Disability, Taxes, Transfers and the Economic Well-Being of Women

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Abstract

We study the economic situation of disabled women and the role that taxes and transfers play in improving their economic circumstances, using 1968-2015 data from the Panel Study of Income Dynamics. We begin by documenting the trends in point-in-time disability rates of women as well as estimating the prevalence of disability over a woman's lifetime. We find that women are more likely than men to have experienced a disability through their mid-40s, but are less likely to have experienced a serious disability prior to retirement. The onset of disability for women is found to be associated with a fall in labor supply, family income and consumption. The fall varies with the degree of disability but tends to be smaller than that of disabled men, particularly for family income and consumption. Transfers, particularly Disability Insurance and SSI play a large role in cushioning the fall in income for disabled women. However, while the relative decline in income is smaller for women than men, a larger share of disabled women have very low absolute levels of income and consumption. Approximately half of the most disabled women receive SNAP benefits, pointing to the greater relative importance of means-tested benefits rather than social insurance for this group.

KEYWORDS: Disability, Income, Consumption, Poverty, Taxes, Transfers, Gender

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1. Introduction

There is a common view that rising disability insurance rolls are an alarming policy and budgetary issue (Autor and Duggan, 2006). However, research on the economic consequences of disability is less developed and has tended to focus on men. For example, Stephens (2001), Charles (2003), and Meyer and Mok (2017) examine only male household heads. This focus has occurred despite a rising share of the disabled who are women. According to the 2016 edition of the Annual Statistical Supplement to the Social Security Bulletin, the number of women receiving Social Security Disability Insurance (SSDI) in December of 2015 was about 4.3 million (excluding the children and spouses of disabled workers), a 43% increase relative to a decade earlier and a larger increase than for men (31%). In fact, there is a stronger case that disability rolls are inexplicably higher than in the past for women than for men (Liebman 2014). Recent data from the Survey of Income and Program Participation (SIPP) show that among the disabled under 65, 53% are women and this higher disability rate is observed across virtually all race groups (Brault, 2012).

The concern about rising disability rates also stems from the many studies that have investigated the moral hazard problems of disability insurance (Parsons, 1980; Autor and Duggan, 2002; von Wachter et al., 2011; Maestas et al., 2013). Yet a balanced assessment of the current disability insurance system requires an understanding of its benefits as well. Given that women have relatively lower earnings than men and the that SSDI benefits depend on past earnings, knowledge of whether the present system sufficiently guarantees a disabled woman's well-being is of vital importance to the design of the disability insurance system. Other work has shown that the nature and consequences of income loss differs between the genders (Weiss and Willis, 1997; Singleton, 2012). Maybe not surprisingly, disabled women are more likely to be living in officially defined poverty and rely more on means-tested public transfer than their male

counterparts.[1,2] Furthermore, most of the existing evidence on women is based on cross-section evidence or short panels.

The purpose of this study is to fill this gap in the literature by providing multi-faceted evidence on the association of disability with the well-being of women, and the role of taxes and transfers. We rely on 47 years of longitudinal data from the Panel Study of Income Dynamics (PSID) and other sources. We have several objectives: First, we study how point-in-time disability rates have evolved for women since 1980, as their labor market attachment has increased. Furthermore, we study the differences in lifetime disability prevalence between men and women. Second, following Meyer and Mok (2017), we examine the association between a woman's disability and her economic well-being over time as well as that of other household members. We measure well-being with a broad set of variables, including earnings, family income, food and housing consumption, and measures of poverty. We focus on the role played by taxes and transfers and compare how changes in most of these economic outcomes differ from those of disabled men.

Our present study differs significantly from the limited existing studies of disabled women. First, understanding that disability is often long term and persistent, though not always, a long panel data permits a better view of how disability affects individuals. Here, we employ the entire PSID panel data which covers a period of over 45 years. Second, understanding changes in the economic well-being of disabled women requires an examination of a large set of outcomes besides earnings and income. Our study looks at additional outcomes including consumption, and changes in wealth. Third, we account for the underlying differences between female heads and wives, given the former group of women is often economically deprived (Meyer and Sullivan 2012a, U.S. Census Bureau 2016).

[1] In 1992, the poverty rates for women with any work disability and severe work disability were 33.8% and 40.5%, respectively, and 24.2% and 31.2%, respectively, for men (U.S. Census Bureau, 1993). Poverty rates for non-disabled women and men were 12.1% and 8.1% respectively. Recent versions of this report do not provide estimates by gender and disability status.

[2] US Census Bureau (2011), Table 560, shows that in 2008, among women with work disabilities, 35.0%, 23.3%, and 62.0% received Social Security, Food Stamps and Medicaid, respectively. For men with work disability, these rates were 36.0%, 15.0%, and 68.9%, respectively.

This study has several key findings. Disability affects women very differently from men. Women are more likely to experience disability than men in their early working years, but the rates are similar at later working ages. A woman reaching the age of 56 has a 46.2% chance of ever experiencing a disability and a 11.26% chance that the experience will be of a serious form, characterized by the permanence and severity of the limitation. However, these rates are lower than those for men. While disabled women suffer a fall in key economic outcomes, including earnings, family income, and consumption following the onset of a disability, the fall depends on the nature of the disability and is on average smaller than for men. We find that by the tenth year after disability onset, an average disabled woman is estimated to suffer from a 25 percent drop in earnings, but only a 7.5 percent drop in after-tax post-transfer income and a 5.7 percent drop in food and housing consumption. Women suffering from a Chronic and Severe disability are estimated to experience an 82.5 percent drop in earnings, a 22.8 percent drop in after-tax post-transfer income, and a 13 percent drop in food and housing consumption. Our results on taxes and tax credits, and transfer program receipt indicate that these women with Chronic and Severe disabilities receive about $7,700 in public transfers per year by the tenth year after disability onset, much of which comes from social security. Estimated federal income tax payments for the family fall substantially over the years of disability, reflecting the substantial reduction in earnings of the disabled women.

The rest of the paper is organized as follows: Section 2 describes the data and the methodology. Section 3 discusses the prevalence of disability from a lifetime perspective. Sections 4 examines changes in labor market outcomes for disabled women, while Section 5 examines income and income poverty outcomes. Section 6 examines consumption, consumption poverty and wealth. Section 7 provides further detail on the role of individual transfer programs and taxes, while Section 8 provides some robustness checks. Section 9 concludes the paper.

2. Data and Methodology

Our primary source of data is the PSID, a longitudinal dataset launched in 1968, with an initial sample of 4,802 US households and about 18,000 individuals. The survey has conducted interviews annually since 1968 and bi-annually since 1997. Split-offs, such as divorcees or children forming their own family, are followed and interviewed. Besides demographic information, the survey provides comprehensive data on transfer program receipt, earnings, income, food, and housing consumption. The longitudinal nature of these data allow an investigator to track economic outcomes for an individual over a long period of time. As of the 2015 wave, data from 77,223 individuals had been collected.

In this study, we use the entire PSID panel, covering 1968–2015. 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 the family head, normally defined as the principal male family member, and only later treated female spouses in a parallel fashion. Because of this restriction, we must focus on female household heads and wives, but we find that these two groups constitute the vast majority of adult women. How such a data structure affects our sampling frame is discussed below.

Defining Disability and Disability Rates

The key question we use to determine an individual's disability status is: "*Do you have any physical or nervous condition that limits the type or amount of work you can do?"* While the use of such a self-reported response is controversial in disability studies, we have no good alternative in the PSID.[3] After determining the presence of a work-limiting condition, the interviewer asks a severity question to determine the extent to

[3] See the discussion in Meyer and Mok (2014). Past work that argue self-reported disability/health indicators are endogenous includes Baker et al. (2004), Kreider (1999), Kreider and Pepper (2007). Studies that argue self-reported indicators are close to exogenous include Stern (1989), Dwyer and Mitchell (1999), Benítez-Silva et al. (2004). Campolieti (2002) finds that using self-reported disability carries a "downward bias" relative to a case of instrumenting disability with health measures in labor supply equations.

which this condition limits the individual's work capability.[4] We follow the same strategy as Meyer and Mok (2014) and group the responses to the severity question into two categories: "*Severely Disabled*" (for those who respond "*can do nothing*," "*completely*," "*a lot*," or "*severely*" to these severity questions) and "*Not Severely Disabled*" (for those who respond "*just a little*," "*somewhat*," "*not limiting*," or "*not at all*" to these severity questions).

Such disability questions were asked of the family head fairly consistently in the survey. However, wives were asked these questions only in 1976 and in the 1981–2015 waves of the survey. Given such a data structure, we focus on two groups of women: female household heads and married women. These two groups of women constitute about 80% of all women ages 22-61 in the United States, and usually a slightly higher percentage of all disabled women in the same age range. Hence, we view these two groups as providing a good approximation to the patterns for all women in the United States.[5]

Table 1 shows the weighted point in time disability rates for current female heads and wives ages 18–61 during the PSID survey period 1968–2015. These rates are high and are a few percentage points higher than those found for male household heads (Meyer and Mok, 2017). Although this female disability rate rose from 12.8% in 1981 to 14.2% in 2015, the disability rate fluctuated quite a bit over this period.[6] We also observe that female heads are more likely to suffer from work limitations than wives, with an average difference of about 5 percent points in the 1980s, 4 percent points in the 1990s and about 7 percentage points since 2000. Regarding the fraction of disabled women reporting a severe work limitation, one should note that the severity question changed in 1986 to ask about limits to "work you can do" instead of about any limits (see the online appendices of Meyer and Mok, 2017); so the revised question was more

[4] Meyer and Mok (2014) have shown that the response to such a question has a high correlation with self-reports of various physical and health limitations.

[5] Using the Current Population Survey (CPS) Annual Demographic File/Annual Social and Economic Supplement (ASEC), we find that female household heads and wives of householders comprise about 82% of women aged 18–61 years during 1989–2012. The rest are women who live with their parents or siblings (who are the householder) or other related and unrelated householders (such as friends).

[6] There is some evidence that the rate has systematically increased over time, as a regression of the rate on a constant and year gives a time coefficient of 0.00046 (s.e. 0.00020, p-value 0.0034). We obtain similar estimates when we use the Prais-Winsten AR(1) procedure.

restrictive in defining a severe disability. Not surprisingly, this change had the effect of decreasing the share of disabled women recorded as severely disabled between 1985 and 1986. However, after 1988 there was a noticeable upward trend in the share of women reporting a severe work limitation and this is more apparent for female household heads than for wives.

One might be concerned that men and women differ in how they characterize a given work limitation, which would cast doubt on the possibility of comparing genders as is done in some subsequent sections of this study. There are two points worth noting. First, questions about wives are usually answered by their husbands in the PSID, unless they are incapacitated, although for female-headed households, these questions are answered by the female heads themselves. Second, the 1986 and 1999–2015 waves of the PSID also asked questions about limitations in several physical activities (such as walking, bathing) and doctor-diagnosed health problems. We have examined the gender differences in these indicators for those with no current disability, those whose disability is not severe, and those whose disability is severe. In general, we find no large differences between the genders in the association between disability and these physical limitations or diagnosed health problems, and thus consider the interpretation of these disability questions to be similar for the two genders.

Sample Construction

The principal strength of the PSID is its longitudinal nature, but because of its long time frame and small sample size, using a balanced panel would be too restrictive. We use an unbalanced panel with a different number of years for each woman, but we impose restrictions similar to those of Meyer and Mok (2017) to ensure sufficient information for each individual in our major analyses. First, we require that the individual be a head or wife for at least six surveys, four of which must be consecutive, while the individual is age 22–61. Second, we delete those individuals with missing key demographic information (race, marital status, age, or education).[7] Third, since the focus of the paper is the changes in economic circumstances of women following disability

[7] To the extent possible, we impute the missing values of key demographic variables using the nearest available wave of data.

onset, knowledge of when an individual became disabled is essential. Determining the year of limitation onset for the disabled sample requires combining information from multiple years of data. A valuable feature of the PSID available only for heads (but not wives) in the 1969–1975 and 1978 waves is a retrospective question asking when a work limitation began. For those female heads disabled on or before 1978, we use the responses to this question to determine their year of disability onset.[8] We require that individuals who first reported having a disability after 1978 report no limitations in the two consecutive survey years immediately prior to the year in which they first reported having a work limitation.[9] We should emphasize that year of onset is not precise; the vast majority of disabilities are conditions that evolve slowly over time rather than accidents where there is a clear before and after period.

Our focus is on disabilities that begin during the working years; accordingly, we exclude those whose onset age is under 18 or above 56.[10] To obtain sufficient information after onset, we require that a disabled individual in our sample take part in the survey for a minimum of three years during the ten years after disability onset. This restriction is important to determine disability persistence and severity groups (introduced below). Due to the restrictions that we impose in selecting our sample, we slightly understate the extent of work limitations, as discussed further below. The application of these restrictions results in a primary sample of 7,423 women, 2,175 (29.3%) of whom are classified as ever having been disabled.

Classifying Disability

Meyer and Mok (2017) point out that treating the disabled as a single group can be misleading; disaggregation based on the permanence and severity of a disability

[8] Some individuals may have more than one response due to the panel nature of the data. Since the responses to these questions were coded in intervals (except in the 1978 survey, when the exact number of years is given), we determine the intersection of the intervals given by these questions and take the earliest year within the intersection as the year of disability onset, similar to Meyer and Mok (2014).
[9] For example, if an individual first reports having a limitation in 1983, then the year of onset would be 1983 if the individual had no limitations in 1981 and 1982. Since there is only one interview per year, we also choose the year of onset to be the year including the midpoint in time of adjacent interviews.
[10] Our main estimation sample includes the person-year observations prior to disability onset for those who became first disabled after age 56 as they form part of the implicit comparison group for the disabled.

reveals substantial heterogeneity in outcomes. We also follow this approach here. The *One-Time Disabled* are those who report a disability once but do not report a disability again during the next ten years. The *temporarily disabled* are those who have one or two positive limitation reports during the ten years after disability onset, while the *Chronically Disabled* are those who have three or more positive limitation reports during the ten years after disability onset.

Since the severity questions are asked nearly every year, we rely on average severity in the paper. Specifically, we define the *severity ratio* as the fraction of time the individual reports she is *Severely Disabled* in the year of onset and the subsequent ten years after onset.[11]

We combine the two disability dimensions in our main analyses by splitting the *Chronically Disabled* into two groups. Hence, this classification yields four groups of interest – *One-time, Temporary, Chronic-Not Severe* (with a severity ratio under 0.5) and *Chronic-Severe* (with a severity ratio over 0.5) which we collectively call the *Extent of Disability groups*.[12] In their first disability spell, 652 (30%) of the sample of disabled women are classified as *One-Time*, 572 (26%) as *Temporary*, 629 (29%) as *Chronic-Not Severe*, and 322 (15%) as *Chronic-Severe*. Much of our analysis focuses on the *Chronic-Severe* group, because this group fares unusually poorly after disability. Using the SIPP and Detailed Earnings Records of the Social Security Administration, Singleton (2014) has also shown that the disabled with self-reported *Work-Preventing* limitations do not experience a rebound in their earnings, even if their SSDI application is rejected.[13] This result suggests that their disability is real and serious.[14]

Table 2 provides descriptive statistics for our sample. On average, the disabled are about four years older than the non-disabled, are less likely to be white, and are less

[11] Individuals who never responded to the severity question in this 11-year period (year of onset and the subsequent 10 years) are dropped from the main analyses.
[12] In the case where exactly half of the responses indicate severe disability (a severity ratio of 0.5), we classify the disabled head based on the first severity report.
[13] Although our *Chronic-Severe* group and the *Work Preventing* group in Singleton's study are not identical, we expect there to be a large overlap between these two groups.
[14] Many authors argue that using a self-reported definition of disability in estimating the effect of health on labor supply would suffer from justification bias (which would overstate the estimated effect) and attenuation bias (which would bias the effect towards zero) but that these two biases may cancel each other out (Bound, 1991). The evidence of Singleton (2014) seems to suggest that the justification bias is small for the worst-off self-reported group.

likely to be married but to participate in more waves of the survey. Among the disabled, the *Chronic–Severe* group is generally older on average, much less likely to be white, and much less likely to be married. Nevertheless, the four disabled groups have on average participated in a similar number of interviews, though the two chronic groups have responded more often since the year of disability onset.

Methodology

Following past studies of outcomes with longitudinal data, we follow the popular event-study approach and estimate individual fixed effect regressions of two forms:

$$(1) \quad y_{it} = \alpha_i + \gamma_t + X_{it}\beta + \sum_g \sum_k \delta_k^g A_{kit}^g + \varepsilon_{it},$$

$$(2) \quad y_{it} = \exp(\alpha_i' + \gamma_t' + X_{it}\beta' + \sum_g \sum_k \delta_k'^g A_{kit}^g) + \varepsilon_{it}' .$$

Model (1) is a standard linear regression with individual fixed effects, while model (2) is a Poisson model with individual fixed effects. Which model we use for each outcome is explained below. The variable y_{it} is an outcome of interest for person or family i in year t (such as family food and housing consumption); α_i (α_i') is an individual fixed effect and γ_t (γ_t') is an indicator variable for year t; while X_{it} is a set of time-varying explanatory variables, including marital status, state of residence, age and age squared, education, and the number of children. We also include interactions of these variables for some dependent variables (see the data appendix for more details). To account for the underlying life-cycle differences between the two groups of women, we include age and age-squared interacted with an indicator variable for a woman who is classified as a female head.[15] The variable A_{kit}^g is an indicator that is equal to one if, in year t, a disabled individual i belonging to disability group g and is k years from the year of disability onset, and ε_{it} (ε_{it}') is a potentially serially correlated error term. Our coefficients of interest are δ_k^g (δ'^g_k), measuring the change in the dependent variable during the k-th year

[15] We classify a non-disabled woman as a female head if we observe her to be a female head for at least half of the time in the PSID survey during which she was age 22-61. For the disabled, we look at the fraction of years in the five years from onset when the woman was head. The disabled woman is classified as head if the fraction is at least 0.5.

from disability onset for a disabled individual belonging to disability group *g,* relative to her outcome in the baseline period, the time more than five years prior to disability onset. The inclusion of individual fixed effects removes all time-constant unobservables of the person or family. Because of the inclusion of control variables such as age, our estimates account for how a woman's outcomes would have evolved over time. We estimate (1) whenever it is more natural to examine how disability affects the *level* of a dependent variable, while we estimate (2) when we want to study how disability affects the *percentage change* in the dependent variable.[16] Although it is popular to estimate a log-linear version of model (1) when studying the percentage changes in an outcome, a Poisson model is better if the dependent variable has a value of zero for many observations (which makes it difficult to take logarithms), as is the case for annual earnings, since many women do not work.

In our analysis, all monetary values are reported in 2016 dollars, adjusting for inflation using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS).

3. Lifetime Disability Prevalence of Women

While most research reports the percentage of women who are disabled (based on a point-in-time self-report or program-based definition), a more important statistic for insurance purposes (Baily 1977; Chetty 2006) is arguably the lifetime prevalence of disability (i.e., the probability of *having had* a prolonged disability any time prior to a given age). The PSID, with its longitudinal structure and long history, is suited to calculate this rate.

Ideally we would like to capture this measure over a person's entire work lifetime, but even with 47 years of data we cannot do it for most sample members. With individuals aging in and out of their working years, it is important to use only individuals who have had a long enough time period in the sample so that the experience we are recording is approximately their lifetime probability of ever having had the various types of disability, some of which are long term. To do so, we focus on the sample of female

[16] The percentage change is obtained by exponentiating the estimated coefficient and subtracting one.

household heads and wives present in at least 1984–1994 who responded to the disability questions at least 10 times by this period.[17] We choose 1994 as the last year in this period of potential onset so we have sufficient information to classify the disability of a woman whose disability started that year. We also account for the potential worsening of a condition and thus a change in a person's disability group classification. We classify a person according to the worst disability they experience.

Table 3 shows these lifetime disability prevalence rates. In theory, these rates should be monotonic with age, but they are not here because of sampling variation and the unbalanced nature of the PSID panel. By the time a woman reaches age 30, she is estimated to have a 25.6% chance of ever being disabled, though the chance of ever suffering from a *Chronic–Severe* disability is less than 1%. As she ages, the lifetime disability prevalence increases. By the time she reaches 40 years of age, there is a 31% chance of her ever having suffered from a disability, with a 4% chance of a *Chronic–Severe* disability. These rates increase rapidly as a woman enters her 50s. By the time she reaches 56 years of age, there is a 46% chance that she will have suffered from a disability during her working years, with a 11% chance of ever experiencing a *Chronic–Severe* disability. As shown below, the *Chronic–Severe* group experiences much worse outcomes than the average disabled. Coupled with the fact that there is a 20% chance of such a disability for a women by age 60, one should not think of membership in this group as that unusual.

We compare these lifetime disability prevalence rates with those of men shown in Meyer and Mok (2017). For ease of comparison, Figure 1 shows the lifetime disability prevalence rates (any and *Chronic–Severe*) for men and women. We see that the probability of having had a disability (of any type) is generally higher for women than for men before reaching the mid-forties. The pattern is slightly reversed afterwards: by age 60, the probability of ever having had a disability is very similar for men and women. Regarding the prevalence of a *Chronic–Severe* disability, the rates are fairly similar for men and women prior to reaching age 48 but, from then on, we observe a relatively rapid

[17] Specifically, we select these women in the 1984–1994 period from the person–year data format. For a person–year observation in this subsample, we further require the individual to have 10 or more years of disability information by this year.

increase in the chance of a man ever experiencing a *Chronic-Severe* disability. By age 60, a male household head is estimated to have a 26% probability of ever having experienced a *Chronic–Severe* disability, while it is 20% for our female sample. These numbers provide alternative evidence that the higher point-in-time disability rates observed for women using cross-sectional data may not reveal the entire picture.

4. Disability and the Hours of Work, Employment, and Earnings of Women

To begin our study of the well-being of working-age disabled women, it is natural to start with the relationship between disability and labor force involvement. We first examine how disability is associated with annual hours worked. Estimating (1) using annual hours of work as the dependent variable and treating the disabled as a single group yields the results shown in column 1 of Table 4. In the year of disability onset, it is estimated that annual hours of work drop by about 169 on average (relative to the period more than five years prior to onset) and this fall continues through ten years after onset, when the drop is estimated to be about 300 hours. In terms of labor supply at the extensive margin, we examine the raw fraction of women not working in a given year (defined as working zero hours in the year). Column 2 of Table 4 shows that on average there is about a 10 percentage point increase in the fraction of women not working over the 11-year period from onset to ten years after.

Turning our attention to results that disaggregate the disabled, we report in columns 1 and 2 of Table 5 the change in hours of work and the raw fraction not working for the most disabled group, the *Chronic-Severe* group.[18] We plot these changes for all disability groups along with the average disabled in Figures 2 and 3 for ease of comparison. For the *Chronic-Severe* group, annual hours of work are estimated to drop sharply by 457 hours by the year of disability onset. By the tenth year after onset, the estimated drop has more than doubled, reaching an estimated 1,166 hours with more than three-quarters of such disabled not working. One can see the sharp differences in the figures, where the drop in the annual hours of work for the *Chronic-Severe* group by the tenth year after onset is almost quadruple that of the average disabled and triple that of

[18] Detailed results for the other disability groups are available from the authors upon request.

the less disabled *Chronic-Not Severe* group. For the *One-Time* and *Temporary* groups, the drops are relatively small, as one would expect, given their relatively mild disabilities.

To examine annual earnings, we estimate model (2) given the prevalence of zero earnings. Column 3 of Table 4 shows the estimated changes for the average disabled while the corresponding results for the *Chronic-Severe* group are reported in column 3 of Table 5. These results are illustrated in Figure 4. The average disabled woman is estimated to suffer a 13.3 percent decline in annual earnings by the year of onset, and the drop accelerates to 23.3 percent by the fifth year after disability onset, and stays around this level for the next 5 years. An examination of the results suggests that most of this drop is attributed to the *Chronic-Severe* group, with an estimated drop of about 42.8 percent by the year of onset and a massive drop of 83 percent by the tenth year after onset. One should not be surprised by this result, since more than three-quarters of the disabled in the *Chronic-Severe* group are not working by this time. One should also note that treating the disabled as a single group, as done in many past studies, could be misleading. This issue is especially important for future research on the disabled using survey data.

We also note a modest drop in earnings for the *Chronic-Severe* group before the year of onset. This fall prior to self-reported onset is observed in other research employing an event-study framework (Singleton, 2012; Meyer and Mok, 2017). A plausible explanation is that an individual may take a while to declare she is disabled after a health shock.[19] As noted in Section 2, it is best to think of disability as a process not an event, despite our emphasis on year of onset. It may therefore be preferable to focus on the years around onset rather than its exact point in time when interpreting these results.

Comparing these results with those of male household heads (Meyer and Mok, 2017), we find the decline in annual work hours for disabled women as a whole is somewhat smaller. The drop for disabled women is on average about 70 percent of that of disabled men. The increase in non-work after disability onset is quite similar between

[19] For example, the individual may first experience a modest level of pain that distracts her at work, but not enough for her to declare that she is work limited. The yearly format of the survey (biannual format in recent years) can also result in an approximation to the year of disability onset.

the two genders. From onset to the tenth year after onset, it is 10 percentage points for women and 12 percentage points for men. The earnings decline is also very similar, at 13–15 percent by the year of onset and 25 percent by the tenth year after onset. However, some notable differences emerge as we switch our focus to the various disability groups, especially the Chronic-Severe. Disabled men in this category suffer from a much larger drop in annual hours of work (about 300 hours more) than their female counterparts, which is mostly attributed to the greater increase in non-work for these men. The fraction of these disabled men working zero hours roughly quadruples, from 16 percent by the year of onset to 66 percent by the tenth year after onset. For the *Chronic-Severe* disabled women though, this fraction only doubles, from about 35 percent to 78 percent. In terms of the earnings change, both men and women in this disability category experience similar falls, specifically, 39–43 percent by the year of onset and 77–83 percent by the tenth year after onset.

5. Income before Taxes/Transfers, and Income Poverty

While the drop in earnings for the disabled is large, whether it translates into a large decline in material well-being for the individual requires an examination of other non-labor sources of income, especially public benefits and social insurance. Other private mechanisms, such as spousal earnings (to be discussed below) and private insurance benefits, may also be important in mitigating the decline in material well-being associated with the drop in earnings due to disability. We estimate specification (2) again with several measures of family income, thus illustrating the important role of social insurance and government benefits in mitigating falls in income. We report results for 1) Pre-tax and pre-transfer family income, 2) After-tax income prior to transfers, 3) After-tax income with non-SSA transfers (i.e. exclude SSI and OASDI), 4) After-tax income with only SSA transfers, and 5) After-tax income with all transfers. These measures progressively show how different arrangements help cushion the drop in earnings. The

later measures includes many public transfer benefits, and account for the underreporting of these benefits, though in a rough way.[20] Taxes are estimated using TAXSIM.[21]

The results for the disabled as a whole are reported in columns 4-8 in Table 4, while the results for the *Chronic-Severe* group are shown in the corresponding columns in Table 5. For ease of comparison, the results for all of the groups and the average disabled are plotted in Figure 5 (After-tax Pre-Transfer Income), Figure 6 (After-tax Post-Transfer Income. Results for the Pre-tax pre-Transfer Income, After-tax income with non-SSA transfers and After-tax income with SSA transfers are displayed respectively in the Appendix Figures A1-A3. For the average disabled, the drop in income is small by the year of onset, but the estimates quickly become more negative over the course of disability. As earnings continue to drop for the average disabled, pre-tax, pre-transfer income is dropping too. As expected, such drops are smaller in magnitude due to family income pooling and non-labor income. In most cases, the drop in such income is half of the drop in earnings alone. Including taxes and tax credits, reduces the fall by a few percentage points. Comparing the results for the next two after-tax income measures, one can also see the increasing importance of targeted programs of SSI and SSDI in the sense that these SSA administered programs play a greater role in reducing the income fall over the course of disability, compared with the non-SSA programs such as UI and Food Stamps/SNAP.

In sum, after-tax income prior to transfers is estimated to drop by 9 percent by the year after onset for all disabled, while the drop is less than 5 percent when all public transfers are included. By the tenth year following onset, after-tax income without public transfers is estimated to have fallen by 10.9 percent, and after-tax income with public transfers by 7.5 percent. Relative to the drop in earnings, private arrangements diminish the drop by 56 percent and, coupled with public transfers and taxes (changes presented in Figure 6), more than 70% of the drop in earnings is cushioned.

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[20] These public transfer benefits include AFDC/TANF, Food Stamps/SNAP, Veterans Benefits, Social Security, Supplemental Security Income, and the estimated value of subsidized housing. To account for underreporting, we scale up the amounts of these benefits using the reporting rates shown in Meyer, Mok and Sullivan (2015).

[21] The current calculations only include federal income taxes. We will add payroll taxes and state income taxes in the next version.

Across the disability groups, we again observe substantial differences and the drop in income for the average disabled is again mostly due to the *Chronic-Severe* group. By the year of onset, the *Chronic-Severe* are estimated to experience a drop of 19.6 percent in their family after-tax income before accounting for public transfers. The inclusion of public transfers reduces the drop to 15.3 percent. The role of private and public transfers becomes increasingly significant over time. By the tenth year after onset, after-tax income prior to transfers is estimated to drop by about 39.8 percent, but accounting for public transfers reduces this to 22.8 percent. Figure 7 shows the changes in public transfer receipts over the course of disability, obtained by estimating (1) with the amount of public transfer received as the dependent variable (the estimates are also reported in Table 7 (average disabled) and Table 8 (for the Chronic-Severe). Indeed, for *Chronic-Severe* women, the value of public transfers received is estimated to quintuple over the course of their disability. Starting from about $1,200 annually in the years prior to onset, transfers increase to about $5,800 annually by two years after onset, and further increase to about $7,700-9,200 per year by 6-10 years after disability onset as can be seen in Table 8.

Contrasting these results with those of disabled male household heads, the family income drop for disabled women is generally slightly smaller than for men. Without accounting for transfers, families with a disabled woman suffer from a drop in income over the course of her disability that is 3–6 percentage points smaller than families with a disabled male head and such a difference persists even after we account for the various types of public benefits received. The differences are more noticeable when we focus on *Chronic-Severe* disabled men and women, especially in the later stage of the disability spell. Without public transfers, the drops in after-tax income for families with disabled women are much smaller than for their male counterparts. By the year of onset, the drop for families with a disabled female head is about 20 percent, while it is about 23 percent for families with a disabled man. By the fifth year after onset, the drop is about 39 percent for women, and 49 percent for men. By the tenth year after onset, the drop is about 40 percent for women, and 53 percent for men. These differences are slightly smaller when we account for public transfers: By the tenth year after onset, families with

such disabled women suffer from a 20 percent decline in income, compared to 28 percent for families with a disabled man.

While the standard economic insurance framework suggests a focus on changes in outcomes, the level of deprivation is an important indicator in itself. We calculate the poverty rate, measured as the fraction of families with income below the thresholds prescribed by the U.S. Census Bureau, which differ by family size and structure. Figure 8 shows the poverty rate of families in different disabled groups over the years of disability. To arguably better capture the degree of material deprivation, we use after-tax income with public transfers as the basis for determining poverty status.[22] The *Chronic-Severe* group is much more likely to be living below the poverty line, even in the years prior to disability onset, but the poverty rate for this group still increases to more than 30 percent during the initial years after disability onset. By the tenth year after disability onset, the poverty rate for the *Chronic-Severe* group is still about 28 percent. In comparison, the rate for the average disabled woman is only about 15 percent.

While other outcomes following disability for women tend to be better than for men, the poverty rate of women is substantially higher. The poverty rate of Chronic-Severe disabled women is nearly ten percentage points higher than that of men in the years after onset, averaging over thirty percent, compared to just over twenty percent for men. These results indicate that, on an absolute scale, disabled women fare poorly even though their household income does not fall proportionately as much as it does for men.

6. Consumption, Poverty and Wealth

While income is the most readily available measure of material well-being, a substantial literature suggests that consumption does a better job of capturing a household's living standard. From a theoretical perspective, material well-being is more

[22] Note that the standard income measure used by the U.S. Census Bureau is pre-tax and does not include in-kind transfers, such as food stamps, or the possible underreporting of government benefits. While there are good conceptual reasons to account for taxes and transfers, given errors in reporting and imputation we should caution that it is not clear that such adjustments will lead to a measure that is more highly correlated with deprivation (Meyer and Sullivan, 2012).

directly tied to current consumption than to current income, since income is subject to transitory fluctuations caused by events such as job or family composition changes. Living standards may remain unaffected despite large income changes through saving and borrowing (Cutler and Katz, 1991; Poterba, 1991). From a practical perspective, measuring disposable income by accounting for taxes can be complicated in survey data. In addition, consumption may be more accurately reported than income for those who are disadvantaged, possibly due to the many small irregular sources of income received by this group (Edin and Lein, 1997; Meyer and Sullivan, 2003, 2011). Furthermore, consumption is more closely associated with other measures of well-being for the disadvantaged (Meyer and Sullivan 2003, 2011).

The PSID has several variables that can be used to provide a measure of consumption, including expenditures on food eaten at home and outside the home, rent, and home value. In this section we define food consumption as the sum of expenditures on food eaten in and outside the home and the face value of food stamps. We also construct a housing consumption variable as the sum of rent paid, six percent of the current home value (if the family is an owner), and the rental equivalent for those in subsidized housing.[23] We define family consumption as the sum of food and housing consumption.

Food Consumption

Estimating (2) with food expenditure as the dependent variable yields the results shown in columns 9 of Table 4 (for the average disabled woman) and Table 5 (for the *Chronic-Severe* group). These results are also displayed in Figure 9. Although there is some indication that food consumption on average drops for women suffering from a disability, this drop is always under 3 percent and usually much smaller throughout the 10 years following disability onset. For the *Chronic-Severe* disabled (Table 5) the drop is estimated to be larger, averaging around 3 percent after onset, but it is not significantly different from zero in any single year. It tends to rise over time though, and by the tenth

[23] See Meyer and Mok (2017) for details on the housing expenditure variable.

year after onset, the drop in food expenditure is estimated to be 6.9 percent (with a standard error of 4.5).

These rather small drops in food consumption with disability observed above may be due to a shift from food eaten outside the home to food eaten at home as income falls (and preferences potentially change). Although not reported, we have also investigated the changes in these two food measures. For food eaten at home, we observe that the changes are mostly small and are all statistically insignificant, even for the *Chronic-Severe* group. Turning to expenditures on food eaten outside the home, the drop for the average disabled is somewhat larger compared with those for food eaten at home, but still averages only about 4.5 percent, and is in most years statistically insignificant. For the *Chronic-Severe* disabled however, the drop in food away is substantial. By the year of onset, food away from home is estimated to drop by about 20.2 percent (statistically significant at the 1 percent level) and the decline continues, reaching about 30 percent by 2-4 years after onset (all significant at the 1% level). Some recovery is observed thereafter (though the estimates are noisy), but by the tenth year after onset the drop remains high, at 30.3 percent (significant at the 1% level). Based on these results, there seems to be a large degree of substitution toward eating at home following a severe disability to a female household head or wife.

Food plus Housing Consumption

The most comprehensive measure of consumption that we can construct in the PSID is the sum of food and housing, which accounts for almost half of expenditures for the average family. Figure 10 shows the results for this broader consumption measure (individual coefficients reported in column 9 of Table 4 for the average disabled and in Table 5 for the *Chronic-Severe*). The drop for the average disabled is about 3.8 percent by the year of onset, increasing to about 3-6 percent in the 1-3 years after disability onset and then increasing further to about 6-8 percent 5-10 years after disability onset. Although these estimates are nearly all statistically significant, they are still fairly small in size, especially when compared with those for the *Chronic-Severe* group. The Chronic-Severe disabled experience a 8.4 percent drop in food plus housing consumption

by the year of onset, and then a further fall to about 10.4 percent below the pre-disability standard by the third year after onset. Consumption stays at this low level through the 10th year after onset, with most of the individual year estimates significantly different from zero.

Compared with those of men, the drop in food plus housing consumption and its components for our female sample is generally smaller among the average disabled and the *Chronic–Severe*. For the average disabled woman, the drop in food consumption is typically less than a third that experienced by men. For food plus housing consumption the drop is about two-thirds of that of men. For the *Chronic-Severe* disabled the differences between women and men are even more evident. For food consumption, the fall for men is about four times larger. In the case of the broader food plus housing measure the difference is about a factor of two, with a fall for women of about 11 percent by 6-10 years after onset compared to 25 percent for men. Based on these comparisons, the *Chronic-Severe* disabled group is faring very badly, although the families of such disabled women are doing relatively better than those of similarly disabled men. However, this finding may not be that surprising. Women's earnings, in the period of data we use, usually constitute a smaller fraction of family income than the earnings of men. Therefore, the loss in earnings due to a woman's disability has a smaller impact on family income and therefore family consumption on average than a man's disability.

Consumption Poverty

Besides the income poverty measure, we have also calculated a consumption based poverty rate for disabled women. We define a family as living below consumption poverty if the family's food plus housing consumption is less than half of its designated Census income poverty threshold since food plus housing is typically about half of overall consumption. Figure 11 shows the consumption poverty rate for the various disabled groups over the years of disability. Relative to the income poverty rates reported earlier, these consumption poverty rates are typically a few percentage points higher. For the Temporary and the Chronic Not-Severe groups the consumption poverty rates are slightly higher upon disability onset, but return to their pre-disability level quite

quickly in the years after. The consumption poverty rate for the Chronic-Severe group is higher than the other groups even before disability onset, a result consistent with that of income-poverty. The trends in the two poverty measures are also quite similar, as we see a rise starting from the second year prior to onset until around the seventh year when the rate begins to fall. In the years after onset, both poverty measures average about 30 percent for the Chronic-Severe group, a very high rate.

Changes in Net Wealth

To complete the picture of the economic circumstances of the different disabled groups and to examine how the pieces fit together, we report the degree of dissaving. Wealth data come from the 1984, 1989, 1994, and 1999–2015 waves of the PSID. We linearly interpolate family wealth between years from the available data. We define net wealth as total wealth, including home equity. The last two rows of Table 6 show median net wealth in the year of disability onset and in the 6-10 years after. Median Net Wealth at onset is smallest for the Chronic-Severe group, and continues to be so in the long run after disability onset. We do not observe any evidence of dissaving at the family level over the period of a woman's disability, with a rise in wealth similar to that of the other disabled and nondisabled groups. We should emphasize though that we have many fewer observations on wealth than we do for other outcomes and the data are likely to be less accurately recorded.

7. The Role of Individual Transfer Programs and Taxes

Our array of results in Section 4 shows that while disabled women suffer from large drops in earnings, their drops in income and especially in consumption are relatively modest, suggesting the important role of public transfer receipts. Table 6 shows the receipt rates of various transfers for the different disabled groups in the 6-10 years after disability. About 43 percent of families with such Chronically and Severely disabled women receive benefits from the Social Security Administration (OASI, SSDI

or SSI), with 35 percent of them receiving social security in the form of OASI and SSDI. It is also surprising to see that about 43 percent of such disabled women receive food stamps (SNAP). This suggests that many women may not have earned enough during their pre-disabled years and are therefore ineligible for SSDI or entitled to only very small benefits. It should be pointed out that our Chronic-Severe group consists of women who are more likely to be household heads, black, older, and high-school dropouts. Relative to male disabled household heads in the same category (Meyer and Mok, 2017), Chronic-Severe disabled women are less likely to receive social security (14 percentage point lower in likelihood), but are more likely to receive SSI and especially Food Stamps/SNAP (almost 20 percentage points higher in likelihood).

To see the relative changes in the amount of various transfers received by a disabled woman, we have also estimated equation (1) with each type of benefit as the dependent variable in turn. The results are shown in Table 7 (all disabled) and Table 8 (Chronic-Severe). These results are displayed in Appendix Figures A4-A9. We do not observe large changes in benefits received from programs such as UI and AFDC/TANF that have eligibility requirements unrelated to disability. For workers' compensation (WC) (Figure A7), we observe an increase of about $1,000 in the later years of disability for the Chronic-Severe, although the estimates are very noisy. The picture is very different for the two benefits that target the permanently disabled. For SSI, there is a very noticeable increase from the year of onset for the two Chronic groups. The increase for the Chronic-Severe group is particularly dramatic, reaching about $2,500 (in 2016 dollars) by the tenth year after disability onset. For Social Security, the increase for the Chronic-Severe group is equally noticeable, reaching about $5,500 by the tenth year after disability. Relative to the Chronic-Severe disabled male heads, these Chronic-Severe disabled women receive more in SSI and less in Social Security in the long run. Coupled with the receipt rates reported in Table 6, it may be that the relatively lower earnings of women implies SSI payments are higher and social security benefits are lower, as the amount of SSI benefit awarded is independent of an applicant's prior earnings but goes down with higher social security benefits. In addition, eligibility for SSDI requires the applicant to have "worked long enough and recent enough" and have earned sufficient social security credits (that are based on prior annual earnings). The relatively lower

earnings of women may render them ineligible for SSDI, and more likely to be SSI eligible in the event of disability.

Consistent with the results on earnings, estimated federal income tax liabilities are lower, especially so for the Chronic-Severe group given their large decline in earnings.

8. Additional Results

Split by SSA benefit receipt

The results above indicate the importance of several public programs, in particular social security. We might be interested in seeing how some of the key economic outcomes differ between those who receive SSA administered benefits and those who do not. Given the stringent SSA disability requirements, it is useful to examine how disabled women not covered by these programs fare after disability onset.

We estimate the regressions for the key economic outcomes of annual hours of work, after-tax post-transfer income and food plus housing consumption. We split the *Chronic-Severe* group into those who receive SSDI or SSI benefits (at the family level) more than half of the time over the ten years after disability onset (*SSA recipients*) and those who do not (*SSA non-recipients*), and combine the other extent of disability groups together. The results are illustrated in Appendix Figures A11 (Annual hours of work), A12 (After-tax post-transfer income) and A13 (Food plus Housing Consumption). For these two Chronic-Severe groups, the SSA recipients have larger relative drops in hours of work than the non-recipients. This result is expected as a current recipient cannot engage in substantial gainful activity (for 2017, this is defined as having monthly earnings above $1,950). Recipients also experience slightly larger drops in income in the short run following disability onset. In terms of food plus housing consumption, the drops are similar between these two groups. One should not attach a causal relationship here; it is entirely possible that these differences are due to differences between those who decides to apply for SSI or SSDI and those who do not.

Cohort Differences

Given the evolution of the SSDI and SSI programs and the increasing labor market participation of women over time, we examine whether the material circumstances of the disabled have changed over the period of data we have. To do so, we split the disabled into two samples: those who were first disabled before 1990 (the *early* group), and those disabled later (the *recent* group). We estimate the outcome regressions on these two samples separately. The results are reported in a series of Appendix Tables (Tables A5-A8 for those who were first disabled before 1990, and Tables A9-A12 for those who were disabled after 1990). For most outcomes the changes are similar but we shall highlight a few importance differences. We find that for the average disabled, those disabled in the recent period have larger drops in hours of work (usually above 100 hours per year) as well as larger percentage drops in earnings. At the extensive margin of labor supply, disabled women in the two periods are similar in the short run, but diverge beginning with the fourth year after onset, with the recent disabled women showing greater labor force attachment than the earlier group. In terms of benefit receipts, the later disabled women have greater receipt of Social Security benefits, and food stamps/SNAP especially in the 7-10 years after disability onset.

Turning to the more important Chronic-Severe group, the drop in their economic outcomes is generally larger for those who became disabled after 1990. For earnings, the recent Chronic-Severe disabled experienced drops that are about 20 percentage points higher than their earlier counterparts. The drop in After-tax post-transfer income is also about 15 percentage point larger for the recent disabled group. For consumption, again the drop for the recent disabled group is typically several percentage points higher over the later years of the window. Relative to the case of all disabled women, the Chronic-Severe group in the recent period seem to have experienced greater hardship during the path of disability than those who were disabled earlier. In terms of benefit receipt, the recent Chronic-Severe disabled group receives greater such transfers in the first few years after disability onset relative to their early counterparts, but the difference narrows starting with the eighth year after onset. Social Security income plays a larger role for the recent Chronic-Severe disabled than other types of transfers. All these results are

consistent with the rising female labor force participation and earnings over the last two decades leading to a greater loss of income upon disability, but higher receipt of SSDI that doesn't quite compensate for the greater earnings loss.

Heads v. Wives

We examined the differences in outcomes for heads of households compared to wives. We found that heads experienced greater pre-tax and pre-transfer declines in income, but received larger transfers that tended to eliminate any noticeable differences in other outcomes between the two groups.

9. Conclusions

The problem of a growing disabled population and its associated public expenditures has attracted the attention of academics and policy makers. Most of the current debate, however, has focused on the moral hazard problem of disability insurance and less so on its economic benefits. In addition, the few studies on the well-being of the disabled have mostly focused on men. This study provides a panoramic view of how disability affects the well-being of women. While disability is associated with reduced earnings and labor supply for women similar to its relationship for men, its association with reduced family income and family consumption is somewhat smaller than for disabled men. However, the poverty rate for disabled women is much higher than for men, particularly for the most severely disabled.

In models such as Chetty (2006), the decline in consumption with disability is one of the key factors determining the optimal generosity of disability benefits. In this context, the much smaller decline in consumption for women than men is a factor that suggests that there is less of a case for more generous disability insurance for women than for men. On the other hand, the much high rate of poverty for disabled women than for disabled men is a factor that suggests a greater case for programs that target the disabled poor such as Supplemental Security Income. Of course, there are other

important factors in setting policies such as the differences in moral hazard under alternative policies for the disabled.

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Table 1: Disability Rates of Women, 1968-2015

	All Female Heads and Wives			Female Heads			Wives		
Year	N	% Disabled	% of Disabled that are Severe	N	% Disabled	% of Disabled that are Severe	N	% Disabled	% of Disabled that are Severe
1968				1,063	0.208	0.459			
1969				983	0.230				
1970				987	0.227				
1971				1,007	0.260				
1972				1,041	0.211	0.519			
1973				1,060	0.189	0.512			
1974				1,100	0.178	0.497			
1975				1,142	0.182	0.454			
1976	4,004	0.129	0.353	1,151	0.192	0.461	2,853	0.110	0.290
1977				1,175	0.212	0.559			
1978				1,190	0.196	0.557			
1979				1,243	0.206	0.506			
1980				1,267	0.190	0.533			
1981	4,578	0.128	0.487	1,326	0.187	0.526	3,252	0.106	0.461
1982	4,699	0.120	0.515	1,397	0.191	0.540	3,302	0.092	0.494
1983	4,624	0.129	0.417	1,404	0.175	0.427	3,220	0.110	0.411
1984	4,685	0.140	0.355	1,422	0.170	0.415	3,263	0.127	0.320
1985	4,751	0.151	0.361	1,452	0.175	0.437	3,299	0.142	0.325
1986	4,743	0.113	0.274	1,453	0.118	0.339	3,290	0.111	0.242
1987	4,798	0.140	0.257	1,491	0.165	0.233	3,307	0.128	0.272
1988	4,824	0.161	0.238	1,495	0.168	0.311	3,329	0.158	0.202
1989	4,820	0.149	0.276	1,472	0.175	0.300	3,348	0.137	0.260
1990	6,246	0.151	0.282	1,915	0.177	0.327	4,331	0.140	0.255

Notes: The sample includes female heads and wives ages 22-61. The rates are weighted using family weights.

Table 1: Disability Rates of Women, 1968-2015 (*continued*)

	All Female Heads and Wives			Female Heads			Wives		
Year	N	% Disabled	% of Disabled that are Severe	N	% Disabled	% of Disabled that are Severe	N	% Disabled	% of Disabled that are Severe
1991	6,126	0.153	0.263	1,863	0.182	0.287	4,263	0.139	0.247
1992	6,421	0.144	0.248	1,980	0.170	0.269	4,441	0.130	0.234
1993	6,520	0.134	0.247	2,122	0.162	0.284	4,398	0.121	0.225
1994	6,980	0.134	0.277	2,290	0.168	0.306	4,690	0.122	0.262
1995	6,703	0.137	0.301	2,205	0.168	0.358	4,498	0.122	0.262
1996	5,526	0.148	0.289	1,863	0.177	0.327	3,663	0.133	0.263
1997	4,528	0.140	0.311	1,433	0.159	0.335	3,095	0.130	0.297
1999	4,700	0.144	0.296	1,524	0.171	0.338	3,176	0.133	0.272
2001	4,957	0.146	0.261	1,594	0.188	0.317	3,363	0.127	0.222
2003	5,222	0.143	0.345	1,763	0.214	0.382	3,459	0.109	0.310
2005	5,330	0.140	0.322	1,820	0.191	0.370	3,510	0.115	0.284
2007	5,450	0.146	0.358	1,923	0.186	0.441	3,527	0.126	0.297
2009	5,615	0.152	0.341	2,077	0.190	0.421	3,538	0.131	0.279
2011	5,615	0.144	0.334	2,200	0.174	0.384	3,415	0.126	0.294
2013	5,588	0.160	0.358	2,236	0.200	0.400	3,352	0.136	0.321
2015	5,473	0.142	0.426	2,290	0.173	0.523	3,183	0.123	0.341

Notes: The sample includes female heads and wives ages 22-61. The rates are weighted using family weights.

Table 2: Sample Means for Non-disabled and Disabled Women

			Extent of Disability			
	Non-Disabled	All Disabled	One-Time	Temporary	Chronic Not Severe	Chronic Severe
Age at Disability Onset		37.1	34.9	36.7	37.7	41.2
		(10.2)	(9.7)	(10.2)	(10.3)	(9.5)
Age	35.7	39.4	36.5	37.8	40.8	45.2
	(7.5)	(7.9)	(5.9)	(7.0)	(8.0)	(8.9)
White	0.630	0.585	0.655	0.615	0.588	0.385
	(0.483)	(0.493)	(0.476)	(0.487)	(0.493)	(0.487)
Married	0.697	0.577	0.696	0.634	0.517	0.349
	(0.384)	(0.414)	(0.375)	(0.394)	(0.421)	(0.401)
Number of Years in Survey (ages 22-61)	14.0	20.2	19.9	20.0	21.7	18.1
	(8.2)	(8.3)	(8.3)	(8.5)	(8.0)	(8.1)
Highest Level of Education - High School	0.310	0.317	0.310	0.332	0.312	0.289
	(0.462)	(0.466)	(0.462)	(0.471)	(0.464)	(0.454)
Highest Level of Education – College	0.559	0.434	0.540	0.472	0.383	0.252
	(0.497)	(0.496)	(0.499)	(0.500)	(0.487)	(0.435)
Years in Survey after Onset		12.8	10.6	11.0	15.2	15.7
		(7.8)	(6.0)	(7.2)	(8.1)	(9.2)
Number of Consecutive Positive Limitation Reports		1.404		0.313	2.334	4.366
		(3.865)		(0.554)	(4.410)	(6.777)
Number of Valid Reports of Disability Status from Onset to the 10th Year after Onset		6.948	6.606	6.470	7.671	7.078
		(2.480)	(2.483)	(2.527)	(2.258)	(2.478)
Number of Positive Limitation Reports from Onset to the 10th Year after Onset		2.654		1.407	4.979	5.699
		(2.709)		(0.492)	(1.986)	(2.138)
Severity Ratio (up to the 10th Year after Onset)		0.265	0.155	0.221	0.141	0.810
		(0.361)	(0.362)	(0.316)	(0.165)	(0.174)
Age in the Last Interview	46.4	55.7	52.0	53.6	58.6	61.3
	(12.3)	(13.5)	(12.1)	(13.2)	(13.6)	(13.3)
Number of Observations	5,248	2,175	652	572	629	322

Notes: Standard Deviations are in parentheses. See text for the construction of the sample.

Table 3: Lifetime Prevalence of Disability among Women

				Extent of Disability			
Age	N	Any Disability	Currently Disabled	One-Time	Temporary	Chronic-Not Severe	Chronic-Severe
30	476	0.2551	0.0402	0.0941	0.0933	0.0596	0.0082
		(0.0267)	(0.0113)	(0.0188)	(0.0180)	(0.0136)	(0.0049)
32	733	0.2660	0.0949	0.0783	0.0904	0.0815	0.0159
		(0.0212)	(0.0136)	(0.0124)	(0.0146)	(0.0127)	(0.0054)
34	867	0.3034	0.0865	0.0997	0.0949	0.0740	0.0347
		(0.0202)	(0.0119)	(0.0128)	(0.0137)	(0.0111)	(0.0076)
36	935	0.2902	0.1101	0.1048	0.0610	0.0866	0.0378
		(0.0191)	(0.0133)	(0.0130)	(0.0101)	(0.0120)	(0.0076)
38	930	0.3276	0.0986	0.0956	0.0765	0.1081	0.0475
		(0.0195)	(0.0123)	(0.0120)	(0.0108)	(0.0132)	(0.0093)
40	825	0.3066	0.1011	0.1050	0.0615	0.0986	0.0416
		(0.0203)	(0.0131)	(0.0134)	(0.0101)	(0.0134)	(0.0089)
42	731	0.3377	0.1009	0.1017	0.0860	0.1132	0.0368
		(0.0224)	(0.0136)	(0.0142)	(0.0132)	(0.0158)	(0.0083)
44	606	0.3344	0.1211	0.0944	0.0680	0.1326	0.0394
		(0.0245)	(0.0171)	(0.0153)	(0.0133)	(0.0182)	(0.0094)
46	503	0.3327	0.1256	0.0946	0.0639	0.1164	0.0578
		(0.0262)	(0.0183)	(0.0170)	(0.0142)	(0.0170)	(0.0130)
48	400	0.3218	0.1402	0.0607	0.0771	0.1261	0.0579
		(0.0287)	(0.0215)	(0.0154)	(0.0158)	(0.0203)	(0.0139)
50	394	0.3220	0.1353	0.0524	0.0936	0.1254	0.0506
		(0.0295)	(0.0216)	(0.0140)	(0.0181)	(0.0210)	(0.0128)
52	359	0.4190	0.1978	0.0810	0.1249	0.1304	0.0826
		(0.0332)	(0.0270)	(0.0186)	(0.0228)	(0.0225)	(0.0174)
54	345	0.4139	0.1780	0.0628	0.1257	0.1625	0.0630
		(0.0346)	(0.0258)	(0.0179)	(0.0246)	(0.0261)	(0.0136)
56	337	0.4625	0.2000	0.0749	0.1088	0.1669	0.1120
		(0.0362)	(0.0279)	(0.0197)	(0.0232)	(0.0265)	(0.0209)
58	291	0.6176	0.2816	0.1247	0.1537	0.1858	0.1534
		(0.0378)	(0.0339)	(0.0263)	(0.0286)	(0.0295)	(0.0255)
60	273	0.6472	0.3070	0.1203	0.1084	0.2229	0.1956
		(0.0382)	(0.0358)	(0.0266)	(0.0244)	(0.0325)	(0.0305)

Notes: This table reports for each age the fraction of the sample members who have had a disability by the specified age, the fraction of individuals who are currently disabled, and the fraction for whom a given disability type is their most severe disability to date. For this table we only use data from 1984-1994 and individuals with at least 10 years of disability data prior to the specified age. The fractions are weighted using family weights. Standard errors are in parentheses. See text for details.

Table 4: Changes in Economic Outcomes relative to baseline, All-Disabled Women

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	23	0.23	1.38	-2.1	-1.7	-1.27	-1.8	-1.13	0.87	-2.81	-1.28
	(20)	(0.01)	(2.12)	(1.85)	(1.58)	(1)	(1.52)	(1.46)	(1.18)	(1.83)	(1.16)
-4	9	0.23	-0.59	-1.02	-0.98	-0.41	-0.35	0.11	0.43	-4.19**	-2.27*
	(22)	(0.01)	(2.31)	(1.91)	(1.62)	(2)	(1.67)	(1.60)	(1.07)	(1.59)	(1.09)
-3	-27	0.22	-2.34	-3.3	-2.67	-2.36	-2.17	-1.98	0.46	-2.79	-1.55
	(22)	(0.01)	(2.27)	(1.98)	(1.74)	(2)	(1.80)	(1.74)	(1.32)	(2.19)	(1.43)
-2	-21	0.24	-1.24	-1.63	-2	-1.83	-1.62	-1.12	-1.54	-3.62	-3.15*
	(24)	(0.01)	(2.46)	(2.20)	(1.83)	(2)	(1.91)	(1.81)	(1.15)	(2.10)	(1.38)
-1	-105**	0.25	-6.76**	-4.65*	-5.03**	-3.88*	-4.35*	-3.07	-0.77	-3.32	-2.58
	(24)	(0.01)	(2.44)	(2.26)	(1.78)	(2)	(1.84)	(1.76)	(1.21)	(2.06)	(1.38)
0	-169**	0.26	-13.30**	-4.12	-4.85	-3.83	-4.23	-2.97	-0.63	-5.63**	-3.75**
	(27)	(0.01)	(2.54)	(3.47)	(2.63)	(3)	(2.82)	(2.68)	(1.43)	(2.00)	(1.43)
1	-286**	0.33	-21.20**	-9.28**	-8.95**	-6.58**	-7.72**	-4.97**	-0.32	-4.93*	-3.37*
	(26)	(0.01)	(2.44)	(2.32)	(1.88)	(2)	(1.96)	(1.89)	(1.59)	(2.22)	(1.53)
2	-243**	0.33	-19.55**	-10.75**	-10.45**	-7.22**	-8.33**	-5.55**	-1.11	-6.61**	-4.90**
	(28)	(0.01)	(2.57)	(2.28)	(1.85)	(2)	(1.94)	(1.90)	(1.22)	(2.09)	(1.44)
3	-255**	0.34	-21.88**	-11.63**	-10.76**	-8.44**	-7.91**	-6.01**	-1.67	-7.85**	-5.75**
	(28)	(0.01)	(2.48)	(2.05)	(1.76)	(2)	(1.81)	(1.74)	(1.32)	(2.21)	(1.52)
4	-244**	0.34	-21.01**	-8.76**	-8.64**	-7.99**	-6.66**	-5.68*	-2.71*	-7.53**	-6.32**
	(30)	(0.01)	(2.61)	(2.83)	(2.26)	(2)	(2.34)	(2.23)	(1.31)	(2.05)	(1.45)
5	-290**	0.35	-23.31**	-12.16**	-11.51**	-10.37**	-8.76**	-7.51**	-2.33	-6.97**	-5.94**
	(29)	(0.01)	(2.65)	(2.57)	(2.10)	(2)	(2.28)	(2.17)	(1.46)	(2.28)	(1.59)
6	-265**	0.35	-22.72**	-9.36**	-9.96**	-7.83**	-6.63**	-5.62*	-2.76	-8.99**	-7.24**
	(31)	(0.01)	(2.75)	(2.79)	(2.18)	(2)	(2.31)	(2.19)	(1.42)	(2.26)	(1.64)
7	-303**	0.36	-21.17**	-6.71	-7.51**	-6.69**	-4.13	-4.05	-1.18	-9.66**	-7.28**
	(30)	(0.01)	(2.82)	(3.48)	(2.63)	(3)	(2.66)	(2.51)	(2.04)	(2.74)	(1.90)
8	-291**	0.35	-22.66**	-10.61**	-10.10**	-9.51**	-7.99**	-7.22**	-1.63	-9.55**	-7.50**
	(33)	(0.01)	(2.89)	(2.58)	(2.13)	(2)	(2.11)	(2.01)	(1.44)	(2.42)	(1.73)
9	-311**	0.37	-22.77**	-9.40**	-8.59**	-8.27**	-5.99**	-5.58*	-2.79	-8.96**	-7.43**
	(33)	(0.01)	(3.19)	(2.71)	(2.34)	(2)	(2.30)	(2.21)	(1.63)	(2.52)	(1.78)
10	-302**	0.36	-24.96**	-11.26**	-10.90**	-10.31**	-8.07**	-7.48**	-1.67	-6.85*	-5.71*
	(36)	(0.02)	(3.13)	(3.59)	(2.81)	(3)	(2.78)	(2.86)	(1.72)	(3.26)	(2.27)

Notes: The baseline period is the years prior to the fifth year before onset.

Table 5: Changes in Economic Outcomes relative to baseline, Chronic-Severe Disabled Women

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	-90	0.26	-7.52	-8.12	-7.74	-6	-5.06	-5.48	-0.65	-1.08	-1.83
	(58)	(0.03)	(5.68)	(4.63)	(4.32)	(4)	(4.35)	(3.71)	(4.24)	(4.43)	(3.08)
-4	-78	0.27	-10.23	-10.01*	-8.45*	-8.84*	-4.48	-5.48	-5.29	-7.59*	-7.49**
	(64)	(0.04)	(6.06)	(3.89)	(3.65)	(3)	(3.54)	(3.13)	(3.28)	(3.76)	(2.69)
-3	-222**	0.24	-16.57**	-10.01*	-7.16*	-8.62*	-5.34	-6.62*	4.50	-8.11*	-2.61
	(65)	(0.03)	(6.24)	(3.98)	(3.57)	(3)	(3.53)	(3.20)	(6.23)	(3.84)	(3.85)
-2	-186*	0.27	-18.04**	-5.76	-4.45	-9.64*	-0.55	-5.64	1.20	-9.36*	-5.70
	(72)	(0.03)	(6.64)	(4.49)	(4.16)	(4)	(3.99)	(3.50)	(4.34)	(4.34)	(3.23)
-1	-385**	0.32	-31.57**	-20.99**	-19.26**	-18.06**	-16.34**	-14.99**	2.42	-5.21	-3.41
	(70)	(0.03)	(6.27)	(4.12)	(3.73)	(4)	(3.71)	(3.38)	(4.08)	(4.54)	(3.10)
0	-457**	0.35	-42.80**	-21.22**	-19.61**	-18.70**	-16.53**	-15.30**	-2.26	-10.56*	-8.41**
	(75)	(0.03)	(5.45)	(4.29)	(3.95)	(4)	(3.94)	(3.57)	(3.93)	(4.54)	(3.07)
1	-901**	0.59	-69.53**	-32.13**	-29.81**	-23.77**	-22.14**	-17.05**	0.21	-9.65*	-6.97*
	(71)	(0.03)	(4.21)	(3.71)	(3.50)	(3)	(3.51)	(3.24)	(4.32)	(4.46)	(3.19)
2	-934**	0.60	-70.14**	-36.50**	-34.63**	-25.66**	-24.07**	-18.14**	-2.94	-11.47*	-9.34**
	(80)	(0.03)	(4.46)	(4.32)	(4.10)	(4)	(4.11)	(3.62)	(4.09)	(4.61)	(3.17)
3	-998**	0.68	-76.83**	-38.97**	-36.71**	-29.26**	-24.88**	-18.95**	-7.40	-9.92	-10.36**
	(72)	(0.03)	(3.42)	(3.86)	(3.71)	(4)	(3.72)	(3.30)	(4.05)	(5.54)	(3.45)
4	-1,017**	0.68	-74.64**	-33.26**	-31.50**	-26.82**	-18.01**	-15.31**	-5.72	-14.78**	-12.79**
	(76)	(0.03)	(3.87)	(4.40)	(4.20)	(4)	(4.21)	(3.50)	(4.03)	(4.77)	(3.14)
5	-1,082**	0.70	-79.68**	-40.76**	-38.74**	-33.88**	-23.93**	-21.02**	-6.17	-9.96	-11.15**
	(71)	(0.03)	(3.35)	(3.95)	(3.75)	(4)	(3.72)	(3.40)	(3.93)	(5.66)	(3.60)
6	-1,092**	0.72	-79.63**	-33.96**	-32.51**	-24.15**	-17.78**	-11.59*	-0.92	-14.74**	-10.42**
	(78)	(0.03)	(3.81)	(5.78)	(5.43)	(5)	(5.69)	(4.72)	(4.21)	(4.80)	(3.43)
7	-1,118**	0.75	-76.21**	-39.97**	-38.87**	-32.45**	-21.22**	-18.24**	-7.07	-6.46	-9.52
	(72)	(0.03)	(5.42)	(4.55)	(4.06)	(4)	(4.16)	(3.68)	(4.40)	(12.10)	(6.39)
8	-1,108**	0.71	-78.01**	-40.38**	-37.62**	-30.25**	-21.76**	-17.38**	-3.90	-13.71**	-10.88**
	(80)	(0.03)	(4.00)	(4.68)	(4.51)	(4)	(4.67)	(4.29)	(3.88)	(5.26)	(3.29)
9	-1,168**	0.79	-83.92**	-43.48**	-41.39**	-37.38**	-23.63**	-23.19**	-2.06	-14.50**	-11.23**
	(75)	(0.03)	(3.14)	(4.95)	(4.52)	(4)	(4.43)	(3.74)	(5.51)	(5.07)	(3.87)
10	-1,166**	0.78	-82.51**	-43.13**	-39.82**	-38.08**	-20.37**	-22.81**	-6.88	-15.03**	-13.09**
	(80)	(0.03)	(3.42)	(4.26)	(4.16)	(4)	(4.60)	(3.66)	(4.49)	(5.20)	(3.70)

Notes: The baseline period is the years prior to the fifth year before onset.

Table 6

Benefit Receipt Rates, Work and Wealth

	All Disabled	Extent of Disability			
		One-Time	Temporary	Chronic-Not Severe	Chronic-Severe
Benefit Receipt Rate					
Social Security	0.173	0.089	0.132	0.184	0.348
Supplemental Security Income	0.051	0.010	0.028	0.056	0.140
Social Security or SSI	0.203	0.095	0.149	0.219	0.433
Workers' Compensation	0.030	0.021	0.039	0.030	0.030
Unemployment Insurance	0.065	0.083	0.069	0.062	0.035
Food Stamps	0.226	0.125	0.178	0.251	0.425
Subsidized Housing	0.070	0.049	0.047	0.081	0.117
Any one of the above	0.441	0.298	0.369	0.465	0.744
Work and Wealth					
Not receiving any benefit above and working fewer than 1000 hours	0.206	0.247	0.190	0.200	0.177
Median Net Wealth at Onset (2016 Dollars)	$39,786	$51,330	$39,636	$34,175	$17,508
Median Net Wealth (2016 Dollars)	$50,284	$65,590	$49,996	$42,653	$29,462

Notes: Unless indicated otherwise, the benefit receipt rates and median net wealth are numbers for the 6-10 years after a woman's year of disability onset. Benefits received are reported at the family level. The receipt rates are not adjusted for underreporting.

Table 7: Changes in Amount of Public Transfers received relative to Baseline, All-Disabled Women

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	671**	95	19	151	-108	-8	208	-317
	(254)	(87)	(23)	(135)	(103)	(36)	(117)	(493)
-4	850**	166	10	181	-50	39	396**	-144
	(306)	(129)	(19)	(174)	(120)	(44)	(123)	(593)
-3	569*	124	-3	64	-42	-30	431**	-841
	(237)	(110)	(22)	(62)	(103)	(43)	(133)	(563)
-2	1,056**	240	71**	97	-29	7	596**	-125
	(278)	(137)	(22)	(75)	(122)	(49)	(147)	(644)
-1	1,464**	254*	96**	144	122	44	625**	-590
	(273)	(116)	(26)	(78)	(121)	(54)	(154)	(762)
0	1,566**	287*	119**	161	63	52	712**	-336
	(302)	(146)	(25)	(93)	(131)	(56)	(152)	(1,001)
1	2,830**	333**	165**	212*	658**	169**	967**	-1,578*
	(322)	(123)	(29)	(98)	(187)	(66)	(168)	(796)
2	2,891**	458**	171**	234*	521	83	1,120**	-1,676*
	(528)	(150)	(27)	(102)	(368)	(56)	(176)	(719)
3	2,654**	115	207**	88	286	242**	1,380**	-2,117**
	(324)	(129)	(32)	(80)	(152)	(66)	(191)	(716)
4	2,293**	-4	167**	139	119	267**	1,332**	-1627
	(335)	(141)	(27)	(105)	(153)	(67)	(191)	(866)
5	2,711**	-53	152**	156	256	397**	1,516**	-2,349**
	(342)	(133)	(28)	(98)	(169)	(82)	(186)	(899)
6	2,459**	-37	161**	105	405*	340**	1,206**	-1105
	(357)	(159)	(28)	(112)	(196)	(66)	(187)	(1,064)
7	2,331**	-143	211**	96	50	374**	1,498**	-840
	(333)	(138)	(41)	(89)	(140)	(77)	(201)	(1,243)
8	2,407**	-170	174**	224*	460*	430**	1,246**	-2,172**
	(363)	(166)	(30)	(105)	(196)	(80)	(194)	(807)
9	2,467**	-251	192**	199	357	437**	1,496**	-2,062*
	(444)	(151)	(35)	(140)	(293)	(81)	(213)	(818)
10	2,783**	-558**	214**	789	221	599**	1,478**	-2,354*
	(865)	(176)	(36)	(756)	(175)	(95)	(210)	(1,070)

Notes: The baseline period is the years prior to the fifth year before onset.

Table 8: Changes in Amount of Public Transfers (in 2016 Dollars) received relative to Baseline, Chronic-Severe Disabled Women

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	822	-372	80	-236	83	-60	975*	-1,222*
	(705)	(252)	(84)	(139)	(411)	(119)	(409)	(579)
-4	1274	-98	-30	-461**	16	332	1,804**	-2,031**
	(975)	(434)	(60)	(106)	(332)	(265)	(502)	(578)
-3	804	-27	-98	-205	-66	96	1,290**	-2,939**
	(831)	(342)	(62)	(160)	(270)	(246)	(439)	(750)
-2	1,209	-345	3	-325*	-309	9	2,400**	-1,998**
	(1,049)	(544)	(66)	(131)	(358)	(191)	(583)	(682)
-1	2,391**	256	83	-195	298	119	1,834**	-3,135**
	(904)	(408)	(76)	(167)	(439)	(238)	(478)	(768)
0	2,716**	-264	138	129	159	38	2,519**	-3,199**
	(994)	(542)	(73)	(251)	(409)	(205)	(547)	(721)
1	5,587**	53	322**	22	956	263	3,565**	-4,088**
	(930)	(384)	(98)	(205)	(518)	(238)	(591)	(736)
2	5,836**	59	261**	-145	320	321	3,970**	-3,956**
	(988)	(478)	(81)	(208)	(461)	(206)	(597)	(700)
3	7,550**	-231	249**	22	1001	752**	4,822**	-4,081**
	(1,051)	(390)	(86)	(221)	(600)	(278)	(701)	(928)
4	6,879**	-411	316**	-245	421	903**	4,943**	-3,962**
	(1,039)	(463)	(80)	(143)	(504)	(246)	(677)	(734)
5	8,063**	-364	302**	-169	923	1,273**	5,679**	-4,998**
	(1,108)	(481)	(83)	(155)	(684)	(288)	(656)	(822)
6	9,182**	329	411**	-185	1209	1,456**	5,049**	-4,533**
	(1,216)	(550)	(94)	(185)	(807)	(304)	(648)	(904)
7	9,002**	132	444**	-273	676	1,727**	5,902**	-4,516**
	(1,152)	(524)	(97)	(158)	(670)	(374)	(706)	(1,010)
8	8,802**	57	403**	-116	1214	1,800**	5,144**	-5,463**
	(1,188)	(591)	(88)	(165)	(753)	(383)	(657)	(879)
9	7,759**	-953	476**	-225	443	2,036**	5,558**	-5,168**
	(1,195)	(540)	(97)	(180)	(680)	(380)	(706)	(953)
10	7,727**	-1,430*	478**	-316	798	2,593**	5,578**	-6,374**
	(1,270)	(580)	(91)	(183)	(737)	(405)	(718)	(905)

Notes: The baseline period is the years prior to the fifth year before onset.

Figure 1
Lifetime Disability Prevalence Rates for Men and Women

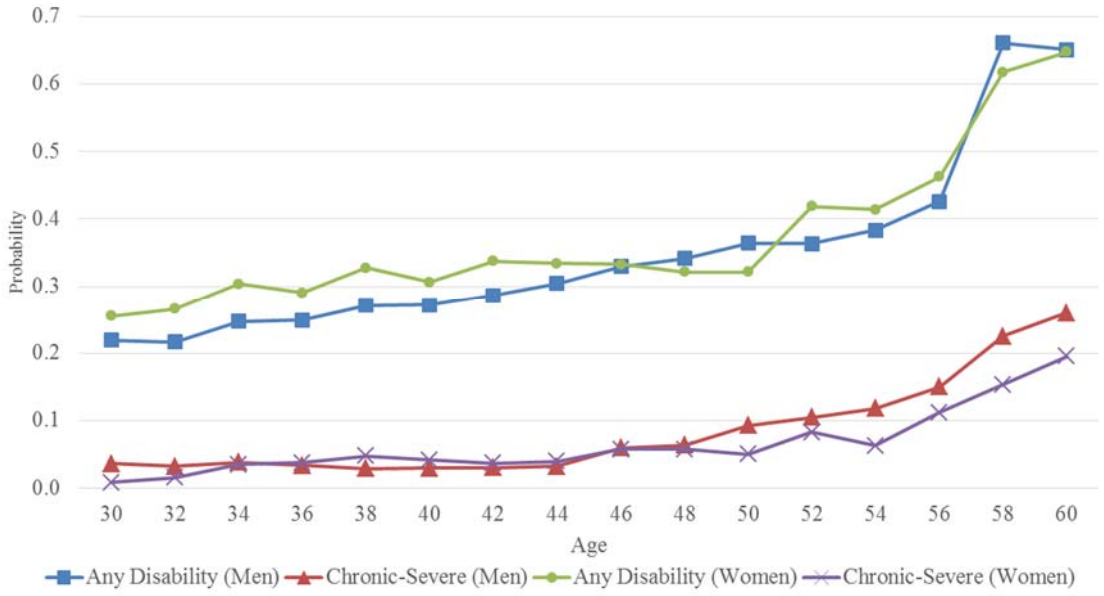


Figure 2
Change in Annual Hours of Work relative to Baseline, Disabled Women

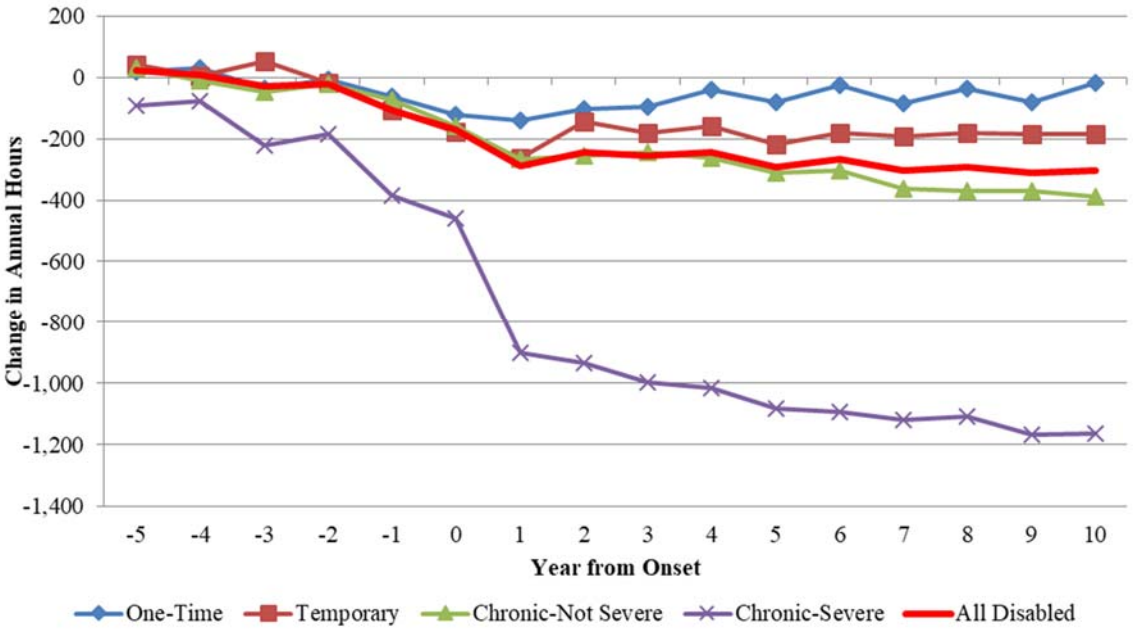


Figure 3
Fraction Not Working Before and After Disability Onset

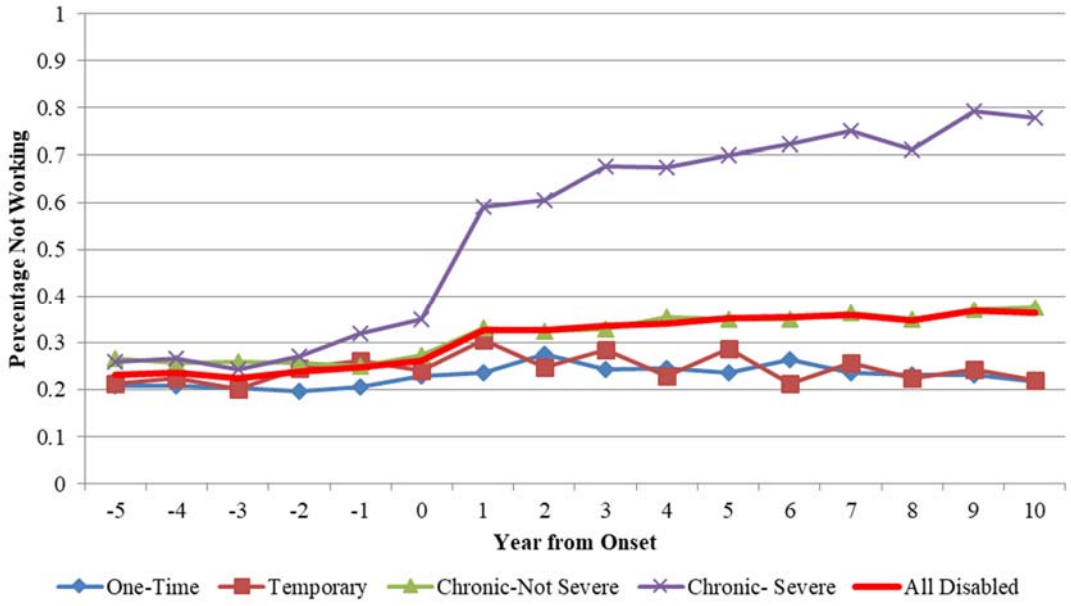


Figure 4
Change in Annual Earnings relative to Baseline, Disabled Women

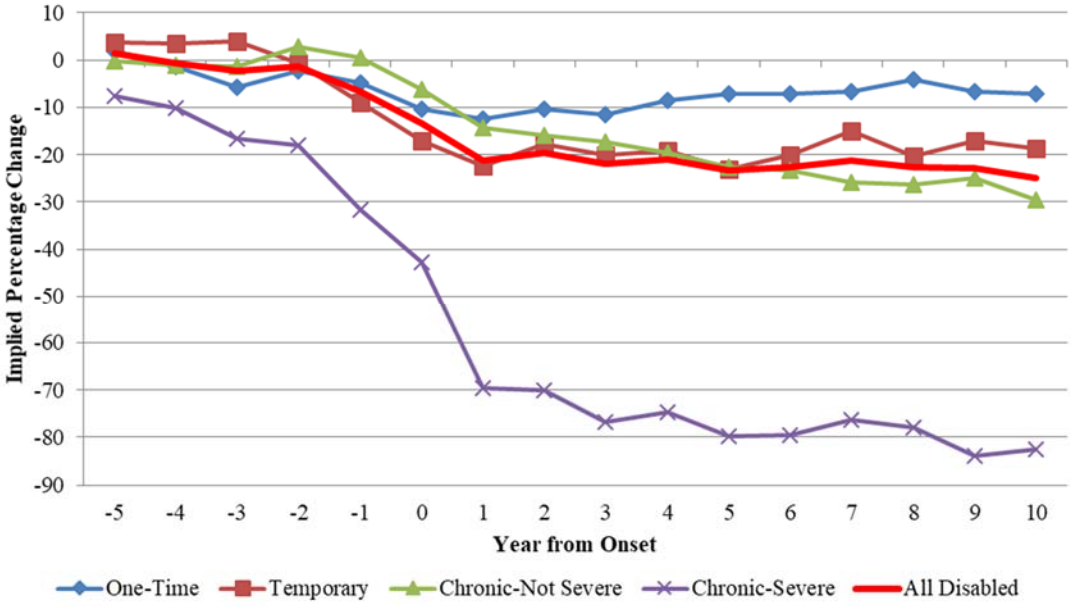


Figure 5
Change in After-tax Pre-Transfer Income
relative to Baseline, Disabled Women

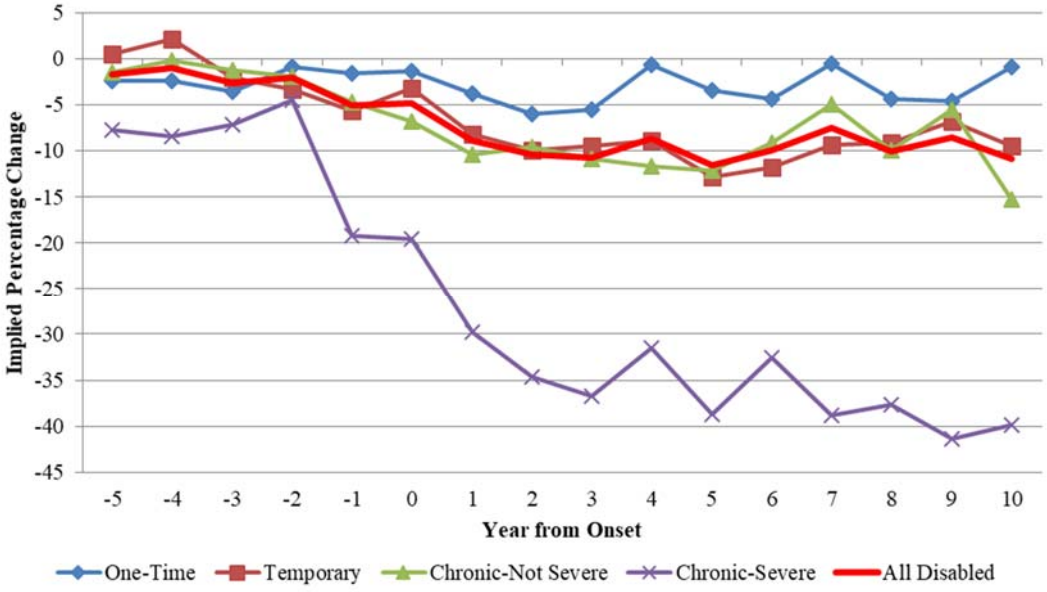


Figure 6
Change in After-tax Post-Transfer Income
relative to Baseline, Disabled Women

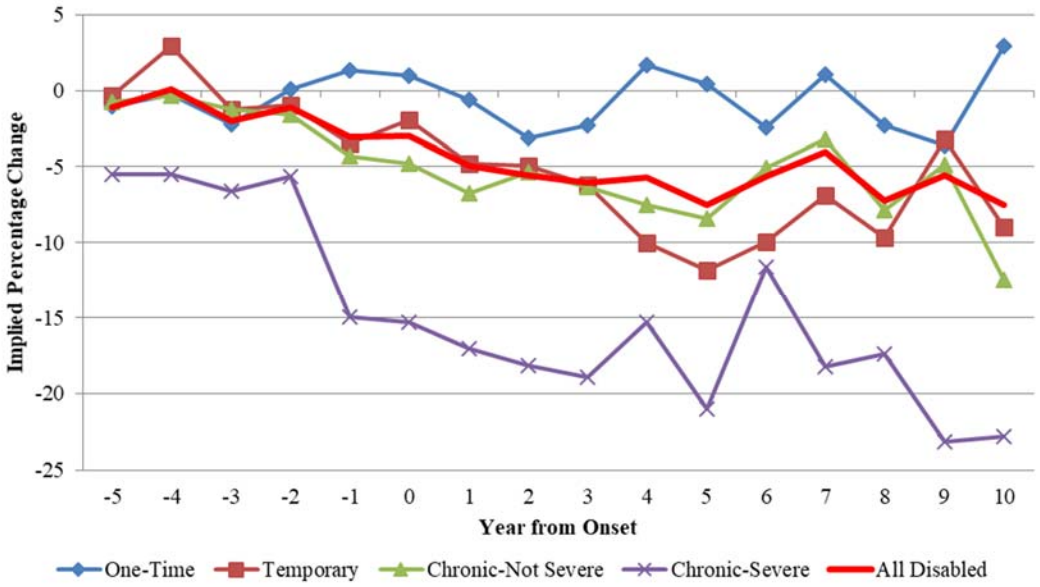


Figure 7
Change in Public Transfer Income (in 2016 dollars) relative to Baseline, Disabled Women

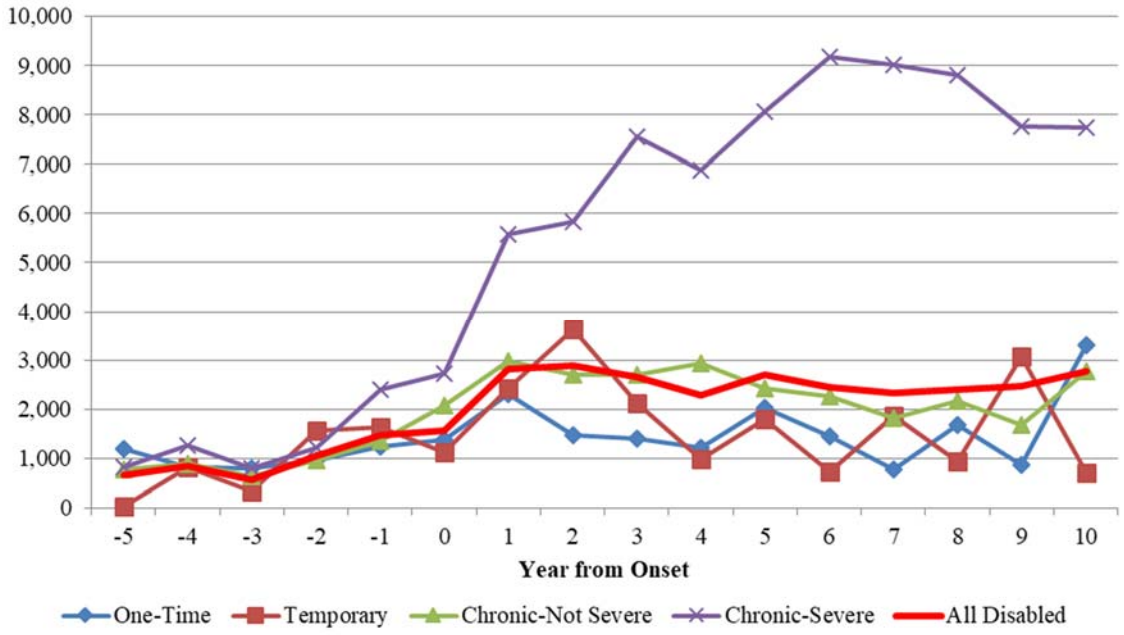


Figure 8
Poverty Rate Before and After Disability Onset, Disabled Women

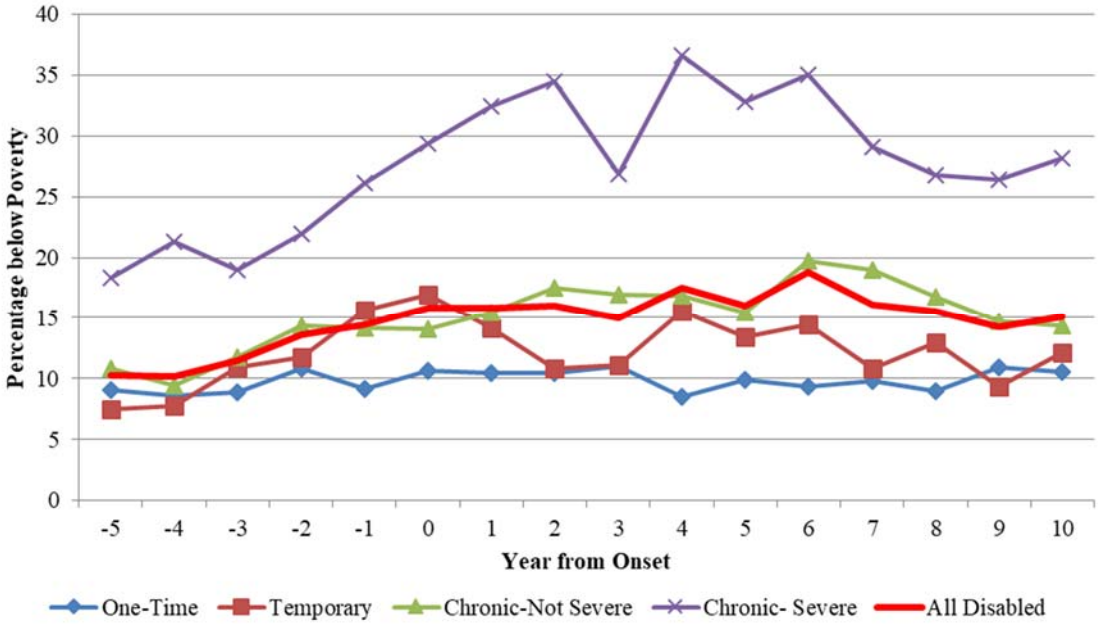


Figure 9
Change in Food Consumption relative to Baseline, Disabled Women

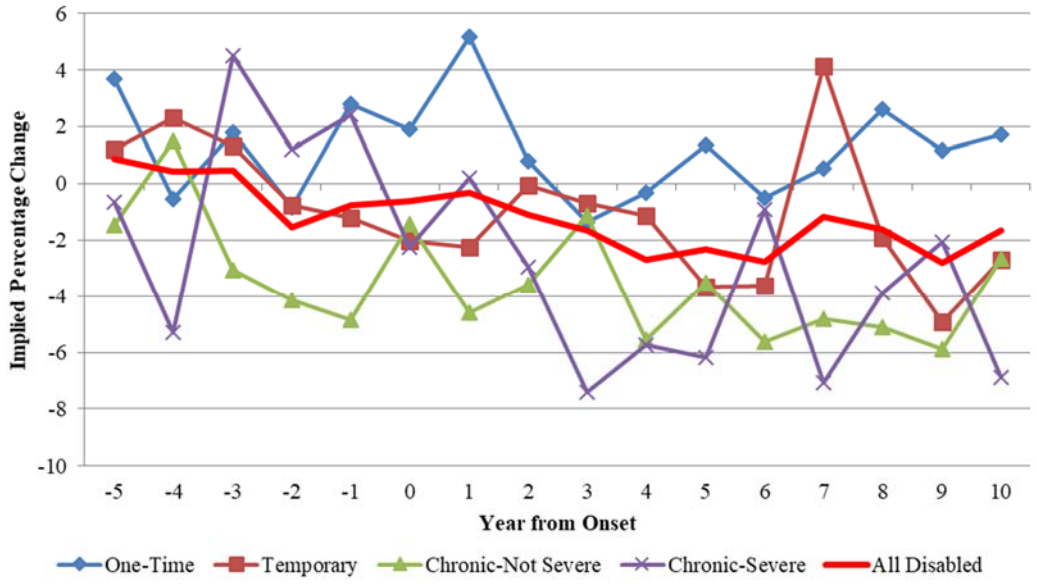


Figure 10
Change in Food plus Housing Consumption
relative to Baseline, Disabled Women

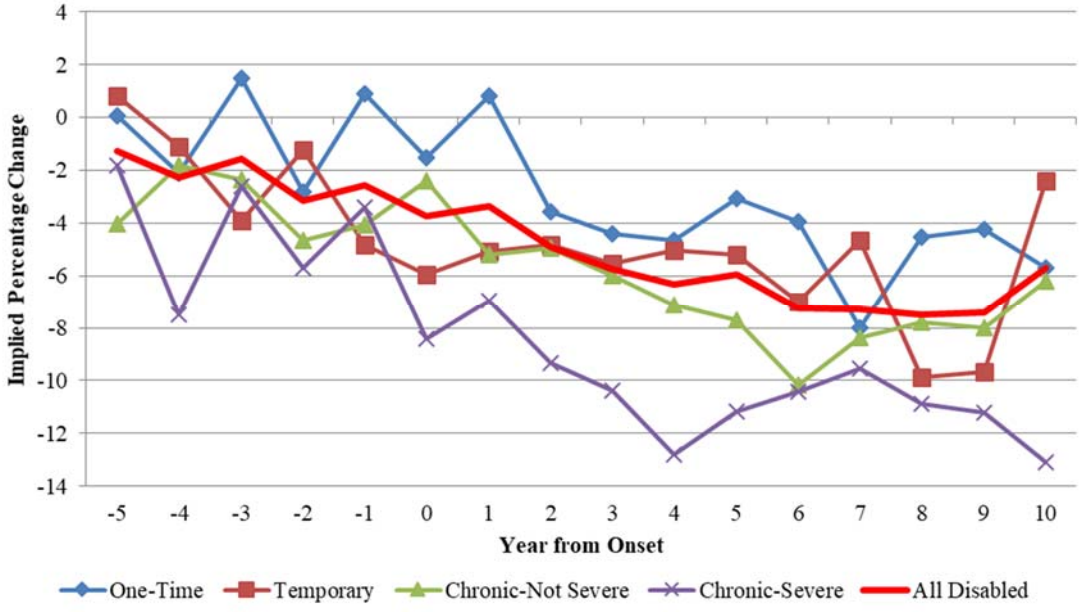
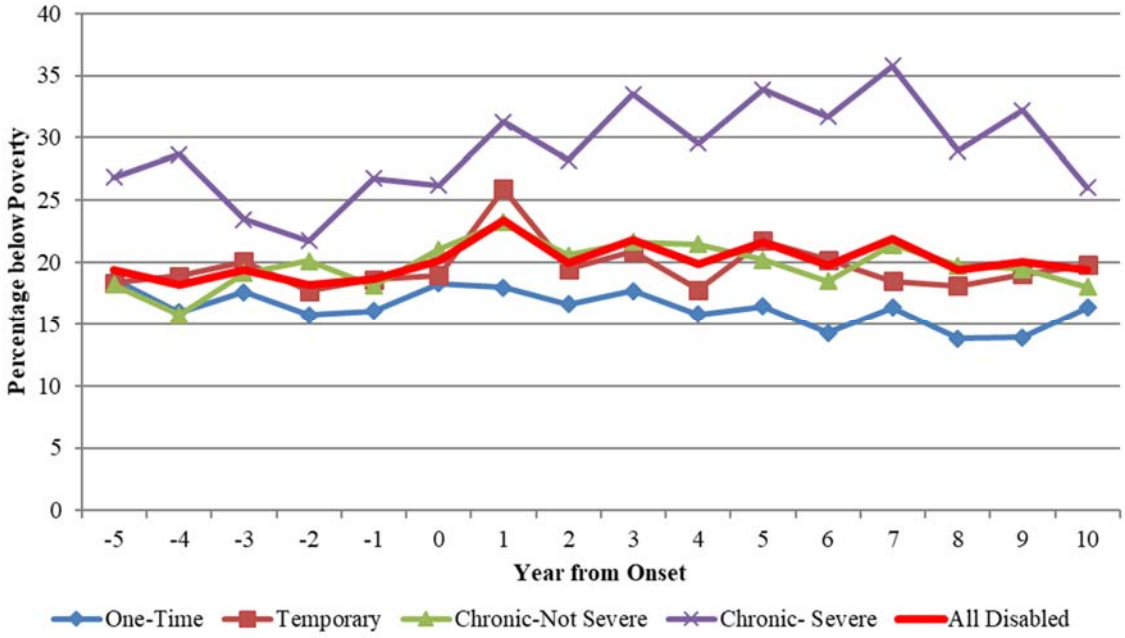


Figure 11
Consumption Poverty Rate Before and After Disability Onset, Disabled Women



Appendices

A. Controls for individual fixed effects regressions

All regressions include individual fixed effects and the time from onset dummies, year dummies, state dummies, age, age-squared, a married indicator, number of children, education dummies (12 yrs, 13-15 yrs, 16, 17+), also head status interacted with age, and age-squared. The following co-variates are also included, depending on the outcome variable:

Outcome	Additional Controls
Annual Earnings, Hours, Hourly Earnings, Taxes	Education*Age interactions, Education*Age-sq interactions, Education*(linear time trend) interactions, Education*(linear time trend)-squared interactions
Income	Education*Age interactions, Education*Age-sq interactions, Education*(linear time trend) interactions, Education*(linear time trend)-squared interactions, number of family members, married indicator*(husband disability) interaction, married*(husband's age) interaction
Food, Food at Home, Food Away from Home, Food plus Housing	Number of men, number of women, number of kids (ages <=10), number of young adults (ages 11-17), number of elders (ages >=65) - And the squared of these five variables. married indicator*(husband current disability indicator) interaction, married*(husband's age) interaction
Public Transfers, and various benefits	Number of family members

B. Additional Figures for various economic outcomes

Figure A1
Change in Pre-tax Pre-Transfer Income
relative to Baseline, Disabled Women

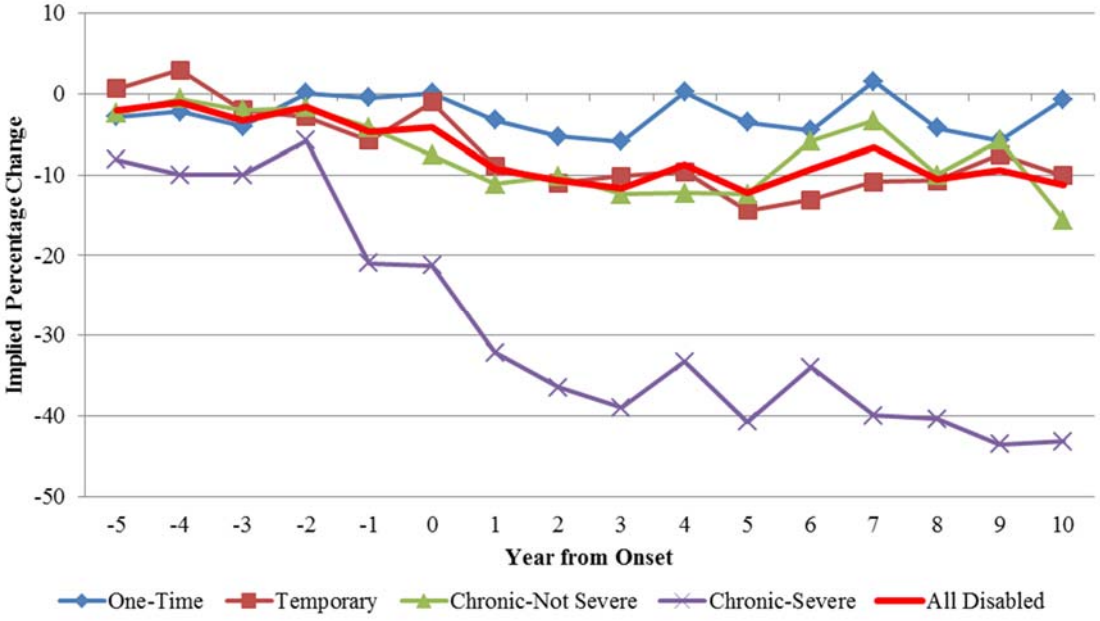


Figure A2
Change in After-tax Income with non-SSA Transfers
relative to Baseline, Disabled Women

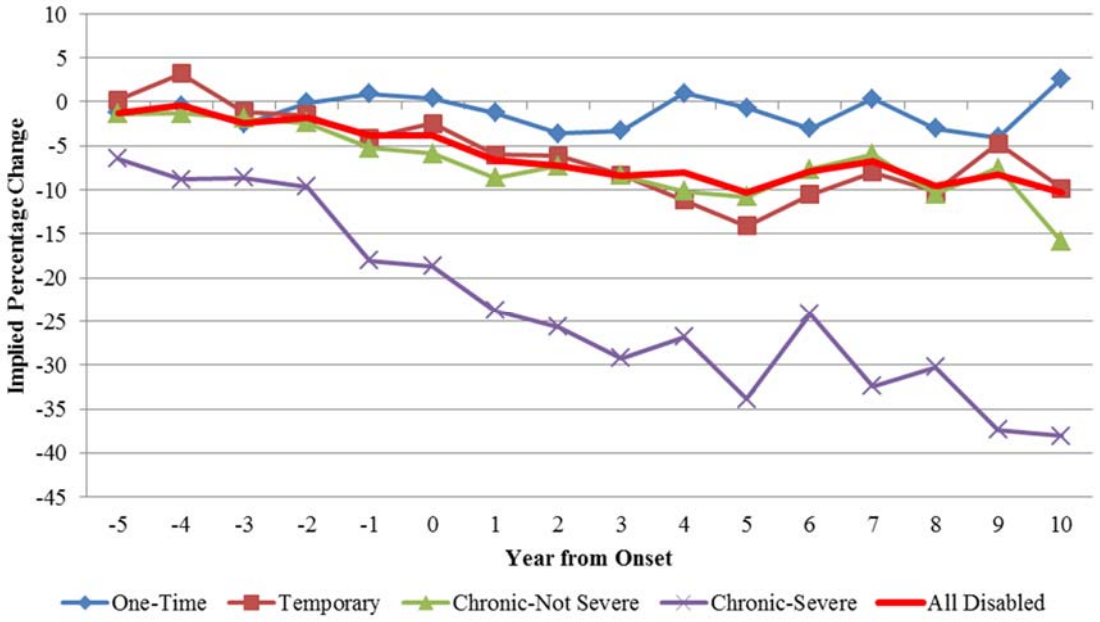


Figure A3
Change in After-tax Income with SSA Transfers
relative to Baseline, Disabled Women

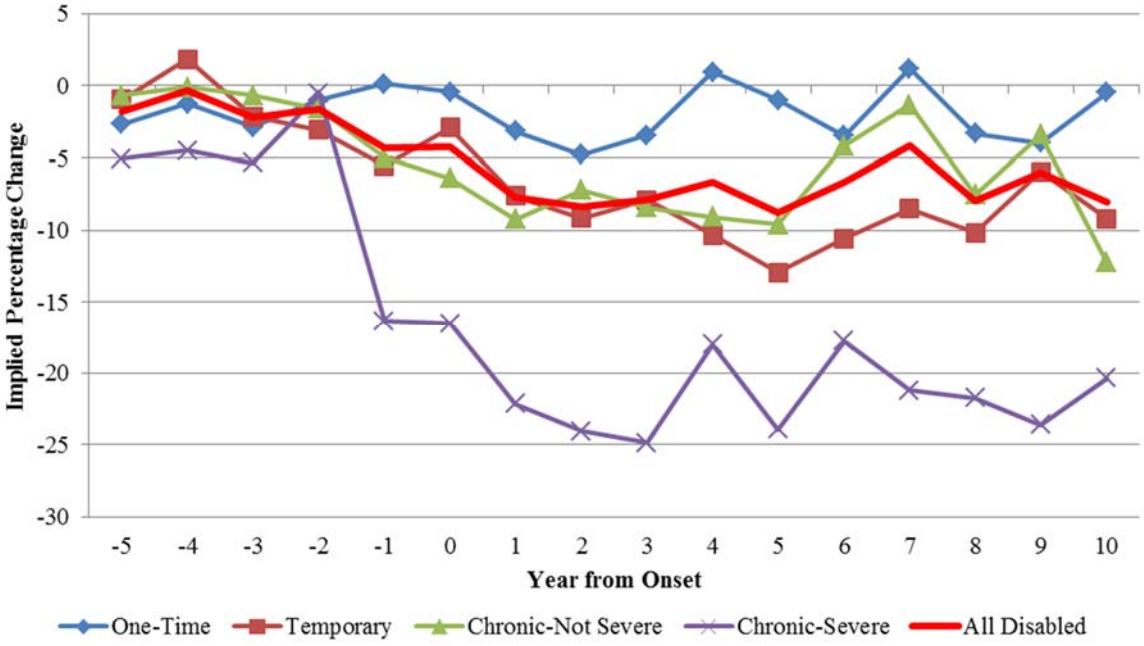


Figure A4
Change in AFDC/TANF Received (in 2016 dollars)
relative to Baseline, Disabled Women

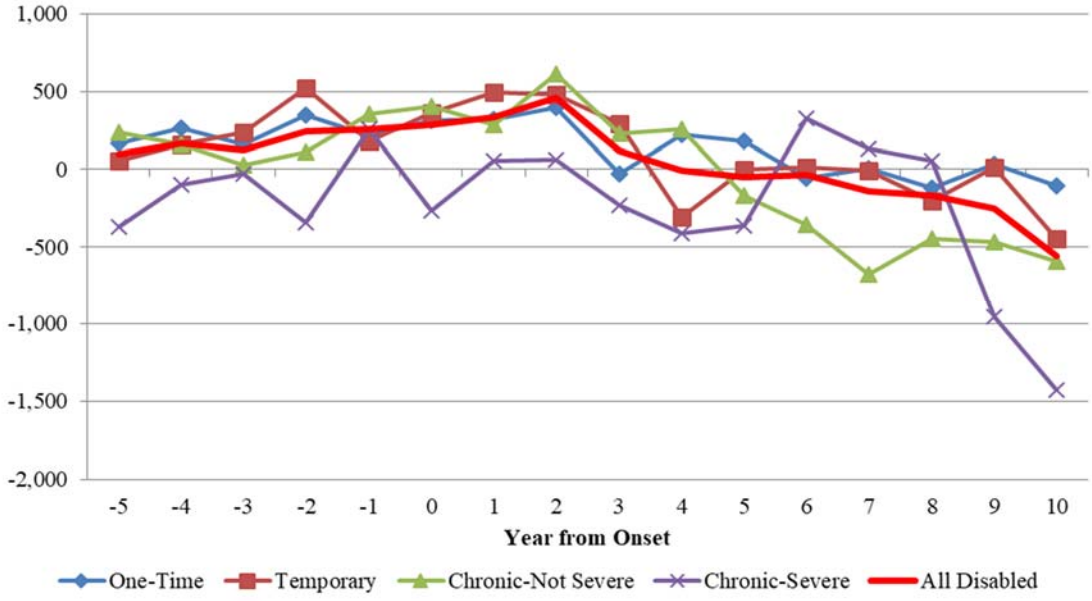


Figure A5
Change in Food Stamps/SNAP Received (in 2016 dollars)
relative to Baseline, Disabled Women

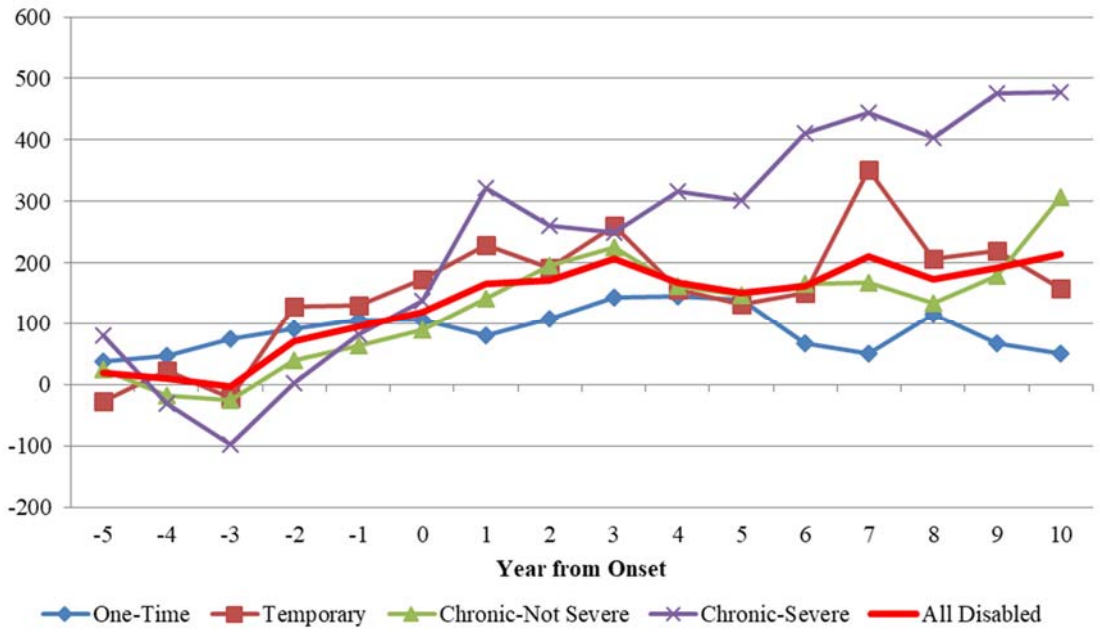


Figure A6
Change in Unemployment Insurance Received (in 2016 dollars)
relative to Baseline, Disabled Women

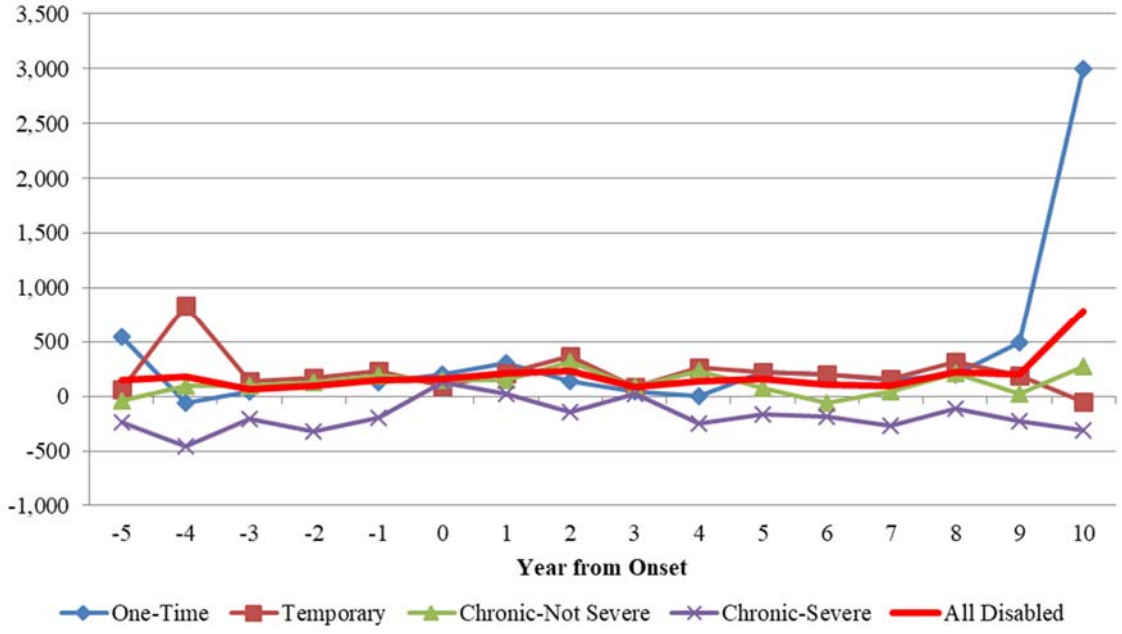


Figure A7
Change in Workers' Compensation Received (in 2016 dollars)
Before and After Disability Onset
Extent of Disability Groups and All Disabled

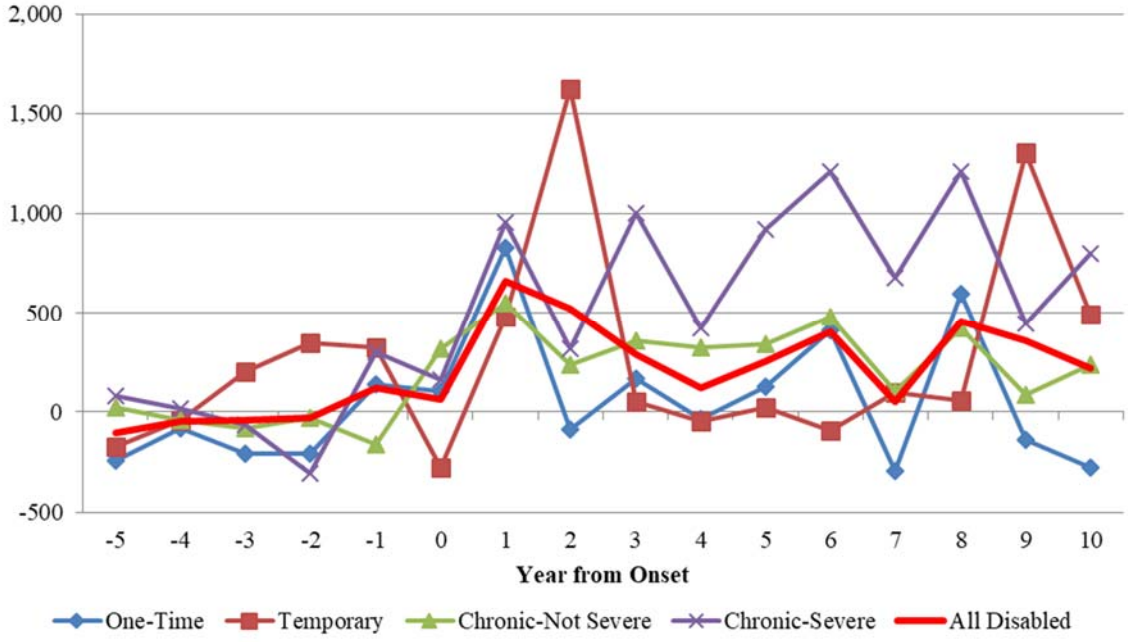


Figure A8
Change in Supplemental Security Income (in 2016 dollars)
relative to Baseline, Disabled Women

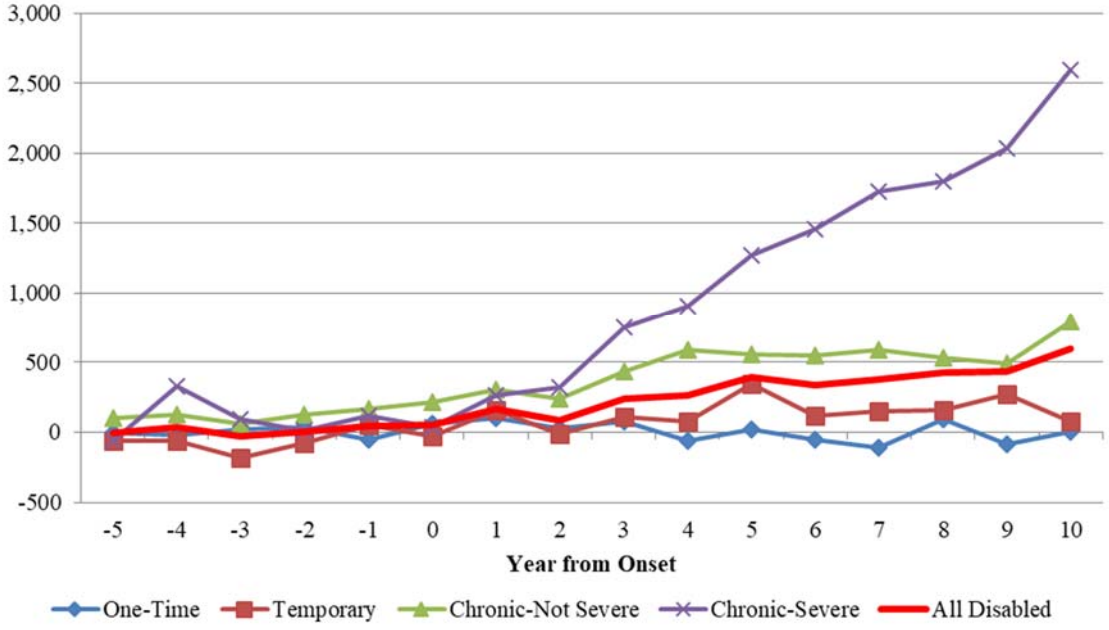


Figure A9
Change in Social Security Income (in 2016 dollars)
relative to Baseline, Disabled Women

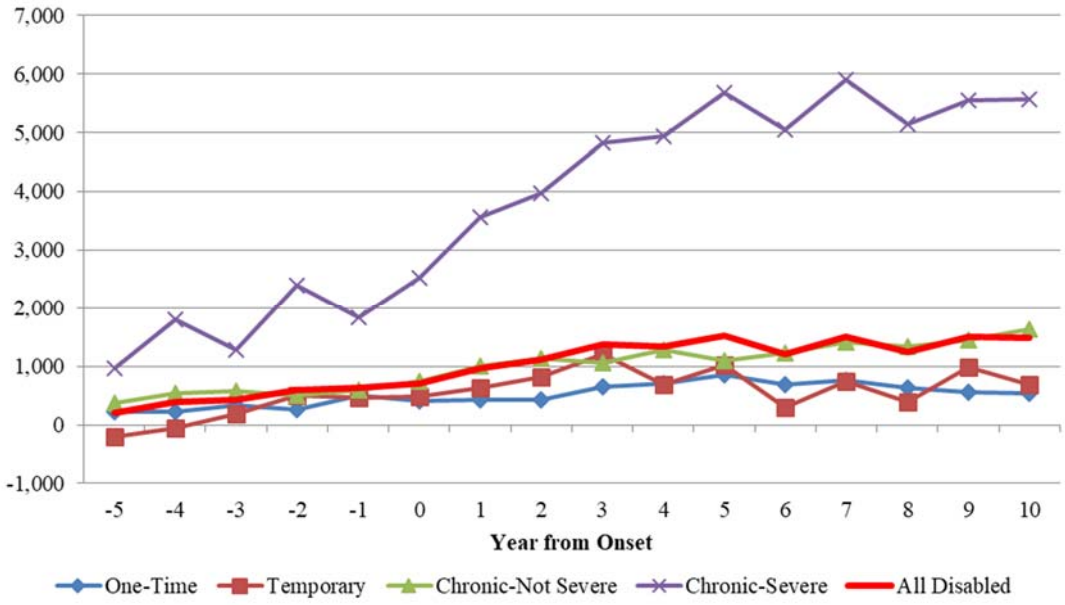


Figure A10
Change in estimated Federal Income Tax payable (in 2016 dollars)
relative to Baseline, Disabled Women

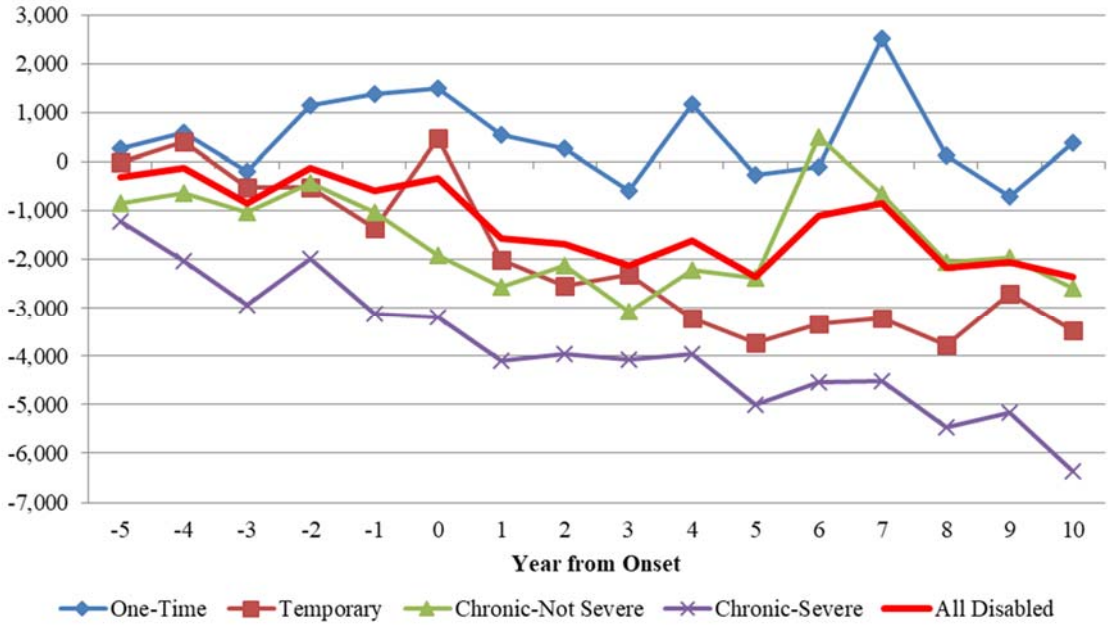


Figure A11
Change in Annual Hours of Work relative to Baseline,
Groups Defined by SSA Benefit Receipt and Disability

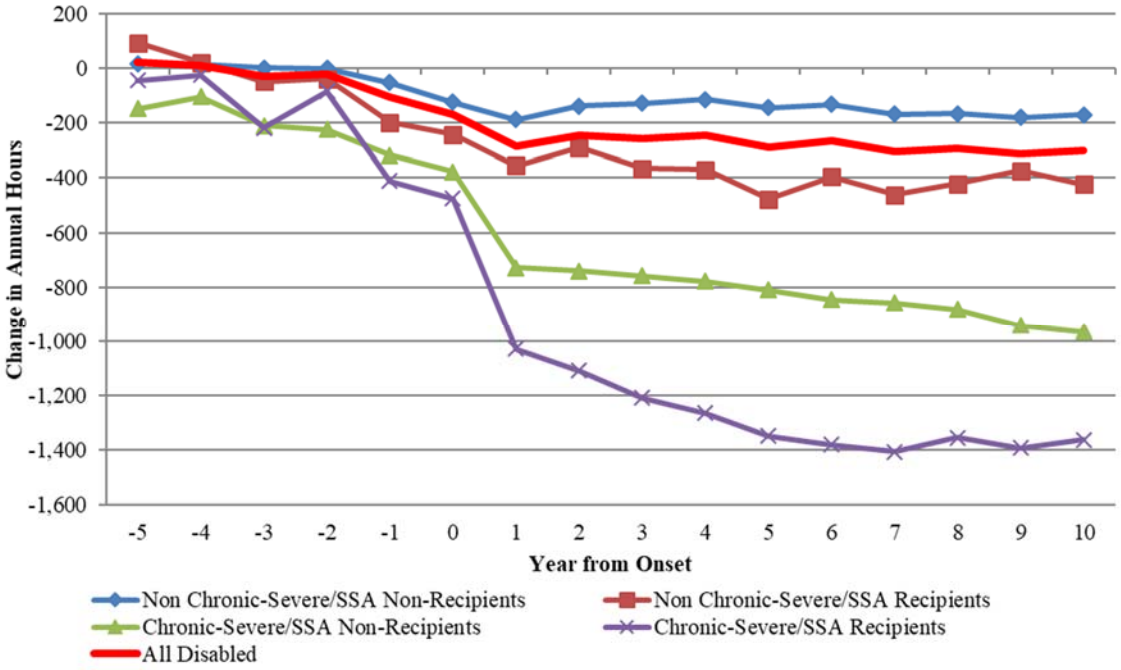


Figure A12
Change in After-Tax Post-Transfer Income
relative to Baseline,
Groups Defined by SSA Benefit Receipt and Disability

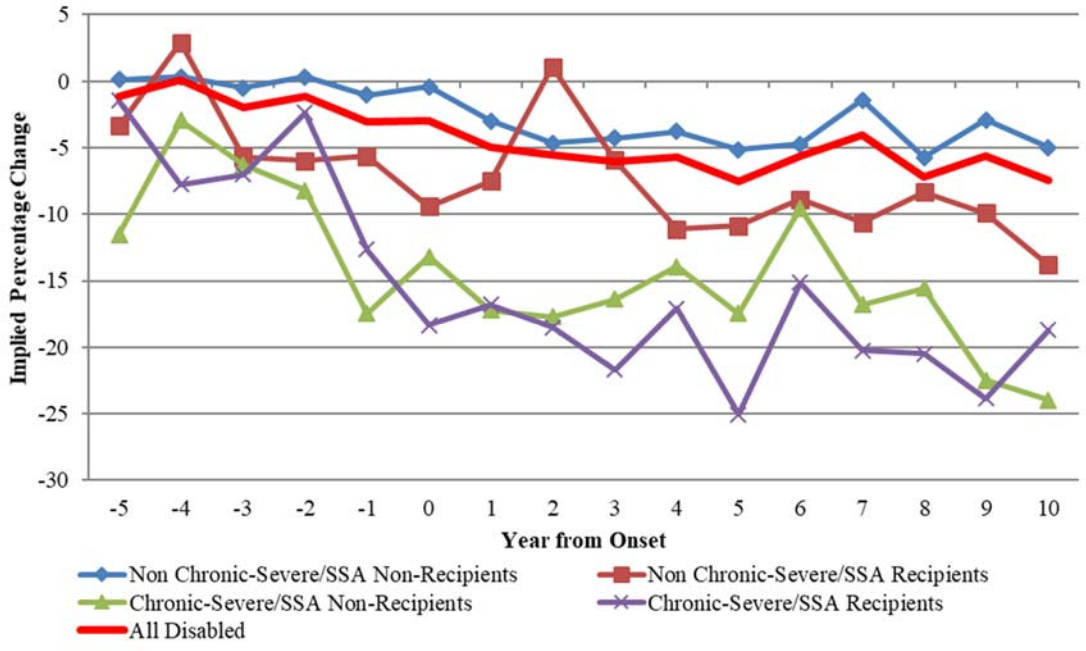
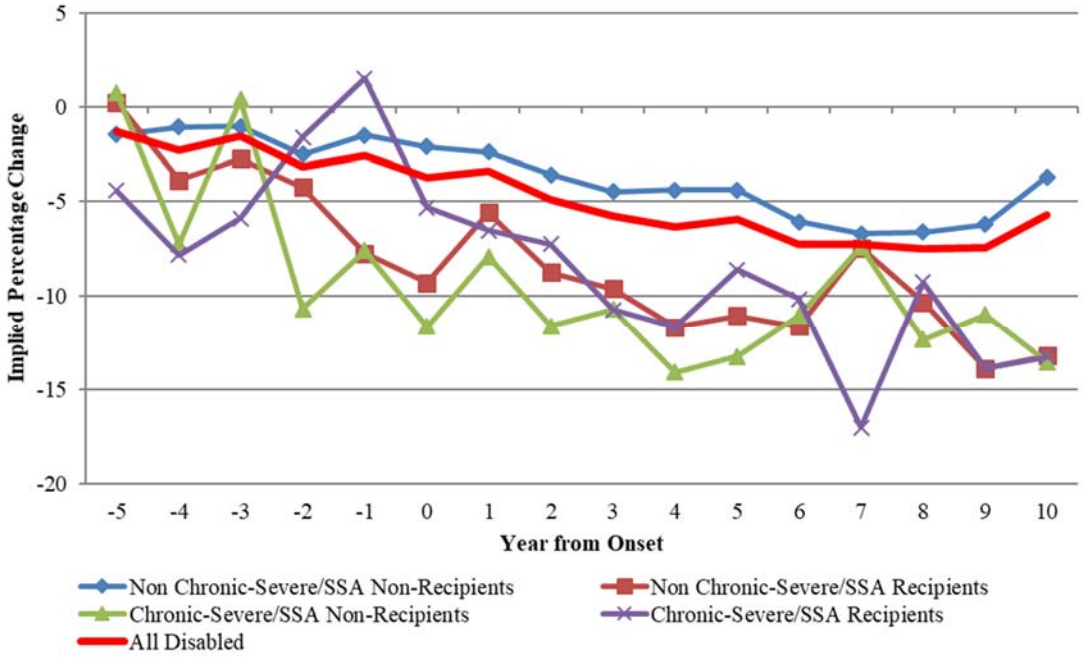


Figure A13
Change in Food plus Housing Consumption relative to Baseline
Groups Defined by SSA Benefit Receipt and Disability



Appendix Table 1: Changes in Economic Outcomes Relative to Baseline, All Disabled Male Family Heads

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	-2	0.03	-5.41**	-2.72	-2.22	-2.26	-2.07	-1.99	0.57	-4.18**	-2.37*
	(20)		(1.93)	(1.65)	(1.30)	(1)	(1.51)	(1.28)	(1.38)	(1.48)	(1.11)
-4	-38	0.03	-4.57	-2.51	-2.27	-3.40*	-2.75	-1.94	-2.28*	-3.93*	-3.83**
	(23)		(2.55)	(1.93)	(1.48)	(2)	(1.62)	(1.49)	(1.15)	(1.66)	(1.17)
-3	-47*	0.04	-6.98**	-4.54*	-3.90*	-5.39**	-5.05**	-3.82*	-2.38	-4.55**	-4.25**
	(22)		(2.38)	(2.27)	(1.68)	(2)	(1.81)	(1.66)	(1.28)	(1.75)	(1.24)
-2	-95**	0.03	-9.70**	-6.56**	-5.77**	-7.00**	-6.71**	-5.52**	-0.65	-4.45*	-3.53**
	(25)		(1.94)	(1.70)	(1.43)	(2)	(1.53)	(1.38)	(1.29)	(1.90)	(1.33)
-1	-173**	0.06	-12.68**	-8.13**	-7.09**	-7.28**	-7.81**	-5.19**	-2.81*	-2.76	-3.65*
	(25)		(2.03)	(1.83)	(1.53)	(2)	(1.76)	(1.53)	(1.28)	(2.19)	(1.43)
0	-273**	0.06	-15.78**	-11.39**	-10.34**	-8.39**	-10.37**	-6.34**	-2.90*	-6.44**	-5.78**
	(27)		(2.06)	(1.79)	(1.50)	(2)	(1.60)	(1.50)	(1.23)	(2.00)	(1.39)
1	-398**	0.14	-22.53**	-16.13**	-15.22**	-12.26**	-14.22**	-9.16**	-2.51	-5.09*	-4.89**
	(28)		(2.24)	(1.90)	(1.57)	(2)	(1.74)	(1.61)	(1.52)	(2.09)	(1.51)
2	-377**	0.14	-22.38**	-14.91**	-14.31**	-12.28**	-12.93**	-9.49**	-6.16**	-6.83**	-7.83**
	(29)		(2.24)	(2.05)	(1.61)	(2)	(1.74)	(1.65)	(1.27)	(2.15)	(1.48)
3	-360**	0.17	-21.28**	-14.60**	-13.86**	-13.54**	-12.72**	-9.93**	-5.31**	-6.20**	-7.18**
	(29)		(2.66)	(2.53)	(2.00)	(2)	(2.31)	(2.07)	(1.39)	(2.35)	(1.61)
4	-400**	0.15	-23.09**	-14.63**	-13.17**	-11.37**	-10.54**	-8.03**	-6.26**	-6.99**	-8.05**
	(30)		(2.41)	(2.42)	(2.18)	(2)	(2.42)	(2.25)	(1.35)	(2.47)	(1.68)
5	-384**	0.19	-24.16**	-17.49**	-15.79**	-15.47**	-13.50**	-10.45**	-6.63**	-5.94*	-7.97**
	(30)		(2.81)	(2.34)	(1.89)	(2)	(2.13)	(1.91)	(1.39)	(2.73)	(1.82)
6	-366**	0.16	-22.44**	-15.47**	-14.39**	-13.97**	-12.43**	-10.22**	-4.87**	-6.57*	-7.38**
	(32)		(2.70)	(2.41)	(1.97)	(2)	(2.17)	(1.99)	(1.40)	(3.29)	(2.15)
7	-371**	0.20	-24.81**	-15.14**	-13.34**	-13.13**	-10.84**	-8.62**	-7.86**	-10.32**	-11.06**
	(32)		(2.90)	(2.90)	(2.69)	(3)	(2.91)	(2.74)	(1.39)	(2.60)	(1.79)
8	-338**	0.16	-24.86**	-17.87**	-16.05**	-16.55**	-14.15**	-12.22**	-4.70**	-9.14**	-9.16**
	(33)		(2.72)	(2.48)	(2.08)	(2)	(2.28)	(2.06)	(1.48)	(2.98)	(2.02)
9	-373**	0.20	-23.61**	-17.17**	-15.84**	-16.07**	-14.20**	-11.40**	-6.87**	-8.78**	-10.02**
	(34)		(3.01)	(2.60)	(2.14)	(2)	(2.35)	(2.14)	(1.51)	(3.16)	(2.09)
10	-413**	0.18	-24.63**	-16.28**	-15.08**	-15.06**	-12.63**	-9.29**	-6.47**	-9.68**	-10.18**
	(37)		(3.19)	(2.89)	(2.35)	(3)	(2.56)	(2.44)	(1.59)	(3.01)	(2.10)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 2: Changes in Amount of Public Transfers Received Relative to Baseline, All Disabled Male Family Heads

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	249	14	17	55	64	13	143**	-1,108**
	(179)	(20)	(14)	(40)	(60)	(18)	(47)	(394)
-4	319	-2	18	69	88	44	219**	-1,303**
	(210)	(20)	(16)	(43)	(56)	(25)	(64)	(409)
-3	472*	32	20	97*	40	31	242**	-1,830**
	(210)	(24)	(16)	(44)	(54)	(27)	(64)	(541)
-2	604**	19	58**	126**	184**	89**	344**	-1,884**
	(224)	(26)	(19)	(45)	(62)	(30)	(72)	(422)
-1	1,330**	16	68**	65	461**	97**	370**	-2,484**
	(248)	(22)	(20)	(39)	(103)	(35)	(77)	(521)
0	2,973**	16	126**	84*	918**	171*	474**	-2,447**
	(319)	(26)	(23)	(41)	(137)	(82)	(72)	(491)
1	4,360**	68**	129**	50	1,144**	164**	733**	-2,775**
	(368)	(26)	(22)	(43)	(167)	(42)	(100)	(642)
2	3,910**	54	113**	47	748**	161**	804**	-2,786**
	(376)	(29)	(23)	(43)	(132)	(40)	(94)	(669)
3	3,514**	-2	109**	43	582**	222**	971**	-3,259**
	(464)	(25)	(23)	(50)	(182)	(45)	(109)	(693)
4	3,750**	12	127**	84	534**	242**	1,033**	-3,384**
	(330)	(27)	(23)	(48)	(101)	(45)	(103)	(634)
5	3,821**	17	101**	29	545**	304**	1,329**	-4,106**
	(334)	(21)	(23)	(49)	(115)	(65)	(130)	(744)
6	3,480**	40	128**	63	507**	219**	1,158**	-3,691**
	(361)	(28)	(23)	(62)	(111)	(42)	(112)	(726)
7	3,684**	36	129**	50	481**	243**	1,398**	-4,151**
	(341)	(25)	(25)	(62)	(127)	(54)	(131)	(806)
8	3,490**	37	106**	-43	484**	269**	1,248**	-4,279**
	(353)	(31)	(25)	(43)	(108)	(55)	(120)	(789)
9	3,950**	41	107**	146	479**	263**	1,411**	-4,259**
	(407)	(28)	(25)	(76)	(131)	(53)	(133)	(880)
10	3,854**	22	94**	2	554**	287**	1,429**	-4,272**
	(393)	(27)	(22)	(51)	(123)	(55)	(134)	(920)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 3: Changes in Economic Outcomes Relative to Baseline, Chronic-Severe Disabled Male Family Heads

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	-57	0.04	-11.55**	-9.25**	-8.13**	-6.85*	-7.38*	-6.79*	-0.16	-9.78**	-5.69**
	(57)		(3.72)	(3.18)	(2.90)	(3)	(3.14)	(2.67)	(2.63)	(2.84)	(2.10)
-4	-144**	0.03	-12.49**	-7.74*	-6.44*	-10.72**	-6.82*	-8.23**	-5.03	-7.45*	-8.10**
	(51)		(3.54)	(3.33)	(3.13)	(3)	(3.22)	(2.90)	(2.60)	(3.16)	(2.29)
-3	-102	0.04	-14.29**	-8.89*	-7.29*	-7.70*	-7.56*	-7.04*	-5.91*	-5.28	-7.93**
	(52)		(3.72)	(3.61)	(3.24)	(3)	(3.33)	(2.93)	(3.01)	(4.14)	(2.61)
-2	-117	0.04	-16.12**	-11.03**	-9.67**	-10.38**	-9.83**	-10.15**	-7.98**	-10.72**	-11.73**
	(62)		(4.45)	(3.78)	(3.42)	(4)	(3.58)	(3.01)	(2.90)	(4.13)	(2.86)
-1	-346**	0.08	-24.43**	-14.74**	-12.42**	-11.26**	-11.29**	-9.62**	-9.74**	-11.73**	-12.80**
	(61)		(4.45)	(3.76)	(3.43)	(4)	(3.82)	(3.25)	(3.17)	(4.19)	(2.85)
0	-720**	0.16	-38.83**	-25.00**	-23.49**	-16.13**	-19.49**	-12.49**	-9.28**	-12.82**	-13.20**
	(71)		(4.70)	(4.32)	(3.81)	(4)	(3.78)	(3.41)	(2.76)	(4.09)	(2.69)
1	-1,161**	0.42	-60.91**	-40.47**	-38.15**	-26.17**	-30.51**	-18.48**	-8.25	-16.85**	-14.87**
	(68)		(3.95)	(3.72)	(3.41)	(4)	(3.75)	(3.48)	(4.45)	(4.12)	(3.25)
2	-1,231**	0.47	-63.97**	-43.32**	-40.97**	-34.92**	-29.72**	-23.75**	-16.92**	-18.92**	-20.93**
	(72)		(3.94)	(3.60)	(3.37)	(3)	(3.38)	(3.15)	(2.65)	(3.67)	(2.50)
3	-1,328**	0.58	-67.47**	-45.95**	-44.78**	-35.27**	-32.31**	-24.17**	-15.62**	-18.34**	-19.72**
	(65)		(3.99)	(3.93)	(3.50)	(5)	(3.85)	(3.88)	(3.20)	(3.67)	(2.65)
4	-1,365**	0.55	-68.38**	-46.42**	-43.26**	-33.05**	-25.47**	-19.42**	-18.83**	-18.09**	-21.70**
	(69)		(4.00)	(4.98)	(5.24)	(7)	(7.26)	(5.09)	(2.55)	(4.09)	(2.63)
5	-1,430**	0.64	-74.98**	-50.71**	-48.62**	-42.14**	-32.45**	-25.20**	-18.92**	-18.50**	-22.21**
	(64)		(3.26)	(3.60)	(3.30)	(4)	(3.55)	(3.22)	(2.84)	(4.06)	(2.68)
6	-1,474**	0.60	-74.72**	-51.57**	-48.77**	-40.17**	-32.92**	-25.45**	-14.82**	-21.59**	-22.02**
	(71)		(3.61)	(3.72)	(3.56)	(4)	(3.78)	(3.69)	(3.09)	(4.56)	(2.93)
7	-1,460**	0.68	-79.99**	-53.27**	-50.43**	-44.98**	-30.52**	-27.31**	-19.33**	-24.66**	-25.96**
	(70)		(2.98)	(3.73)	(3.64)	(4)	(4.20)	(3.58)	(3.14)	(5.36)	(3.01)
8	-1,542**	0.65	-80.67**	-59.47**	-56.68**	-50.73**	-40.04**	-34.62**	-19.47**	-28.57**	-28.27**
	(73)		(3.52)	(3.43)	(3.29)	(3)	(3.61)	(3.27)	(2.58)	(4.68)	(2.71)
9	-1,493**	0.72	-79.72**	-58.72**	-56.53**	-50.79**	-36.86**	-30.50**	-20.62**	-20.65**	-25.08**
	(80)		(3.60)	(3.56)	(3.39)	(4)	(3.60)	(3.34)	(2.75)	(7.06)	(3.76)
10	-1,487**	0.66	-77.23**	-55.39**	-53.09**	-49.66**	-34.84**	-28.32**	-16.18**	-24.70**	-25.27**
	(83)		(4.39)	(4.66)	(4.30)	(4)	(4.35)	(4.34)	(3.49)	(4.46)	(2.92)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 4: Changes in Amount of Public Transfers Received Relative to Baseline, Chronic-Severe Disabled Male Family Heads

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	1,352**	9	47	82	253	42	555**	-1,815**
	(512)	(59)	(40)	(75)	(150)	(42)	(178)	(432)
-4	65	-43	33	-68	474*	63	783**	-2,120**
	(501)	(48)	(52)	(39)	(212)	(61)	(269)	(389)
-3	1,190*	28	49	101	352	60	787**	-2,732**
	(600)	(87)	(55)	(87)	(183)	(54)	(247)	(525)
-2	1,370*	126	75	200	615*	206*	1,036**	-2,819**
	(687)	(105)	(59)	(151)	(239)	(99)	(237)	(483)
-1	2,656**	-43	106*	113	956**	206*	1,257**	-3,740**
	(800)	(64)	(53)	(87)	(359)	(87)	(302)	(614)
0	7,309**	-19	208**	188	1,839**	293**	1,591**	-3,613**
	(1,201)	(70)	(63)	(101)	(418)	(102)	(254)	(592)
1	12,033**	69	279**	-40	2,594**	545**	2,518**	-5,092**
	(1,207)	(73)	(60)	(66)	(554)	(152)	(362)	(686)
2	10,956**	96	237**	-59	1,500**	670**	3,253**	-4,877**
	(1,078)	(88)	(64)	(55)	(414)	(176)	(360)	(605)
3	13,560**	-3	214**	93	2,459*	782**	3,775**	-5,300**
	(2,204)	(82)	(52)	(157)	(987)	(185)	(397)	(755)
4	13,690**	46	349**	-103	1,830**	776**	4,240**	-5,351**
	(1,171)	(67)	(68)	(62)	(466)	(177)	(368)	(670)
5	13,871**	108	260**	-176**	1,545**	904**	5,035**	-6,267**
	(1,063)	(72)	(65)	(57)	(396)	(194)	(447)	(753)
6	14,874**	33	343**	77	1,800**	896**	4,811**	-6,263**
	(1,264)	(72)	(76)	(240)	(464)	(183)	(392)	(709)
7	14,432**	111	351**	-182**	1,542**	1,017**	5,708**	-6,955**
	(1,173)	(70)	(78)	(70)	(489)	(242)	(458)	(799)
8	13,953**	51	314**	-213**	1,805**	1,019**	5,225**	-7,116**
	(1,323)	(91)	(101)	(56)	(514)	(249)	(430)	(778)
9	14,814**	144	348**	-117	1,825**	1,121**	6,187**	-6,984**
	(1,285)	(103)	(108)	(98)	(557)	(237)	(475)	(784)
10	15,201**	263*	327**	-110	1,598**	1,072**	6,089**	-7,508**
	(1,405)	(116)	(78)	(121)	(433)	(242)	(504)	(883)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 5: Changes in Economic Outcomes Relative to Baseline, All-Disabled Women with Year of Onset prior to 1990

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	28	0.31	1.02	-3.48	-2.54	-2.02	-2.76	-2.35	0.1	-1.57	-0.94
	(28)		(3.02)	(1.91)	(1.62)	(1)	(1.55)	(1.42)	(1.42)	(2.47)	(1.49)
-4	56	0.28	3.32	-2.49	-1.7	-1.04	-1.67	-1.15	-0.64	-3.73*	-2.36
	(29)		(3.57)	(2.22)	(1.86)	(2)	(1.78)	(1.69)	(1.45)	(1.89)	(1.29)
-3	-7	0.28	-0.44	-4.16	-3.13	-2.46	-2.99	-2.5	-0.85	-2.44	-2.02
	(32)		(3.70)	(2.29)	(1.95)	(2)	(1.87)	(1.78)	(1.55)	(2.61)	(1.63)
-2	36	0.27	4	-2.37	-2.43	-1.3	-2.22	-1.21	-2.86	-5.29*	-4.31**
	(34)		(4.02)	(2.57)	(2.14)	(2)	(2.06)	(1.94)	(1.51)	(2.35)	(1.56)
-1	-9	0.27	2.25	-3.86	-3.79	-1.96	-3.41	-1.68	-0.77	-2.39	-2.06
	(35)		(4.15)	(2.40)	(2.02)	(2)	(1.94)	(1.83)	(1.53)	(2.53)	(1.67)
0	-106**	0.28	-9.22*	-7.68**	-7.06**	-5.13*	-7.00**	-5.07**	0.12	-4.96	-2.89
	(37)		(3.97)	(2.47)	(2.10)	(2)	(2.02)	(1.90)	(2.25)	(2.73)	(1.96)
1	-222**	0.33	-16.38**	-9.63**	-8.80**	-4.98*	-8.39**	-4.53*	-0.9	-6.07*	-4.22*
	(36)		(3.92)	(2.48)	(2.19)	(2)	(2.27)	(2.14)	(2.22)	(2.74)	(1.92)
2	-179**	0.33	-13.70**	-12.37**	-11.48**	-7.00**	-9.49**	-6.36**	-1.67	-4.62	-3.86*
	(37)		(3.95)	(2.36)	(2.05)	(2)	(2.06)	(1.94)	(1.71)	(2.91)	(1.92)
3	-183**	0.34	-15.70**	-14.20**	-13.14**	-9.03**	-10.99**	-7.89**	-2.74	-8.03*	-6.12**
	(39)		(3.93)	(2.33)	(2.07)	(2)	(2.04)	(1.96)	(1.76)	(3.14)	(2.04)
4	-195**	0.36	-18.52**	-13.46**	-12.19**	-11.02**	-11.68**	-9.48**	-4.67**	-6.11*	-6.09**
	(40)		(3.96)	(2.51)	(2.24)	(2)	(2.03)	(1.95)	(1.77)	(3.09)	(2.04)
5	-233**	0.37	-20.11**	-15.34**	-14.11**	-12.58**	-12.67**	-10.54**	-3.62	-7.55*	-6.64**
	(40)		(4.09)	(2.45)	(2.19)	(2)	(2.24)	(2.10)	(1.91)	(3.07)	(2.06)
6	-215**	0.38	-19.17**	-14.29**	-13.21**	-10.07**	-10.17**	-8.24**	-4.44*	-9.21**	-7.81**
	(41)		(4.04)	(2.58)	(2.31)	(2)	(2.36)	(2.24)	(1.80)	(3.55)	(2.29)
7	-246**	0.39	-18.85**	-11.52**	-11.32**	-9.49**	-8.48**	-7.84**	-2	-9.42*	-7.12**
	(41)		(4.20)	(3.64)	(2.91)	(3)	(2.99)	(2.79)	(2.63)	(3.96)	(2.60)
8	-232**	0.37	-18.42**	-12.42**	-11.44**	-10.51**	-9.85**	-8.85**	-3.80*	-8.38*	-7.59**
	(43)		(4.35)	(2.72)	(2.41)	(2)	(2.32)	(2.21)	(1.81)	(3.64)	(2.35)
9	-251**	0.39	-20.88**	-13.12**	-11.43**	-10.53**	-9.41**	-8.61**	-4.14*	-7.89*	-6.96**
	(44)		(4.30)	(2.97)	(2.74)	(3)	(2.64)	(2.56)	(1.94)	(3.57)	(2.38)
10	-240**	0.38	-20.73**	-11.86**	-11.34**	-10.06**	-8.74**	-7.74*	-3.01	-4.99	-4.97
	(46)		(4.56)	(4.34)	(3.42)	(4)	(3.33)	(3.50)	(2.19)	(5.06)	(3.20)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 6: Changes in Amount of Public Transfers Received Relative to Baseline, All-Disabled Women with Year of Onset prior to 1990

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	283	189	14	14	-197*	-19	-39	-659
	(277)	(145)	(20)	(77)	(82)	(49)	(141)	(436)
-4	509	284	-7	359	-160	16	86	-545
	(405)	(189)	(21)	(258)	(87)	(62)	(155)	(524)
-3	483	282	8	220*	-77	8	146	-948
	(349)	(193)	(23)	(100)	(103)	(67)	(174)	(535)
-2	946*	356	46	287*	36	6	210	-318
	(375)	(199)	(26)	(116)	(129)	(62)	(188)	(607)
-1	1,351**	460*	46	386**	59	5	310	-542
	(392)	(191)	(25)	(131)	(135)	(69)	(203)	(595)
0	1,279**	421*	68*	313	116	-44	311	-1,251*
	(419)	(211)	(29)	(161)	(139)	(70)	(197)	(625)
1	2,397**	636**	129**	464**	409*	5	402*	-1,710**
	(452)	(218)	(30)	(177)	(191)	(79)	(203)	(633)
2	2,069**	721**	140**	370**	148	-25	530*	-1,853**
	(415)	(223)	(29)	(143)	(151)	(58)	(216)	(606)
3	2,192**	252	143**	334*	406*	116	639**	-2,124**
	(453)	(206)	(28)	(142)	(206)	(76)	(230)	(597)
4	2,082**	107	155**	371*	214	226*	716**	-2,619**
	(464)	(205)	(29)	(180)	(203)	(89)	(232)	(582)
5	2,367**	-41	151**	391*	428	347**	844**	-2,585**
	(491)	(219)	(29)	(198)	(248)	(99)	(235)	(618)
6	2,426**	86	163**	301	572*	334**	734**	-2,222**
	(498)	(219)	(30)	(209)	(259)	(83)	(230)	(646)
7	1,893**	-44	162**	370*	152	318**	755**	-1595
	(458)	(210)	(32)	(178)	(185)	(84)	(230)	(928)
8	2,025**	-80	128**	398*	494*	415**	705**	-2,360**
	(471)	(218)	(31)	(186)	(214)	(92)	(233)	(673)
9	2,141**	-207	166**	391	607	399**	910**	-2,890**
	(634)	(224)	(33)	(252)	(422)	(90)	(247)	(693)
10	2,749*	-527*	184**	1148	355	608**	1,007**	-2090
	(1,146)	(229)	(37)	(1,003)	(216)	(111)	(249)	(1,072)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 7: Changes in Economic Outcomes Relative to Baseline, Chronic-Severe Disabled Women with Year of Onset prior to 1990

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	3	0.31	-0.50	-2.34	-2.16	-3	0.61	-1.35	0.62	2.42	0.57
	(64)		(7.85)	(5.29)	(4.97)	(4)	(4.62)	(3.40)	(5.18)	(5.99)	(4.08)
-4	39	0.30	0.84	-7.96	-5.95	-6	-0.78	-1.91	-4.88	-1.33	-4.45
	(79)		(10.81)	(5.32)	(5.10)	(5)	(4.29)	(3.89)	(4.64)	(5.10)	(3.49)
-3	-100	0.28	-9.37	-6.62	-3.14	-3	1.59	0.39	-0.08	-7.22	-4.38
	(83)		(10.31)	(5.39)	(5.00)	(5)	(4.51)	(4.26)	(4.89)	(5.12)	(3.75)
-2	-74	0.28	-14.61	-6.41	-4.03	-7	1.87	-1.93	-0.02	-9.23	-5.70
	(90)		(10.12)	(5.94)	(5.57)	(5)	(4.94)	(4.56)	(5.97)	(5.59)	(4.11)
-1	-186*	0.33	-21.63*	-16.11**	-13.50**	-11.39*	-8.09	-7.37	3.68	-0.30	-0.36
	(83)		(10.14)	(5.51)	(5.21)	(5)	(4.74)	(4.38)	(5.25)	(6.93)	(4.28)
0	-322**	0.37	-38.79**	-18.89**	-17.26**	-13.85**	-12.70*	-10.59*	-1.17	-3.64	-4.66
	(94)		(8.31)	(5.96)	(5.50)	(5)	(5.38)	(4.92)	(5.31)	(7.06)	(4.57)
1	-664**	0.52	-59.56**	-27.20**	-24.37**	-15.45**	-17.43**	-10.22*	0.48	-5.62	-4.65
	(88)		(6.18)	(5.19)	(4.96)	(5)	(4.97)	(4.53)	(5.58)	(6.67)	(4.33)
2	-760**	0.59	-65.15**	-37.72**	-35.37**	-21.93**	-24.33**	-15.19**	-1.94	-4.44	-5.03
	(94)		(6.19)	(5.13)	(4.92)	(5)	(5.04)	(4.47)	(5.61)	(6.94)	(4.58)
3	-777**	0.63	-67.71**	-37.30**	-35.30**	-24.41**	-24.28**	-15.55**	-7.96	-5.47	-8.13
	(92)		(5.75)	(4.32)	(4.19)	(4)	(4.32)	(4.08)	(5.39)	(8.58)	(5.03)
4	-827**	0.67	-68.54**	-34.00**	-31.77**	-24.60**	-19.04**	-14.09**	-4.68	-10.07	-9.45*
	(96)		(5.98)	(5.01)	(4.85)	(4)	(4.83)	(4.22)	(5.39)	(7.14)	(4.33)
5	-858**	0.66	-69.82**	-37.62**	-35.97**	-28.74**	-20.20**	-16.27**	-7.11	-7.37	-10.08*
	(96)		(6.14)	(5.79)	(5.46)	(5)	(5.73)	(5.02)	(5.14)	(8.22)	(5.07)
6	-882**	0.72	-73.21**	-32.31**	-30.98**	-19.49**	-15.31*	-6.94	0.55	-11.96	-7.61
	(98)		(5.95)	(7.18)	(6.68)	(7)	(7.19)	(6.13)	(5.90)	(6.60)	(4.82)
7	-910**	0.73	-66.83**	-37.74**	-37.35**	-26.91**	-18.33**	-13.19*	-6.09	-1.75	-6.37
	(94)		(9.24)	(6.50)	(5.72)	(5)	(6.24)	(5.44)	(5.46)	(15.55)	(7.97)
8	-910**	0.72	-71.76**	-39.07**	-36.20**	-25.71**	-19.53**	-13.02*	-2.96	-9.92	-9.14*
	(97)		(6.06)	(5.60)	(5.45)	(6)	(5.64)	(5.52)	(5.27)	(7.41)	(4.65)
9	-971**	0.79	-79.59**	-44.29**	-41.40**	-33.87**	-21.67**	-19.43**	-1.68	-10.08	-8.22
	(97)		(4.95)	(5.86)	(5.56)	(5)	(5.95)	(5.06)	(6.57)	(7.21)	(5.02)
10	-943**	0.77	-76.57**	-40.63**	-37.36**	-33.76**	-16.34**	-18.21**	-6.95	-13.00	-12.44**
	(99)		(5.16)	(5.08)	(5.05)	(5)	(5.56)	(4.70)	(5.70)	(7.19)	(4.78)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 8: Changes in Amount of Public Transfers (in 2016 Dollars) received Relative to Baseline, Chronic-Severe Disabled Women with Year of Onset prior to 1990

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	656	-826	74	-280	-448	-90	1,351*	-639
	(845)	(423)	(68)	(156)	(390)	(131)	(625)	(550)
-4	1073	-280	11	-331*	-344	480	1,709*	-1,722**
	(1,400)	(582)	(74)	(150)	(422)	(372)	(714)	(615)
-3	1670	-27	70	-48	-201	392	1,514*	-2,106**
	(1,402)	(556)	(84)	(185)	(445)	(391)	(706)	(805)
-2	1,643	-443	40	-121	-138	142	2,143**	-1,775*
	(1,442)	(767)	(90)	(188)	(479)	(274)	(784)	(824)
-1	2417	200	110	-32	-110	153	1,860*	-2,300**
	(1,334)	(692)	(85)	(213)	(502)	(300)	(723)	(798)
0	2502	-773	182	293	418	113	2,076**	-2,394**
	(1,370)	(767)	(104)	(303)	(572)	(280)	(728)	(882)
1	4,623**	-210	294*	368	813	213	2,520**	-3,073**
	(1,271)	(678)	(117)	(280)	(594)	(270)	(689)	(827)
2	5,411**	-148	314**	158	278	290	2,946**	-3,357**
	(1,320)	(720)	(102)	(280)	(519)	(285)	(741)	(834)
3	6,347**	-622	332**	110	945	822	3,243**	-2,641*
	(1,450)	(683)	(102)	(222)	(748)	(424)	(727)	(1,121)
4	5,933**	-842	352**	32	435	839*	3,728**	-3,481**
	(1,428)	(714)	(107)	(207)	(707)	(327)	(749)	(885)
5	7,115**	-1134	373**	195	1200	1,230**	4,324**	-3,730**
	(1,597)	(790)	(101)	(233)	(1,030)	(395)	(768)	(944)
6	8,669**	-67	376**	100	1480	1,546**	3,932**	-3,639**
	(1,670)	(791)	(110)	(247)	(1,157)	(401)	(728)	(1,076)
7	8,255**	-97	402**	123	1059	1,662**	4,449**	-3,442**
	(1,642)	(819)	(114)	(230)	(1,028)	(464)	(789)	(1,171)
8	8,451**	-281	391**	212	1553	1,937**	3,937**	-4,550**
	(1,644)	(826)	(116)	(225)	(1,068)	(473)	(777)	(1,020)
9	7,415**	-1492	436**	75	1038	2,073**	4,374**	-4,905**
	(1,710)	(839)	(116)	(247)	(1,056)	(470)	(821)	(1,078)
10	7,265**	-1,865*	467**	14	1097	2,734**	4,421**	-5,210**
	(1,707)	(797)	(103)	(240)	(1,073)	(490)	(812)	(993)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 9: Changes in Economic Outcomes Relative to Baseline, All-Disabled Women with Year of Onset after 1990

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	31	0.16	2.48	-1.48	-1.36	-0.72	-1.49	-0.4	1.03	-4.61*	-2.2
	(29)		(2.88)	(2.89)	(2.49)	(2)	(2.47)	(2.40)	(2.22)	(2.34)	(1.67)
-4	-33	0.16	-2.26	-0.46	-1.03	0.09	0.11	0.94	1.15	-4.24	-2.13
	(34)		(3.19)	(3.03)	(2.67)	(3)	(2.99)	(2.87)	(1.57)	(2.36)	(1.67)
-3	-32	0.16	-2.4	-3.05	-2.67	-2.37	-2.12	-1.89	2.04	-2.66	-0.56
	(31)		(2.91)	(2.98)	(2.66)	(3)	(2.90)	(2.81)	(2.62)	(3.69)	(2.62)
-2	-73*	0.18	-4.1	-2.12	-2.66	-3.99	-3.23	-3.02	-0.49	-1.78	-1.91
	(36)		(3.28)	(3.50)	(2.98)	(3)	(3.58)	(3.38)	(1.79)	(3.37)	(2.28)
-1	-191**	0.22	-11.33**	-5.58	-6.39*	-5.74*	-5.97*	-4.78	-2.9	-4.69	-4.06
	(34)		(3.01)	(3.47)	(2.70)	(3)	(2.93)	(2.81)	(2.10)	(3.80)	(2.61)
0	-239**	0.23	-15.13**	-0.13	-2.93	-2.26	-1.92	-0.83	-2.1	-5.85*	-4.49*
	(40)		(3.52)	(7.58)	(5.56)	(6)	(6.19)	(5.97)	(1.70)	(2.86)	(2.06)
1	-340**	0.32	-23.24**	-9.51**	-9.72**	-7.67**	-7.63**	-5.38	-0.62	-2.51	-1.91
	(38)		(3.13)	(3.66)	(2.89)	(3)	(2.95)	(2.84)	(2.06)	(3.67)	(2.48)
2	-317**	0.32	-24.56**	-9.99*	-10.66**	-7.83*	-8.39*	-5.29	-1.05	-7.72**	-5.67**
	(50)		(3.79)	(4.36)	(3.45)	(4)	(3.50)	(3.55)	(1.72)	(2.92)	(2.12)
3	-320**	0.33	-25.49**	-9.66**	-9.01**	-7.88**	-5.85*	-4.49	-1.3	-6.39	-4.82*
	(41)		(3.30)	(3.20)	(2.75)	(3)	(2.79)	(2.68)	(1.99)	(3.28)	(2.34)
4	-283**	0.27	-20.81**	-1.67	-3.72	-3.41	-0.81	-0.49	-1.22	-8.35**	-6.47**
	(55)		(3.92)	(6.24)	(4.78)	(5)	(4.85)	(4.68)	(1.88)	(2.69)	(2.01)
5	-336**	0.32	-24.11**	-9.68*	-9.58**	-8.63*	-6.25	-5.22	-1.64	-4.32	-4.14
	(43)		(3.60)	(4.53)	(3.64)	(4)	(3.68)	(3.55)	(2.27)	(3.75)	(2.64)
6	-302**	0.24	-24.85**	-0.55	-4.93	-4.47	-2.95	-2.54	-1.3	-8.29**	-6.32**
	(63)		(4.57)	(6.69)	(4.85)	(5)	(4.82)	(4.67)	(2.22)	(2.87)	(2.30)
7	-354**	0.30	-20.50**	-0.89	-2.87	-2.93	0.47	0.65	-2.07	-8.09*	-7.15**
	(47)		(4.13)	(6.37)	(4.75)	(5)	(4.58)	(4.41)	(2.73)	(3.44)	(2.59)
8	-378**	0.22	-27.21**	-10.04	-10.26*	-8.51	-7.87	-6.06	1.71	-10.45**	-6.93**
	(70)		(4.40)	(6.07)	(4.71)	(5)	(4.73)	(4.66)	(2.47)	(3.22)	(2.59)
9	-371**	0.31	-21.60**	-4.72	-5.19	-4.71	-2.14	-1.44	-1.21	-9.22*	-8.03**
	(54)		(5.40)	(4.74)	(3.95)	(4)	(3.88)	(3.71)	(3.68)	(4.04)	(2.96)
10	-396**	0.28	-29.30**	-13.49**	-13.05**	-12.61**	-10.63*	-10.14*	-0.17	-8.46*	-6.42*
	(76)		(4.90)	(4.93)	(4.13)	(4)	(4.14)	(4.02)	(2.77)	(3.61)	(2.89)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 10: Changes in Amount of Public Transfers Received Relative to Baseline, All-Disabled Women with Year of Onset after 1990

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	1,041*	19	16	369	29	-12	334	-18
	(438)	(94)	(41)	(278)	(190)	(56)	(187)	(840)
-4	1,194**	54	15	-50	196	41	527**	406
	(461)	(146)	(34)	(110)	(285)	(65)	(194)	(1,090)
-3	652*	21	-20	-26	37	-94	578**	-710
	(325)	(105)	(36)	(91)	(169)	(57)	(198)	(955)
-2	976*	188	95*	-150	-139	-74	883**	138
	(412)	(164)	(39)	(114)	(211)	(94)	(238)	(1,213)
-1	1,650**	112	141**	-49	297	68	786**	-550
	(393)	(129)	(44)	(115)	(202)	(89)	(229)	(1,415)
0	1,998**	246	186**	55	103	185	934**	1668
	(458)	(201)	(45)	(129)	(237)	(104)	(229)	(2,546)
1	3,338**	125	195**	16	1,000**	318**	1,391**	-1226
	(464)	(126)	(49)	(125)	(317)	(104)	(255)	(1,407)
2	4,468**	158	199**	221	1488	224	1,721**	-1195
	(1,353)	(167)	(53)	(226)	(1,073)	(125)	(298)	(1,437)
3	3,336**	78	281**	-80	267	369**	2,061**	-1946
	(475)	(155)	(63)	(126)	(220)	(112)	(302)	(1,248)
4	2,690**	15	144**	-70	169	244*	2,033**	980
	(524)	(172)	(53)	(130)	(243)	(97)	(353)	(2,175)
5	3,246**	60	133*	-3	186	430**	2,103**	-1987
	(500)	(141)	(53)	(130)	(225)	(132)	(283)	(1,666)
6	2,164**	-91	72	-35	202	181	1,484**	2345
	(532)	(177)	(69)	(154)	(254)	(102)	(336)	(3,415)
7	3,140**	-152	282**	-168	36	429**	2,402**	664
	(525)	(142)	(101)	(127)	(207)	(149)	(363)	(2,788)
8	3,512**	-60	293**	215	802	236	1,826**	-2050
	(808)	(192)	(84)	(218)	(608)	(162)	(402)	(2,203)
9	3,103**	-112	212**	120	-10	443**	2,094**	-150
	(557)	(132)	(79)	(209)	(193)	(163)	(388)	(1,550)
10	2,226**	-190	236**	-108	100	296	1,684**	-4,198*
	(623)	(205)	(91)	(146)	(358)	(160)	(434)	(1,897)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 11: Changes in Economic Outcomes Relative to Baseline, Chronic-Severe Disabled Women Year of Onset after 1990

Year from Onset	Hours	Fraction not working	Earnings	Pre-tax Pre-transfer Income	After-tax Income without Transfers	After-tax income with non-SSA Transfers	After-tax income with SSA Transfers	After Tax Income with all Transfers	Food Consumption	Housing Consumption	Food plus Housing Consumption
-5	-136	0.19	-9.81	-13.66*	-12.82*	-10	-10.37	-8.89	-3.95	-4.52	-5.21
	(99)		(8.10)	(6.91)	(6.45)	(6)	(6.70)	(6.15)	(8.70)	(5.55)	(4.91)
-4	-109	0.17	-14.04	-11.31*	-10.26*	-9	-7.95	-7.47	-6.49	-12.33*	-10.43**
	(111)		(7.70)	(5.15)	(4.82)	(5)	(5.47)	(4.93)	(4.34)	(5.12)	(3.85)
-3	-286**	0.19	-17.83*	-12.86*	-10.44*	-12.37**	-11.68*	-12.37**	21.55	-3.66	7.04
	(99)		(8.43)	(5.49)	(4.80)	(5)	(4.93)	(4.45)	(19.49)	(5.64)	(9.53)
-2	-161	0.23	-6.69	-1.46	-2.11	-8	-0.29	-6.87	2.42	-8.36	-5.05
	(116)		(10.12)	(6.13)	(5.85)	(6)	(7.21)	(5.99)	(5.97)	(6.38)	(4.84)
-1	-545**	0.31	-34.34**	-25.24**	-24.20**	-23.36**	-24.24**	-21.62**	-3.59	-12.38*	-9.74*
	(110)		(8.33)	(5.75)	(5.04)	(5)	(5.26)	(4.95)	(6.94)	(5.16)	(4.68)
0	-461**	0.30	-34.79**	-22.83**	-21.27**	-22.24**	-20.57**	-19.25**	-4.59	-15.62**	-12.08**
	(124)		(9.35)	(5.65)	(5.30)	(6)	(5.36)	(5.40)	(5.66)	(5.78)	(4.04)
1	-1,141**	0.73	-76.26**	-37.06**	-35.25**	-30.59**	-26.40**	-22.56**	-0.49	-12.62*	-9.23
	(105)		(6.45)	(5.04)	(4.74)	(5)	(4.78)	(4.59)	(7.10)	(5.84)	(4.89)
2	-1,059**	0.68	-70.93**	-30.75**	-29.99**	-27.18**	-19.71**	-18.23**	-4.85	-16.51**	-13.38**
	(182)		(8.98)	(6.98)	(6.68)	(7)	(6.54)	(6.96)	(5.79)	(6.06)	(4.30)
3	-1,209**	0.78	-84.33**	-40.70**	-38.10**	-32.72**	-25.39**	-20.97**	-5.61	-14.12**	-12.58**
	(104)		(4.48)	(6.17)	(5.99)	(6)	(5.80)	(5.23)	(6.33)	(4.76)	(3.67)
4	-1,212**	0.73	-80.85**	-27.18**	-26.80**	-22.82**	-10.03	-8.37	-8.48	-17.76**	-16.04**
	(145)		(7.17)	(9.68)	(9.13)	(8)	(8.43)	(7.63)	(6.12)	(6.38)	(4.48)
5	-1,300**	0.81	-88.95**	-44.40**	-41.83**	-37.93**	-27.59**	-24.68**	-0.29	-5.71	-6.65
	(97)		(3.56)	(5.21)	(5.05)	(5)	(4.70)	(4.65)	(5.13)	(9.06)	(4.71)
6	-1,526**	0.72	-93.80**	-37.81**	-35.06**	-29.50**	-21.09*	-17.65*	-5.05	-15.24*	-12.66*
	(154)		(3.09)	(8.50)	(8.58)	(8)	(8.35)	(8.12)	(5.38)	(7.06)	(5.01)
7	-1,325**	0.82	-86.96**	-42.95**	-40.41**	-38.36**	-24.28**	-23.23**	-13.76	-12.19	-17.00*
	(113)		(4.56)	(5.47)	(5.33)	(5)	(4.95)	(4.53)	(10.37)	(9.40)	(7.58)
8	-1,392**	0.62	-90.75**	-42.92**	-39.86**	-38.43**	-24.69*	-24.85*	-7.91	-15.15	-10.00*
	(243)		(4.88)	(11.22)	(10.31)	(10)	(11.62)	(10.85)	(5.16)	(8.10)	(4.87)
9	-1,311**	0.82	-87.44**	-40.26**	-39.67**	-39.44**	-25.07**	-25.91**	-4.33	-22.60**	-20.48*
	(121)		(4.20)	(8.95)	(7.89)	(7)	(6.74)	(6.21)	(14.59)	(7.83)	(8.49)
10	-1,862**	0.90	-98.47**	-54.57**	-50.27**	-48.58**	-35.22**	-35.12**	-5.89	-11.58	-7.63
	(107)		(1.33)	(11.91)	(11.50)	(11)	(13.54)	(12.07)	(7.96)	(8.08)	(6.30)

Notes: The baseline period is the years prior to the fifth year before onset.

Appendix Table 12: Changes in Amount of Public Transfers (in 2016 Dollars) received Relative to Baseline, Chronic-Severe Disabled Women with Year of Onset after 1990

Year from Onset	All Public Transfers	AFDC/TANF	SNAP/Food Stamps	Unemployment Insurance	Workers' Compensation	Supplemental Security Income	Social Security (OASI and SSDI)	Federal Income Tax
-5	936	97	102	-13	887	29	94	-1746
	(1,250)	(260)	(167)	(272)	(856)	(213)	(533)	(983)
-4	1211	-153	-80	-500*	1295	-61	720*	-1441
	(1,131)	(373)	(103)	(225)	(1,019)	(102)	(353)	(1,019)
-3	-695	-253	-307**	-247	207	-316	336	-3,616**
	(750)	(245)	(104)	(315)	(366)	(263)	(461)	(1,305)
-2	-1,887	-862	-44	-542**	-1156	-406	1257	-208
	(1,425)	(472)	(116)	(164)	(911)	(286)	(858)	(855)
-1	2020	38	63	-203	1184	155	826	-3,640*
	(1,337)	(299)	(144)	(294)	(916)	(476)	(601)	(1,467)
0	2351	841	45	166	-689	-114	1,838*	-3,506**
	(2,007)	(982)	(113)	(593)	(863)	(428)	(832)	(1,078)
1	6,905**	196	396*	-312	1403	453	4,437**	-4,824**
	(1,526)	(311)	(184)	(299)	(1,091)	(494)	(1,024)	(1,212)
2	6,183**	-82	94	-551*	836	577	5,335**	-3,402**
	(2,075)	(503)	(167)	(216)	(1,553)	(351)	(1,172)	(1,051)
3	9,569**	175	92	274	1401	684	6,808**	-5,862**
	(1,773)	(336)	(171)	(517)	(1,214)	(368)	(1,393)	(1,389)
4	10,153**	537	199	-519*	1139	1,409*	7,345**	-2277
	(2,480)	(322)	(143)	(233)	(1,567)	(696)	(2,094)	(1,280)
5	9,621**	937	140	-510*	687	1,477**	7,108**	-6,589**
	(1,781)	(518)	(162)	(201)	(1,076)	(490)	(1,159)	(1,387)
6	9,967**	1190	895	-457	320	650	6,834**	-5,908**
	(2,538)	(610)	(478)	(358)	(600)	(584)	(2,145)	(1,819)
7	10,445**	-148	633*	-871**	-82	2,152**	8,191**	-5,990**
	(1,906)	(344)	(271)	(193)	(942)	(795)	(1,469)	(1,751)
8	7,671**	422	627**	-887**	-655*	-4	8,337**	-7,684**
	(1,900)	(343)	(229)	(220)	(334)	(119)	(1,750)	(2,932)
9	7,702**	156	655*	-386	-1287	2,024*	6,743**	-3321
	(1,810)	(401)	(257)	(269)	(681)	(913)	(1,378)	(1,900)
10	7,815**	391	691	-1,062**	-261	552	7,624*	-13,294**
	(2,710)	(459)	(630)	(252)	(319)	(514)	(2,984)	(3,380)

Notes: The baseline period is the years prior to the fifth year before onset.