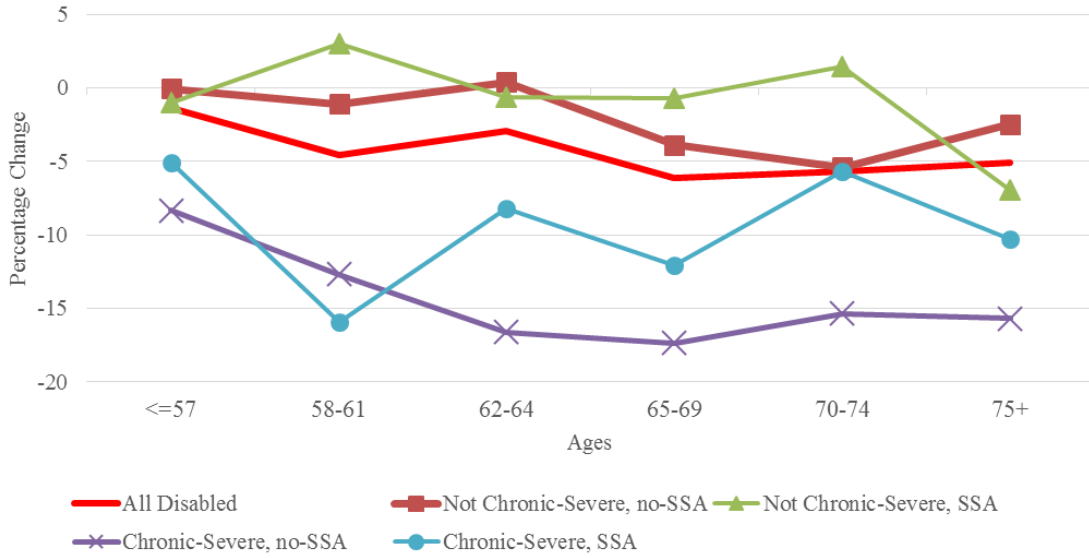


Figure 6

Change in Food plus Housing Consumption, by Disability Group and SSA Benefit Receipt

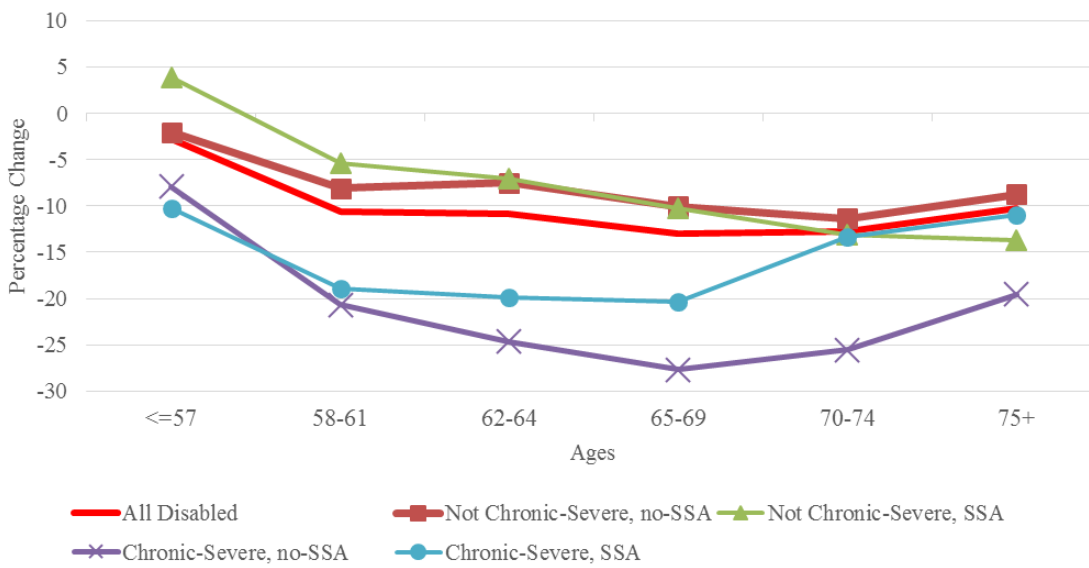


Figure 7

Income Poverty Rate, by Disability Group and SSA Benefit Receipt

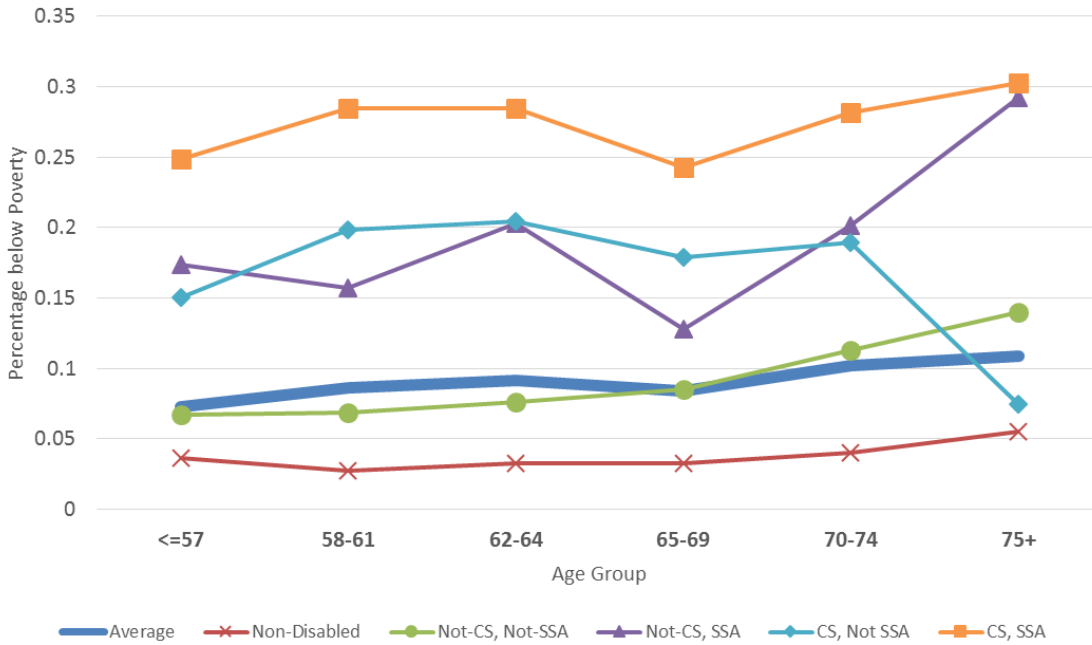


Figure 8

Consumption Poverty Rate, by Disability Group and SSA Benefit Receipt

