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Disability Beneficiary Work Activity, 2002–2014: Evidence from the Social Security Administration’s Disability Analysis File (DAF)

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ABSTRACT

Project Number

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Title

Disability Beneficiary Work Activity, 2002–2014: Evidence from the Social Security Administration’s Disability Analysis File (DAF)

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Key findings and policy implications

Eligibility for federal disability benefits through the Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) programs depends on an inability to engage in substantial gainful activity. Yet, many beneficiaries express an interest in work, and some work to an extent that their disability benefits are suspended or terminated for working.

In this paper, we document the extent to which SSDI and SSI beneficiaries had their monthly cash benefits suspended or terminated as a result of work activity in 2002–2014. We use measures included in the Social Security Administration’s Disability Analysis File (DAF). The first, suspension or termination for work (STW), is a monthly indicator that measures whether the beneficiary is in nonpayment status due to suspension or termination for work. The second, benefits forgone for work (BFW), provides a monthly estimate of the dollar value of cash benefits forgone in the month as a result of earnings from work. Other studies have analyzed these measures, but only in specific research contexts that do not meet the larger need for published statistics on these outcomes.

In addition to this manuscript, we developed a set of downloadable spreadsheets containing annual STW and BFW statistics for many beneficiary subgroups. Our goal is to provide analysts with easy access to consistent measures across years and beneficiary subgroups.

We find the following:

- The Great Recession substantially reduced the likelihood that SSDI and SSI beneficiaries experienced STW and accrued BFW, and the effects were felt well beyond the official end of the recession in 2009. We can see these effects by comparing annual cross-sectional STW and BFW statistics, and by considering the experiences of cohorts of beneficiaries following their initial eligibility for benefits. The effects of the recession were more pronounced for SSI beneficiaries than for SSDI beneficiaries, which reflects differences in their previous

connections to the labor force, as well as differences between the two programs in how earnings affect benefits and eligibility.

- With the exception of the effects of the recession, the likelihood of achieving STW and accruing BFW has been relatively steady over time. Conditional on achieving STW, the average number of months in STW during the year did not vary over time (even during the recession), and similarly, for beneficiaries with any BFW, the average value was very similar across years.

The policy implications of the findings are:

- Macroeconomic factors affect the likelihood that beneficiaries, especially those receiving SSI, can sustain employment to an extent that results in losing cash benefits. More work to understand whether these changes reflect a lack of beneficiaries entering STW for the first time or beneficiaries who previously were in STW status returning to the rolls might help SSA target services to beneficiaries during downturns.
- By the end of our study period, a decade and a half had passed since the passage of the Ticket to Work and Work Incentives Improvement Act of 1999. Yet, with the exception of the recession, our findings indicate that work activity among beneficiaries at a level resulting in benefit suspension or termination changed very little during this period. It is certainly possible that beneficiaries' outcomes are better than they would have been without the Ticket to Work program and related provisions, but any such effects are difficult to measure in aggregate statistics.
- Throughout our study period, the working-age beneficiary population was growing steadily, and newer beneficiaries may have differed systematically from beneficiaries who were on the rolls when our observation period began. An analysis that accounts for changes in the composition of beneficiaries over time would give a more complete picture of how suspensions and terminations for work have evolved, holding beneficiary characteristics constant.

Synopsis

In “Disability Beneficiary Work Activity, 2002–2014: Evidence from the Social Security Administration’s Disability Analysis File (DAF),” we document the extent to which SSDI and SSI beneficiaries had their monthly cash benefits suspended or terminated as a result of work activity in 2002–2014. We use two measures from the DAF; STW, which is a monthly indicator of nonpayment status due to suspension or termination for work (STW), and BFW, which provides a monthly estimate of the dollar value of cash benefits forgone in the month as a result of earnings from work.

Abstract

In this paper, we document the extent to which SSDI and SSI beneficiaries had their monthly cash benefits suspended or terminated as a result of work activity in 2002–2014 using measures included in the Social Security Administration’s Disability Analysis File (DAF). We use two measures from the DAF; STW, which is a monthly indicator of nonpayment status due to suspension or termination for work, and BFW, which provides a monthly estimate of the dollar value of cash benefits forgone in the month as a result of earnings from work. We find that with the exception of the effects of the Great Recession in 2008 and 2009, the likelihood of achieving STW and accruing BFW has been relatively steady over time. Conditional on achieving STW, the average number of months in STW during the year did not vary over time (even during the recession), and similarly, for beneficiaries with any BFW, the average value was very similar across years. Yet, the Great Recession substantially reduced the likelihood that SSDI and SSI beneficiaries experienced STW and accrued BFW, and the effects were felt well beyond the official end of the recession in 2009.

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SELECTED ABBREVIATIONS

BFW	Cash benefits forgone for work
DAF	Disability Analysis File
FRA	Full retirement age
FYE	Full-year equivalent
SSDI	Social Security Disability Insurance
SSI	Supplemental Security Income
STW	Nonpayment status due to suspension or termination for work

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I. INTRODUCTION

This paper documents work activity among Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) beneficiaries using data collected to administer monthly program benefits. People with disabilities often say that work is critical to maintaining their self-sufficiency and dignity while decreasing reliance on public supports. Yet, many personal and societal barriers can make the goal of work difficult to achieve. These difficulties may be especially pronounced for beneficiaries of federal disability programs, who must understand complex program rules and determine the effect of work on their benefit payments because program eligibility depends on being unable to work at substantial levels. Although a large share of beneficiaries indicate an inclination to work (Livermore 2011), many choose not to work because they fear they might lose access to the monthly cash benefit and associated health insurance provided by SSDI and SSI (O’Day et al. 2016).

In addition to helping beneficiaries achieve their own goals, the Social Security Administration (SSA) has a strong interest in helping beneficiaries return to work because reducing reliance on benefits reduces federal outlays. SSA recognizes that work is beneficial for people, and therefore has implemented programs and demonstrations over the past two decades designed to encourage beneficiaries to work and reduce actual or perceived barriers to doing so, including the Ticket to Work (TTW) program, Work Incentives Planning and Assistance (WIPA) program, Benefits Offset National Demonstration (BOND), and Promoting Opportunity Demonstration (POD). These programs were designed to assess how beneficiaries’ work activity responds to changes in program incentives, and to help beneficiaries navigate a complex system of program rules and reduce the fear of losing benefits after unsuccessful work attempts.

To support its efforts to encourage beneficiaries' work activity, about a decade ago SSA began to better measure the extent to which beneficiaries forgo cash benefits for work. SSA's Disability Analysis File (DAF) culls data from various SSA sources to provide research-ready information on all working-age beneficiaries who have participated in SSDI or SSI in at least one month since 1996.¹ The DAF includes a monthly measure indicating whether a beneficiary was in nonpayment status due to suspension or termination for work (STW). In addition, it contains an estimate of the monthly dollar value of benefits forgone for work (BFW). Explained another way, BFW measures the additional amount the beneficiary would have received in cash benefits in a given month if he or she was not working. These measures have been refined—and improved—over time to help researchers and others better understand the extent to which beneficiaries work at a substantial level.

The STW and BFW measures have yielded critical evidence documenting that many more beneficiaries return to work over time than had been captured in SSA published statistics before these measures were available (Liu and Stapleton 2011; Schimmel and Stapleton 2011). Both measures have been used in analyses of (1) longitudinal patterns of work of SSDI and SSI beneficiaries for years following benefit award (Liu and Stapleton 2011; Ben-Shalom and Stapleton 2015a, 2015b; Anand and Ben-Shalom 2017), (2) differences in return to work among beneficiary subgroups (Ben-Shalom and Mamun 2015), and (3) the interplay between benefit receipt and other federal programs including the federal/state vocational rehabilitation program (Honeycutt and Stapleton 2013; O'Neill et al. 2015; Stapleton and Martin 2017; Schimmel Hyde and O'Leary 2017; Honeycutt et al. 2016). SSA has also used the measures to evaluate SSA

¹ The DAF also contains information about children as young as age 10, though we focus only on working-age adults in our analysis. More information about the DAF is available at <https://www.ssa.gov/disabilityresearch/daf.html>.

programs and demonstrations (for example, Livermore et al. 2011; Schimmel Hyde et al. 2013; Stapleton et al. 2014; Schimmel Hyde and Stapleton 2015).

This paper fills a void in the extant literature about the STW and BFW measures—it contains statistics that cover the full beneficiary population and are defined consistently from 2002 to 2014, years that span the Great Recession.² Appendix A highlights differences in STW and BFW among beneficiary subgroups in 2014; we found that, in general, the patterns we observed in 2014 held in other years of our analysis as well. In addition to this paper, a companion set of Excel tables provide extensive STW and BFW statistics from 2002 through 2014, beyond the measures contained in this report and for a wider array of beneficiary subgroups—far more than can fit on a single page.³ The information in the tables will be a valuable resource for making comparisons across groups and years.

This report is organized as follows. In Chapter II, we describe the STW and BFW measures in detail. In Chapter III, we discuss our data and methods, including beneficiary selection criteria and the specifications for the outcome measures and subgroups we considered. Our findings are presented in Chapters IV and V. Chapter IV reports cross-sectional STW and BFW statistics across all beneficiaries in each year from 2002 through 2014, focusing on patterns in those measures surrounding the recession. In Chapter V, we use the statistics developed as part of the cross-sectional analysis in Chapter IV to assess how suspensions and terminations due to work

² Moreover, it uses the most recent version of DAF, DAF15, for all analyses. Changes in the construction of the measures across time make it difficult to compare statistics derived from different versions of the DAF. In the early years of the STW and BFW measures, both measures were refined to better use available administrative data. Although such refinements are certainly possible going forward, they will likely occur less frequently than in the past.

³ Articles that have used the STW measure, particularly those published in the *Social Security Bulletin*, have differentiated STW (identifying a beneficiary who has had benefits suspended or terminated for at least a month) from NSTW (the accumulation of months in nonpayment status due to being in STW status). We use STW throughout to be consistent with the naming convention of the variable in the DAF, though our conceptual measure is closer to that of NSTW in other work.

evolve after benefit eligibility, considering differences based on the year in which beneficiaries first became eligible for benefits. We conclude with a discussion of policy implications and considerations for future analysis in Chapter VI.

II. MEASURING BENEFICIARIES' WORK ACTIVITY USING STW AND BFW

In each month, the STW measure indicates whether a beneficiary is in current payment status, in suspension for work, terminated for work, in suspension for another reason not determined to be work, or terminated for a reason not determined to be work. Though the medical criteria for SSDI and SSI eligibility are the same, the rules governing the effect of work activity on benefits for the two programs are quite different. The STW and BFW measures are therefore developed separately by program in the DAF. In this section, we describe the program rules related to beneficiaries' work activity and how those factor into the definition of the STW and BFW measures in each program. We also discuss measures that take into account a beneficiary's "combined" status in both programs, called STWCM and BFWCM, which are particularly important for those concurrently receiving SSDI and SSI.

A. STW and BFW for SSDI beneficiaries

SSDI beneficiaries are subject to what is anecdotally referred to as the "cash cliff," meaning that after working above the level of substantial gainful activity (SGA) for a time-limited period, they completely lose their monthly cash benefit. SGA was \$1,070 per month for non-blind beneficiaries and \$1,800 a month for blind beneficiaries in 2014, the last year of our analysis. More specifically, SSA suspends SSDI benefits in each month that earnings exceed SGA after the beneficiary completes nine trial work period (TWP) months within a 60-month rolling window and an additional three grace period (GP) months. During the total of 12 TWP and GP months, SSA pays full benefits regardless of earnings. The STWDI indicator, measuring STW on SSDI, does not capture work activity in these months, including work that would be considered SGA.

The period after the TWP is completed is called the extended period of eligibility. In the first 36 months of this period, SSA suspends benefits if the beneficiary uses up the three GP months

and continues to engage in SGA, but resumes benefits if SGA ends. The STWDI measure identifies months of benefit suspension with $STWDI = 1$. Starting in the 37th month after the TWP ends, SSA terminates benefits in the first month that earnings exceed SGA after any remaining GP months end. The STWDI measure identifies the month in which benefits are terminated ($STWDI = 2$), and contains a separate value ($STWDI = 3$) until benefits are reinstated, or until the beneficiary dies or reaches full retirement age (FRA). Thus, the STWDI measure continues to identify beneficiaries as terminated for work if they left the rolls for that reason and there has been no subsequent change in their status, but SSA does not collect the information necessary to verify that they are actually engaged in SGA during each month. Beneficiaries whose benefits are terminated for work can remain in STW status for many years.

For SSDI beneficiaries to accrue BFWDI, or BFW on SSDI, they must have an STWDI value of 1, 2, or 3, meaning that their benefits in the month are suspended or terminated for work. When SSDI beneficiaries are in STW status, the benefit forgone is an estimate of their full monthly amount, reflecting the nature of the cash cliff. The estimated amount is the payment the beneficiary received in the last month before entering benefit suspension, increased for the annual cost of living adjustment (COLAs) that takes place each year in January. BFWDI is recorded in all months that the SSDI beneficiaries remain in STW status.

B. STW and BFW for SSI beneficiaries

Similar to the analogous measure for SSDI, the STWSSI measure, or STW on SSI, indicates whether the beneficiary fully lost monthly cash benefits as a result of work.⁴ In SSI, however, the amount that triggers the suspension is not keyed to SGA. Instead, SSI benefits are suspended

⁴ In all three STW measures, beneficiaries whose administrative record indicates current pay status have an STW value of 0. STW is missing when beneficiaries have not yet received benefits, are over age 65 (for SSI) or FRA (for SSDI), or have died.

for work (STWSSI = 1) when monthly countable income, including earnings from work, exceeds the maximum monthly benefit payment—\$721 for an individual in 2014. Critical to understanding this calculation is that the SSI monthly benefit is reduced by \$1 in benefits for every \$2 of earnings after a small disregard, in contrast to the SSDI cash cliff. In practice, countable income from earnings is about half as large as the actual earnings amount. If an SSI recipient has only income from earnings and can only claim the minimum disregard of \$85, the earnings amount at which SSI benefits are suspended is higher than SGA, \$1,527 in 2014 (Lee et al. 2017). The actual threshold for an individual beneficiary can be higher or lower, because of other income and disregards he or she receives.

SSI benefits can be terminated for work if benefits are suspended for at least 12 months, though relatively few beneficiaries are terminated for work (STWSSI = 2) or for presumed work (STWSSI = 3). The STWSSI measure has one additional value: an STWSSI value of 4 indicates that the beneficiary's countable unearned income alone was sufficient to result in benefit suspension, but that the beneficiary also had at least some countable earnings. Consistent with the DAF documentation, we do not categorize beneficiaries with this STWSSI value to be in suspension or termination for work.

Because every \$2 of countable earnings above the disregard results in a \$1 loss of benefits, SSI beneficiaries can accrue BFW even when they are not in STW status.⁵ The concept of BFWSSI is the same as the concept of BFWDI—the difference between the payment a beneficiary received and the payment he or she would have received in the absence of earnings. The SSI rules and the process that SSA uses to collect monthly income information from SSI

⁵ A beneficiary is considered to be in STW status if the relevant STW measure equals 1, 2, or 3.

beneficiaries to determine the benefit to be paid makes calculating BFWSSI much more complex than calculating BFWDI (Lee et al. 2017).

C. Combined measures of STW and BFW

STW and BFW are developed separately based on administrative data collected in the SSDI and SSI programs. To facilitate analyses that span programs, particularly for beneficiaries who receive benefits from both programs concurrently, the DAF contains combined STW and BFW measures, STWCM and BFWCM. The majority of published work analyzing STW and BFW uses this combined information, and we focus on those measures in the text of this report.

In months when the beneficiary receives benefits from only one program, the STWCM and BFWCM measures reflect only that program's information. In other words, for beneficiaries who receive only SSDI or SSI, the combined measure should be identical to the individual program measure. In months when beneficiaries are in both programs (either in current payment status or suspended or terminated for work), BFWCM reflects the sum of benefits forgone in SSI and SSDI. Combining STW information across programs is a bit more complicated. When the status in the two programs differs, STWCM errs on the side of assuming that the beneficiary is not in suspension or termination for work. For example, a concurrent beneficiary who is in suspension for work in SSI but is receiving a cash benefit in SSDI is categorized as being in current payment status in STWCM. A concurrent beneficiary who is in suspension for work status in SSI but is terminated for work status in SSDI is categorized as in suspension for work in STWCM, since that outcome is "closer" to current payment status.

III. DATA AND METHODS

Our analysis is based on the most recently available DAF at the time of writing, DAF15, which contains information through the end of 2015. We produced the same statistics for each year on working-age beneficiaries who met our selection criteria in at least one month during the calendar year, from 2002 through 2014. Because of known lags in collecting information used to calculate STW and BFW (Schimmel Hyde et al. 2013), we did not produce information for 2015, as it would understate work activity of beneficiaries in that year.

In this chapter, we describe the selection criteria we used to identify beneficiaries for our analysis, then describe the specific measures of STW and BFW we considered for our analysis. In the final section, we describe the covariates we used for our subgroup analyses.

A. Selection of beneficiaries to include in our analysis

Our analysis includes beneficiaries in each year from 2002 through 2014 if they received benefits in that year or were no longer receiving benefits because of work.⁶ Each annual sample was developed by selecting separate samples based on the STWDI and STWSSI measures.⁷ We defined program status by considering participation in SSI or SSDI during the calendar year. A beneficiary who met only the SSI or only the SSDI criteria during the year is considered to be an

⁶ Specifically, we included records for working-age beneficiaries who spent at least one month during that year in current payment status or with cash benefits suspended or terminated for work in either SSI or SSDI. In that month, the beneficiary must have been between ages 18 and 65 (for SSI) and 18 and FRA (for SSDI). During our analysis period, FRA increased from 65 to 66 based on birth year (in two-month intervals). If beneficiaries met our selection criteria in one month, they remained part of the sample for the rest of that year unless they reached the maximum age for the program under which they qualified. We excluded beneficiaries who were only in suspension or termination status for a reason not determined to be work for all of the months they were age-eligible for our sample during the year. For example, beneficiaries in this group might include those who medically improved, who were in prison, who could not be located by SSA, or who had unearned income that was too high (in the case of SSI).

⁷ In what follows, we use the word “sample” for ease of reference, but it is important to note that the DAF contains the universe of beneficiaries. As a result, our sample contains all beneficiaries who met our selection criteria, and we do not report standard errors for our estimates.

SSI-only or SSDI-only beneficiary, whereas those who met the criteria for both programs, even if not during the same month, are considered concurrent beneficiaries.⁸

In order to produce statistics that aligned more closely with statistics published by SSA about beneficiaries in suspension or termination for work, we also created analogous samples based on the criteria described above, but limited to December. For these statistics, we categorize concurrent beneficiaries as those with both SSDI and SSI in December. A comparison of the estimates for the number of beneficiaries in December in current pay status (Table III.1) shows the numbers in our sample are larger than the numbers in published statistics, particularly for years farther in the past. For example, the 2014 SSDI Annual Statistical Report indicates that there were 9.4 million SSDI beneficiaries in current pay in December 2010 (Social Security Administration 2015a). Our methodology estimates that there were 9.8 million beneficiaries in current pay that month. The 2014 SSI Annual Statistical Report lists 4.6 million beneficiaries in current pay, whereas we found 5.0 million SSI beneficiaries in current pay in 2010 (Social Security Administration 2015b).

We consulted with analysts at SSA to understand the reason for such differences. Based on that discussion, we believe that our beneficiary counts are higher than those in the Annual Statistical Reports because the latter are based on current counts in that year and do not account for retrospective updates. Specifically, the published statistics are drawn from monthly snapshot files maintained by SSA. In contrast, the STW measures in the DAF use administrative records that are retrospectively updated, and allow for the possibility of updated records that account for

⁸ One important consideration is that, in building this sample, we followed the age requirements of each program, meaning that we included SSI beneficiaries only through age 64 but we included SSDI beneficiaries through FRA. Beneficiaries between age 65 and FRA who received SSDI and concurrently received SSI on the basis of age were not captured as concurrent beneficiaries during that time period in our analysis.

new awards and other changes.⁹ As a result, our counts are more consistent with published statistics when comparing more recent years, as less time has elapsed for retrospective updates to have occurred.

Table III.1. Counts of SSI and SSDI beneficiaries in current pay status in December, 2002–2014

	SSDI		SSI	
	Number of beneficiaries from Annual Statistical Report	Number of beneficiaries identified in DAF	Number of beneficiaries from Annual Statistical Report	Number of beneficiaries identified in DAF
2002	6,491,494	6,849,408	3,877,705	4,104,586
2003	6,830,714	7,240,577	3,953,248	4,206,232
2004	7,167,375	7,609,431	4,017,108	4,286,048
2005	7,503,405	7,928,344	4,082,870	4,358,896
2006	7,803,692	8,242,314	4,152,130	4,459,351
2007	8,118,382	8,570,614	4,221,920	4,551,471
2008	8,528,164	8,976,254	4,333,096	4,674,761
2009	8,945,376	9,405,938	4,451,288	4,815,580
2010	9,398,104	9,806,041	4,631,507	4,970,973
2011	9,803,581	10,153,299	4,777,010	5,068,655
2012	10,088,739	10,336,249	4,869,484	5,148,036
2013	10,228,364	10,349,664	4,934,272	5,146,154
2014	10,261,268	10,195,747	4,913,072	5,051,891

Source: Authors' calculations using DAF15 and SSA Annual Statistical Reports.

Notes: The number of beneficiaries from the SSDI Annual Statistical Report is the total number of disabled beneficiaries receiving SSDI benefits in December of that year (from Table 3 of the 2014 report). The number of beneficiaries from the SSI Annual Statistical Report is the number of people ages 18 to 64 receiving SSI benefits in December of that year (from Table 36 of the 2014 report for 2014, similar tables for other years). The number of beneficiaries identified in DAF in this table includes only those in current pay.

Accounting for beneficiaries terminated for work in all months during the year

Some beneficiaries who successfully work above SGA are often able to do so for many months and years. SSDI beneficiaries are more likely to remain terminated for work for extended periods than SSI beneficiaries because of differences in the earnings rules. Whereas SSI benefits can remain in suspension indefinitely because of work, SSDI benefits are terminated after at

⁹ These updates consist mostly of people who were initially denied benefits but eventually are allowed through reconsideration or adjudication. In these cases, benefits are assigned to the months they would have been paid (with payments made retroactively); such beneficiaries are thus not captured in the snapshot files used in the published SSA statistics, but are captured in the records drawn upon for the DAF.

most 33 months of suspension for work. The DAF carries forward the termination for work until the beneficiary returns to current payment status, dies, or reaches FRA. In other words, once a beneficiary exits the rolls because of a benefit termination for work, that status is maintained unless SSA receives other information.

The result of carrying forward the STW status is that, over time, an increasing share of beneficiaries will be in STW for the full year. This is particularly true during the time period of our study, because the DAF records data for those who received benefits in at least one month since 1996 and does not include former beneficiaries who entered termination status in earlier years and would have continued in that status in 1996 and beyond.¹⁰ As a result, the number of beneficiaries in our annual samples who are terminated for work for all of the months that meet the selection criteria increases over the years of our study from 1.3 percent of beneficiaries who met the criteria in 2002 to 1.8 percent in 2014 for SSDI, and from 0.5 percent in 2002 to 0.8 percent in 2014 for SSI.

Our cross-sectional annual statistics adjust the data to ensure comparability across years. Specifically, for these statistics our annual counts exclude beneficiaries who were in termination for work status in all of the months in which they met the selection criteria. In most cases, this applies to all 12 months, but it could apply for less than a full year if the beneficiary died or reached FRA in that year. Specifically, we exclude these beneficiaries from the statistics presented in Chapter IV, though we highlight the implication of making that change in our discussion. When we consider the trajectory of STW in the years following benefit eligibility in Chapter V, however, we include these cases, as the accumulation of STW and BFW over

¹⁰ The rate of increase in beneficiaries in termination for work status in the early years of the DAF is especially large because those who entered termination for work status before 1996 are not counted in the base. In some undetermined later year, the uncounted base diminishes to zero as former beneficiaries who were not counted as terminated for work return to the rolls, reach the FRA, or die.

time is precisely our interest. The companion tables to this report contain the count of beneficiaries who were terminated for work ($STW = 2$ or 3) in all months in which they met our selection criteria during the year, the STW months represented by those beneficiaries, as well as their BFW .

B. STW and BFW statistics presented in this report

The tables associated with this report offer a voluminous compendium of statistics to allow interested researchers and policymakers to tailor statistics to their needs. For the purposes of highlighting the key findings based on those tables, the report includes only a streamlined set of statistics. In most cases, we focus on the “combined” versions of STW and BFW measures, considering all beneficiaries together. In some instances, we consider those measures separately by program status.

In the report, we focus on the following STW measures:

- The number of beneficiaries with at least one month in STW status.
- The percentage of beneficiaries who met the selection criteria with at least one STW month in the year.
- The total number of STW months during the year.
- The average number of STW months among beneficiaries with at least one month in STW status.
- An annualized measure that we call the “ STW full-year equivalents (STW - FYE),” which divides the total STW months by 12 to yield years-worth of STW months among all beneficiaries during the year.

We also present statistics that we generated using the BFW variable. In the case of $SSDI$, the percentage of beneficiaries who have BFW is almost identical to the percentage in STW status, reflecting program rules. In SSI , however, BFW often paints a very different picture of beneficiaries’ work activity than STW does because beneficiaries may have BFW without being in STW . BFW statistics include:

- The number of beneficiaries with a positive amount of BFW.¹¹
- The percentage of beneficiaries who met the selection criteria during the year with positive BFW.
- The total dollar value of BFW across all beneficiaries.
- The average BFW among those with positive BFW.
- An annualized BFW measure, designed to be similar in concept to STW years, which we call “BFW full-year equivalents (BFW-FYE).”

The annualized STW and BFW measures are meant to be illustrative only, designed to give some sense of the full years of cash benefits forgone across all beneficiaries who have benefits suspended or terminated for work. Reflecting the difference in SSDI and SSI program rules and benefit amounts, we developed these measures separately for SSDI and SSI, and we do not report on a combined version of them. In the STW version of these annualized measures, we simply divided the total number of STW months by 12.

BFW-FYE measures are calculated differently for SSDI and SSI, though they are designed to scale total dollars of BFW to report the complete years of benefits forgone due to work. On both BFW-FYE measures, we denominate total BFW across all beneficiaries by an estimate of the average payment a beneficiary would have received if not forgoing benefits for work. For SSDI, the best estimate of the average payment a beneficiary would have received if not forgoing benefits for work is the average annual benefit among those in current pay status; we obtained this measure from SSA published statistics of the average monthly SSDI benefit amount multiplied by 12. The calculation for SSI is more complex, because many SSI recipients who work receive partial benefits. The average benefit among those in current pay status is therefore already adjusted downward because of benefits forgone for work. To account for this, we

¹¹ In the absence of measurement error, we would expect this statistic to be identical for SSDI-only beneficiaries. As we will show below, however, there are trivial differences between the percentage of SSDI beneficiaries with any BFW and the percentage with any STW.

summed the annualized average SSI payment (the average monthly benefit taken from SSA published statistics multiplied by 12) and the average annual BFW in SSI across all beneficiaries in our sample (calculated based on the statistics in this report). The annualized average BFW in SSI represents our estimate of how much the published SSI payment is reduced by the earnings of those who receive partial payments. The resulting denominator for BFW-FYE for SSI is approximately the annualized value of the federal benefit rate reduced by unearned income.¹²

The full set of companion tables allows users to tailor the statistics in the report to meet their own needs, including stratifying by program status or beneficiary characteristics, or after changing the subpopulation of interest. For example, as described above, the tables allow for the calculation of cross-sectional STW and BFW statistics that include beneficiaries in STW status for the full year. The tables also include other measures based on STW and BFW that could be of interest to researchers and policymakers in certain contexts. For example, these measures include statistics to distinguish between suspensions and terminations for work, or to identify STW among full-year beneficiaries versus among any beneficiaries who meet the selection criteria for one month or more.

¹² The value is an approximation because we combined data from two sources—SSA published statistics and our own calculation—which might have represented slightly different beneficiary groups. We do not have any reason to believe that this approximation biases our results.

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IV. ANNUAL STW AND BFW STATISTICS, 2002–2014

In this chapter, we report on cross-sectional STW and BFW statistics in 2002 to 2014 for SSDI, SSI, and combined measures. We begin by providing annual statistics across all beneficiaries by program status, including the percentage with STW, the average months in STW status, and total and average BFW amounts accrued over the year. We then report STW-FYE and BFW-FYE, as described above.

Recall that we omit from the statistics beneficiaries who had their cash benefits terminated for work for the entire year, as described in Chapter III.A, to make statistics comparable across years. In Appendix B, we present an alternate set of tables including such beneficiaries and discuss the implications of excluding these beneficiaries.

A. STW and BFW among all beneficiaries, 2002–2014

In each year of our study, at least one percent of SSDI beneficiaries who meet our selection criteria spent at least one month in STW status on SSDI (Table IV.1) and a higher share of SSI beneficiaries—3 to 4 percent—spent at least one month during the year in STW status on SSI (Table IV.2).¹³ The higher percentage for SSI is at least partly due to differences in program rules. In SSDI, a beneficiary enters STW status only after completing the TWP and GP, remains suspended for no more than 33 months, and may be terminated for work status for no more than 11 months before being dropped from the sample for purposes of constructing these statistics. In SSI, a beneficiary enters STW status as soon as earnings exceed a threshold that may be smaller or larger than SGA, depending on other income sources (including SSDI), and can stay in that status until age 65 without being dropped from the sample.

¹³ Tables IV.1 and IV.2 include concurrent SSDI/SSI beneficiaries. Appendix Tables A.2 and A.3 present analogous statistics, but limited to SSDI-only and SSI-only beneficiaries, respectively.

For SSDI beneficiaries, the STWCM measure results in nearly the same STW rates as the STWDI measure (Table IV.1), but for SSI beneficiaries, rates of STW are 38 to 45 percent lower using STWCM than they are using STWSSI (Table IV.2).¹⁴ The difference for SSI beneficiaries is because STWCM does not indicate suspension or termination for work when the beneficiary remains in current pay in one program; among concurrent beneficiaries who are in the sample for both SSI and SSDI, 68 to 75 percent in STW status for SSI remain in current pay status for SSDI.

The share of SSDI beneficiaries with at least one month in STW status peaked in the years leading up to the Great Recession, with rates dropping substantially between 2008 and 2011, and not recovering to pre-recession levels since that time (Table IV.1).¹⁵ In every year, fewer than 2 percent of beneficiaries spent at least one month during the year with benefits suspended or terminated for work. Beneficiaries who have at least one month in STW status spend about seven months of the year in STW status, suggesting that they maintain employment for many months in the short term. The number of months in STW declined slightly during the recession, but not nearly as markedly as the share in STW status.

Despite the different levels of STW, the general pattern across the years for SSI beneficiaries is similar to that for SSDI beneficiaries. Using both STWCM and STWSSI, we found a smaller share of SSI beneficiaries in STW status during and following the Great Recession than in the years preceding it (Table IV.2). Though rates of STW increased slightly

¹⁴ The numbers of beneficiaries included in the top and bottom panels of Tables IV.1 and IV.2 reflect the sample selection criteria used in each case; the top panel was selected based on STWCM while the bottom panel was selected based on the program-specific STW measure. For SSDI in Table IV.1, the algorithms for developing the STWDI and STWCM measures would suggest that if STWDI is populated, STWCM would be also, but there are slight discrepancies in the data that we did not attempt to resolve. A similar issue affects the STWCM and STWSSI measures in Table IV.2.

¹⁵ The tables in this chapter include concurrent beneficiaries. Analogous tables for SSDI-only and SSI-only beneficiaries are contained in Appendix Tables B.2 and B.3.

Table IV.1. STW and annual BFW statistics among SSDI beneficiaries, 2002–2014

	Number of beneficiaries	Number with at least one month in STW	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percentage with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	7,359,389	124,035	1.69	7.52	299,245	4.07	\$4,639
2003	7,745,092	118,888	1.54	7.37	304,707	3.93	\$4,419
2004	8,106,782	117,185	1.45	7.24	312,688	3.86	\$4,337
2005	8,450,881	123,594	1.46	7.13	325,161	3.85	\$4,403
2006	8,788,950	135,966	1.55	7.15	346,729	3.95	\$4,587
2007	9,143,210	151,188	1.65	7.26	376,444	4.12	\$4,765
2008	9,582,433	161,749	1.69	7.35	392,484	4.10	\$4,910
2009	10,076,032	151,474	1.50	7.37	369,829	3.67	\$4,939
2010	10,469,138	136,233	1.30	7.34	347,274	3.32	\$4,794
2011	10,824,457	128,376	1.19	7.16	336,276	3.11	\$4,643
2012	11,085,297	129,306	1.17	7.02	336,659	3.04	\$4,625
2013	11,140,365	132,060	1.19	7.13	341,924	3.07	\$4,732
2014	10,994,550	127,931	1.16	7.41	329,754	3.00	\$4,949
Using STWDI and BFWDI							
2002	7,355,710	112,162	1.52	8.09	111,526	1.52	\$9,702
2003	7,740,886	105,364	1.36	8.00	104,749	1.35	\$9,784
2004	8,102,036	103,892	1.28	7.84	103,348	1.28	\$9,782
2005	8,445,677	110,450	1.31	7.66	109,851	1.30	\$9,708
2006	8,783,202	122,218	1.39	7.66	121,624	1.38	\$9,806
2007	9,136,691	136,545	1.49	7.75	135,951	1.49	\$9,980
2008	9,574,795	144,782	1.51	7.83	144,147	1.51	\$10,144
2009	10,067,711	135,142	1.34	7.84	134,496	1.34	\$10,261
2010	10,460,286	120,326	1.15	7.79	119,812	1.15	\$10,282
2011	10,816,040	113,965	1.05	7.58	113,507	1.05	\$10,058
2012	11,077,049	115,733	1.04	7.43	115,305	1.04	\$9,881
2013	11,132,030	119,712	1.08	7.52	119,297	1.07	\$9,989
2014	10,985,959	117,438	1.07	7.77	117,070	1.07	\$10,349

Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI; Appendix Table B.2 contains analogous statistics for SSDI-only beneficiaries. We included in our analysis all beneficiaries between the ages of 18 and FRA who had at least one month in current pay on SSDI or in STW during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table IV.2. STW and BFW statistics among SSI beneficiaries, 2002–2014

	Number of beneficiaries	Number with at least one month in STW	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percentage with at least one month with positive BFW	Average BFW among those with positive BFW
Using STWCM and BFWCM							
2002	4,683,530	115,846	2.47	5.34	470,334	10.04	\$1,937
2003	4,882,432	111,767	2.29	5.35	472,742	9.68	\$1,900
2004	5,000,832	107,188	2.14	5.18	482,455	9.65	\$1,853
2005	5,085,365	112,732	2.22	5.28	498,691	9.81	\$1,896
2006	5,182,733	122,200	2.36	5.44	527,682	10.18	\$1,976
2007	5,306,896	132,208	2.49	5.58	566,107	10.67	\$2,042
2008	5,450,403	132,004	2.42	5.73	572,809	10.51	\$2,093
2009	5,656,072	111,365	1.97	5.81	523,427	9.25	\$2,079
2010	5,783,772	103,395	1.79	5.58	498,462	8.62	\$2,036
2011	5,890,130	96,049	1.63	5.43	492,366	8.36	\$1,990
2012	5,946,865	93,535	1.57	5.33	499,032	8.39	\$1,956
2013	5,927,951	94,362	1.59	5.36	511,648	8.63	\$1,990
2014	5,819,834	95,399	1.64	5.43	506,091	8.70	\$2,051
Using STWSSI and BFWSSI							
2002	4,679,917	187,046	4.00	5.40	462,424	9.88	\$1,711
2003	4,878,473	184,555	3.78	5.39	464,289	9.52	\$1,665
2004	4,995,107	183,916	3.68	5.30	471,864	9.45	\$1,589
2005	5,078,202	191,393	3.77	5.41	486,330	9.58	\$1,607
2006	5,174,453	206,835	4.00	5.57	513,540	9.92	\$1,669
2007	5,297,602	223,071	4.21	5.69	550,364	10.39	\$1,712
2008	5,439,949	222,246	4.09	5.78	555,626	10.21	\$1,742
2009	5,644,453	187,601	3.32	5.85	505,524	8.96	\$1,702
2010	5,771,144	179,514	3.11	5.60	479,913	8.32	\$1,661
2011	5,876,395	172,124	2.93	5.59	472,942	8.05	\$1,634
2012	5,932,185	168,097	2.83	5.59	478,516	8.07	\$1,601
2013	5,912,509	171,445	2.90	5.60	490,191	8.29	\$1,633
2014	5,803,856	174,026	3.00	5.69	484,144	8.34	\$1,689

Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI; Appendix Table B.3 contains analogous statistics for SSI-only beneficiaries. We included in our analysis all beneficiaries between the ages of 18 and 65 who had at least one month in current pay on SSI or in STW during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

for SSI beneficiaries in 2013 and 2014, they remained below the highest STW years before the recession.

By design, the numbers of beneficiaries in STW status on SSDI and those who have BFW on SSDI are quite close, reflecting the cash cliff and loss of monthly cash benefits only when in STW (Table IV.1). The number of beneficiaries with positive combined BFW is more than double the number in STW status using the combined measure for at least one month during the year, reflecting concurrent beneficiaries who had cash benefits suspended in SSI while remaining in current pay status in SSDI. The number of beneficiaries with at least one month with positive BFWCM was higher in magnitude than STWCM, but also declined during the recession.

Among those with positive BFW during the year, the average amount of BFW accrued across all months was relatively stable from 2002 through 2014. Among SSDI beneficiaries with positive BFW on SSDI, the average annual amount was about \$10,000 per year; the average among SSDI beneficiaries with positive BFW on the combined measure was around \$4,700. Average BFW on the combined measure is lower because some concurrent beneficiaries have BFW on SSI and no BFW on SSDI, and SSI benefits forgone tend to be lower than in SSDI because beneficiaries can forgo a partial benefit.

Because SSI beneficiaries can accrue BFW even when not in STW status, a significantly higher share have at least one month of BFW than have at least one month of STW (Table IV.2). About 8 to 10 percent of SSI beneficiaries have at least one month of BFW in each year, compared to 5 to 6 percent in STW status. Similar to STW, the share with BFW declined during and following the recession. Average BFW is lower than for SSDI beneficiaries, reflecting the 50 percent Earned Income Exclusion rather than the cash cliff. Average benefits forgone over the

year are under \$2,000 using both the combined measure and SSI alone. The former is higher than the latter because the combined measure includes forgone SSDI and SSI benefits.

Had we included beneficiaries who were terminated for work for the full year, rates of STW would have been higher for both SSDI and SSI. Percentages in STW status on SSDI grow by 82 percent in 2002 to as high as by 165 percent in 2014 when full-year terminations are included (Appendix Tables A.4 and A.5 for all SSDI and SSDI-only beneficiaries, respectively). Including those beneficiaries also masks the change in rates of STW around the recession, as declines in STW among beneficiaries shown in Table IV.1 are masked by an increasing share of full-year terminations over time. The effect of including full-year terminations for work in SSI is more limited, because terminations are less of an absorbing state on SSI. Overall, rates of STW among SSI beneficiaries are about 25 percent higher when full-year terminations for work are included, with approximately three-quarters of a percent in full-year termination for work each year (Appendix Tables A.6 and A.7 for all SSI and SSI-only beneficiaries, respectively).

B. Aggregate full-year equivalent (FYE) statistics

This section converts the statistics presented in the preceding section into an alternate view, focusing on the number of full-year equivalents (FYE) with cash benefits suspended or terminated for work, using both the STW and BFW measures. Because most beneficiaries who had at least one month in STW status or had positive BFW did so for less than a full year (with the exclusion of those in suspension for work for the full year), we developed measures that

instead present the values as the equivalent number of beneficiaries with full-year STW status or BFW. The STW-FYE and BFW-FYE measures we use are described fully in Section III.B.^{16,17}

One important caveat of the FYE construct is that increases over time in the measure may reflect the size of the beneficiary population overall; even if rates of STW stay constant, a growing beneficiary pool will lead to a larger number of STW-FYE and BFW-FYE. We know from the statistics presented in the earlier tables that, during the time period of our study, the beneficiary population increased rapidly (Table III.1) but the likelihood of being in STW status and having positive BFW did not (and in fact, decreased; Tables IV.1 and IV.2). To make this point more apparent, the figures of FYE presented below include a line showing the percentage of beneficiaries in each year in STW status in addition to the FYE numbers.

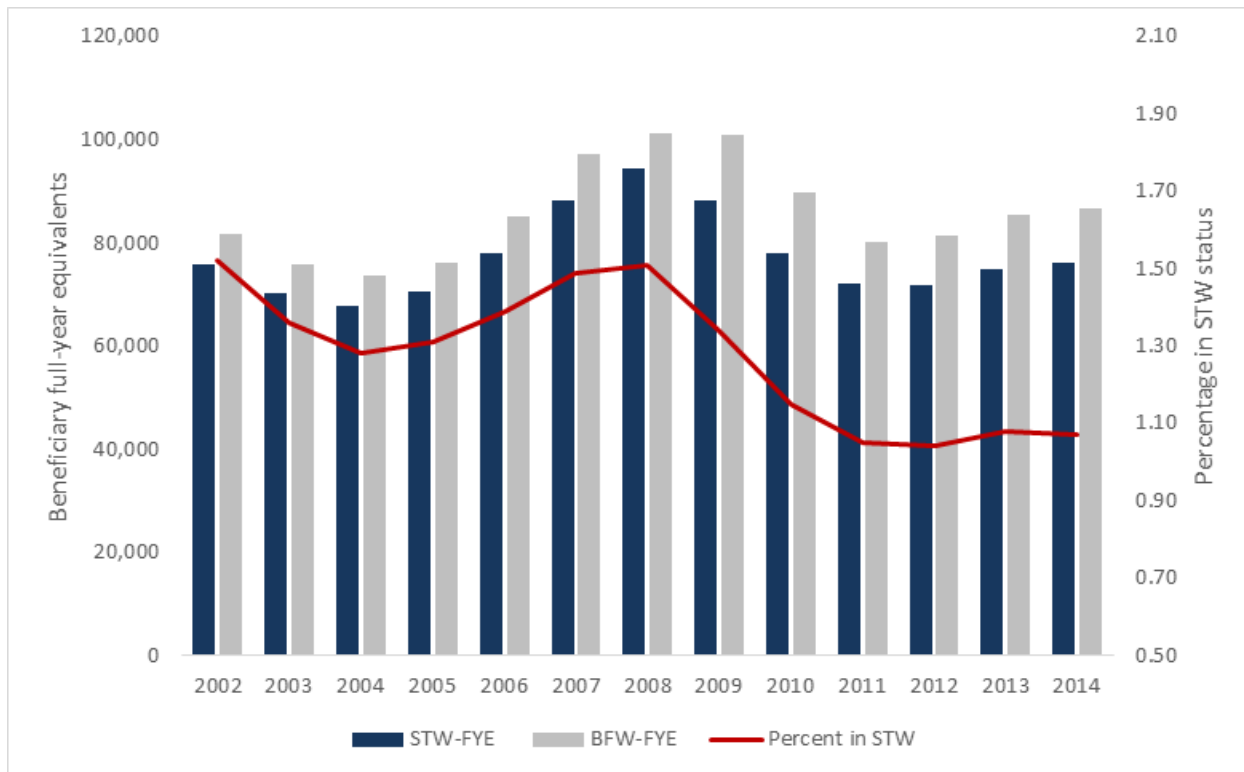
STW-FYE was just over 76,000 SSDI beneficiaries in 2014, about the same as in the other post-recession years, but about 25 percent lower than the peak immediately preceding the recession in 2008, when STW-FYE was more than 94,000 SSDI beneficiaries (Figure IV.1). The pattern of FYE across years is generally similar to that for the percentage of SSDI beneficiaries in STW status, increasing before the recession but falling after. This is unsurprising because the average number of months in STW status among those with at least one month in STW status did not change much over time, even in years when a smaller share had benefits suspended or terminated. The post-recession decline in the share of beneficiaries in STW status is steeper than the decline in FYE—growth in the beneficiary population in these years somewhat counteracts a

¹⁶ The statistics presented are based on the non-combined measures of STW and BFW to account for the different program rules and benefit amounts. Appendix Table B.8 offers a tabular version of the numbers presented in Figures IV.1 and IV.2.

¹⁷ We continue to exclude STW and BFW for beneficiaries who were terminated for work for the full year, as we did in Section IV.A, to improve comparability across years. Appendix Table B.9 contains the same information as Table B.8, but includes full-year terminations. Similar to the previous section, including full-year terminations increases the number of beneficiary equivalent STW and BFW years, and changes the longitudinal pattern.

reduced likelihood of those receiving benefits entering STW status. One reason that fewer beneficiaries might have had at least one month in STW status during that period is because new SSDI beneficiaries must complete their TWP before they can enter STW status.

Figure IV.1. STW-FYE and BFW-FYE among SSDI beneficiaries, 2002–2014



Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We included in our analysis all beneficiaries between the ages of 18 and FRA who had at least one month in current pay on SSDI or STW during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. Beneficiary equivalent years were calculated by dividing total STWDI months during the year by 12, and by dividing BFWDI by the average SSDI benefit during the year.

The pattern over time of BFW-FYE for SSDI is qualitatively similar to that for STW-FYE.

In each year, BFW-FYE is about 10 to 15 percent higher than STW-FYE. For example, in 2002 STW-FYE for SSDI was just under 76,000 while BFW-FYE was 82,000 years. The difference between the two measures highlights that SSDI beneficiaries with BFW have higher SSDI payments than the average beneficiary in current pay status. This suggests that the recession had

a less negative effect on the earnings of beneficiaries with relatively strong earnings histories before SSDI entry.¹⁸

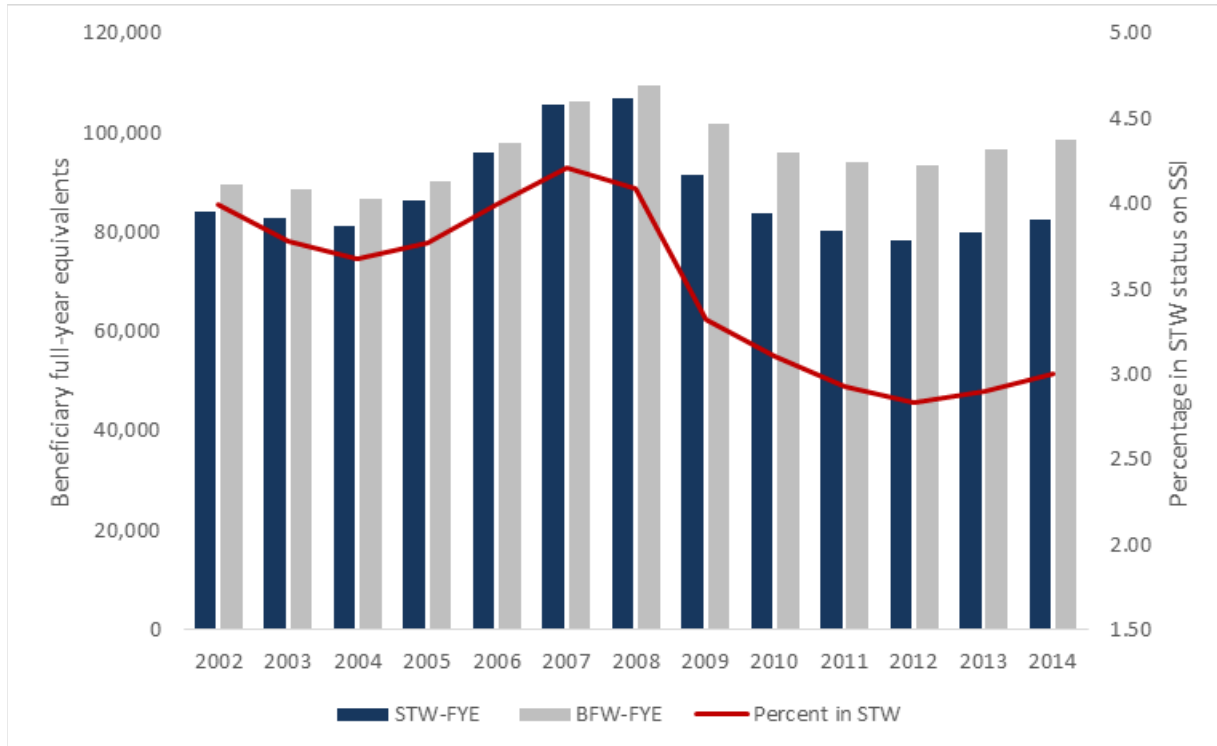
STW-FYE for SSI beneficiaries had a pattern similar to that for SSDI beneficiaries (Figure IV.2). In 2014, STW-FYE for SSI beneficiaries was about 82,000. STW-FYE for SSI beneficiaries peaked in 2008, and declined during the recession more steeply than STW-FYE for SSDI beneficiaries. This suggests that SSI beneficiaries were more hard-hit by the recession than SSDI beneficiaries, likely reflecting their less substantial work history than those who are eligible for SSDI. Similar to the SSDI pattern, STW-FYE for SSI has not rebounded to pre-recession levels; the value in 2014 was about 30 percent lower than the peak in 2008. Comparing FYE to the share of beneficiaries in STW status highlights a similar pattern that we observed for SSDI, where the decline in the share of those in STW status is steeper after the recession than the FYE decline.

In the years before the recession, BFW-FYE on SSI was quite similar to STW-FYE. Following the recession, the measures diverged, with BFW-FYE on SSI significantly higher than STW-FYE (Figure IV.2). Although this pattern is similar to that observed for SSDI, the causes are different. For SSDI, beneficiaries accruing BFW had an above-average monthly benefit. For SSI, STW-FYE and BFW-FYE differ because SSI program rules require beneficiaries to forgo cash benefits even without having benefits suspended or terminated. In the years following

¹⁸ Recall that BFW-FYE is calculated by dividing total BFW on SSDI by the average monthly SSDI benefit in the year. Those who had at least one month with BFW therefore had a higher-than-average monthly SSDI benefit. Beneficiaries who have better-paying jobs before benefit receipt or more years in the labor market (resulting in higher lifetime earnings) receive a higher monthly benefit than those with lower lifetime earnings.

the recession, the larger gap indicates a higher number of beneficiaries who have low levels of earnings for many months but are not in STW status on SSI.¹⁹

Figure IV.2. STW-FYE and BFW-FYE among SSI beneficiaries, 2002–2014



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We included in our analysis all beneficiaries between the ages of 18 and 65 who had at least one month in current pay on SSI or STW during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. Beneficiary equivalent years were calculated by dividing total STWSSI months during the year by 12, and by dividing BFWSSI by the sum of the average SSI benefit and average BFWSSI (across all beneficiaries) during the year.

¹⁹ This same phenomenon might have also occurred for SSDI beneficiaries, but would not have been captured because SSDI beneficiaries can have earnings under SGA for at least the duration of their TWP, or indefinitely if their earnings are below the monthly level that corresponds to a TWP month, without forgoing benefits.

V. STW IN THE YEARS FOLLOWING INITIAL ELIGIBILITY

In this chapter, we estimate the percentage of people who were in STW status and had positive BFW based on the year they first became eligible for benefits and the number of calendar years since their eligibility date.²⁰ We focus on the likelihood of STW status among SSDI and SSI beneficiaries, though we report on the likelihood of positive BFW both groups in the Appendix B; for SSDI beneficiaries, BFW tracks quite closely with STW status, but for SSI beneficiaries the takeaways are similar for BFW and STW status, though the percentages differ. We found relatively little difference in the months in STW or average BFW across eligibility cohorts, among beneficiaries who had at least one month in STW status or positive BFW, and therefore we do not focus on those outcomes.²¹ We demonstrate that the year of initial eligibility did not affect the likelihood of STW or BFW for SSDI beneficiaries in the years preceding the Great Recession, but it appears that the recession did affect the likelihood of those outcomes. We also show that, relative to SSDI beneficiaries, the likelihood of SSI beneficiaries experiencing STW status and having positive BFW was more strongly correlated with macroeconomic conditions.

We identified beneficiaries based on their first eligibility date, rather than first payment month, because the eligibility date is readily available in the DAF for both SSDI and SSI; DAF does not contain data for beneficiaries who received benefits before 1996, so it was not possible to identify the first month in which all beneficiaries received a payment. Eligibility often

²⁰ This differs from the award cohort analyses by Liu and Stapleton (2011), Ben-Shalom and Stapleton (2015a), and Ben-Shalom and Mamun (2015). In those studies, the authors developed a longitudinal profile for each beneficiary based on award date, then oriented each beneficiary's outcome relative to the award month.

²¹ The average months in STW status increases over the first several years after initial eligibility, and then increases more slowly. The average amount of BFW follows a similar pattern, though it is closer to a linear increase in the years following initial eligibility (Appendix Figures A.2–A.6).

predates the first payment by several months or even years, depending on the amount of time that elapses between disability onset and the award date—a period that includes the five-month waiting period in the case of SSDI. Applicants who have not yet received an award are unlikely to work at a level that would trigger STW because it would make them ineligible for benefits. Hence, we expect low rates of STW status immediately following eligibility, in part reflecting beneficiaries who are not yet receiving benefits. Even for SSDI beneficiaries whose eligibility dates align closely with the first month in which they received a payment, we would expect STW rates to be low initially because STW only occurs after completion of the TWP and grace period, which takes a minimum of 12 months.

We follow the full cohort of beneficiaries based on their eligibility year for each of the subsequent years shown on the axis in the figures. In other words, we use a constant denominator to calculate the percentage of beneficiaries in each year in STW status, even as beneficiaries die, reach retirement age, or are suspended or terminated for a reason that is not work. As these events happen, these beneficiaries cannot achieve STW but remain in the denominator, eventually resulting in declining STW rates over time. Appendix Tables B.7–B.10 present the likelihood of SSDI and SSI beneficiaries experiencing at least one month in STW status and having positive BFW in each year, excluding from the denominator in each year beneficiaries who can no longer achieve those outcomes as a result of death, retirement, or leaving the rolls for non-work reasons. The general patterns that we report around the recession remain, but excluding those cases shows a larger post-recession recovery than the figures presented here.

In following full eligibility cohorts over time, we included beneficiaries who were terminated for work in all months during the year that they met the selection criteria, rather than

excluding them as we did in the cross-section statistics reported above. The effects of full inclusion on the statistics are larger for SSDI than for SSI, for reasons discussed above.

In the figures that follow, we present select eligibility cohorts for ease of display, showing each annual cohort from 2002 through 2009, then 2012. After the 2009 cohort, the eligibility cohorts had similar patterns of STW and BFW, and we selected 2012 to be representative of those years without cluttering the graphs. The statistics we present in this chapter can be derived using the companion tables to this report for researchers interested in one of the eligibility year cohorts not displayed in the figures.

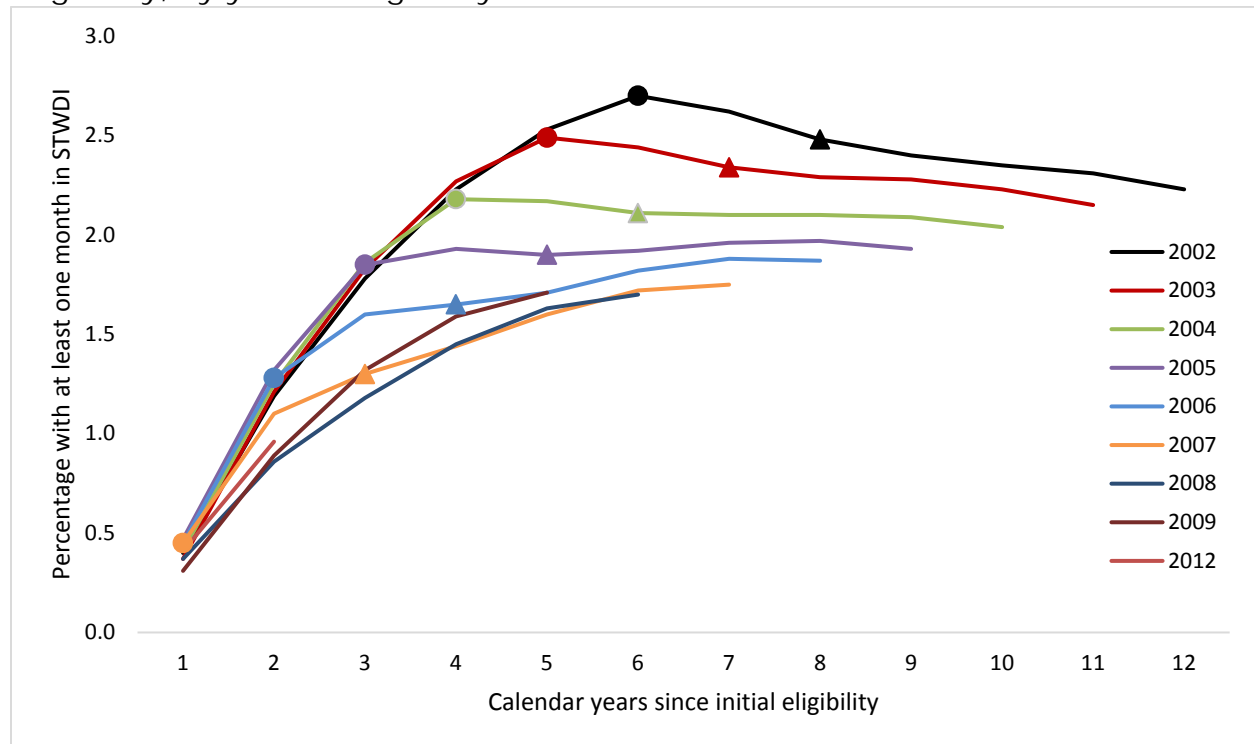
The likelihood of experiencing STW in the years following initial eligibility

Among cohorts who became eligible for benefits before the recession, there is very little variation in the pattern of STW in the first few years of eligibility. In the first calendar year following initial SSDI eligibility, about half a percent of beneficiaries spent at least one month in STW status on SSDI (Figure V.1). Consistent with beneficiaries completing their nine-month TWP and three-month GP, the likelihood of STW on SSDI is higher in the two to three years after eligibility starts. Following the first few years, the likelihood of STW continues to rise, albeit at a slower rate. This pattern holds true regardless of the calendar year of award until the start of the Great Recession in 2008 (indicated by the dots in Figure V.1).

After the recession began, the likelihood of STW status on SSDI fell for the earlier eligibility cohorts, and plateaued or rose less slowly than it did for earlier cohorts among the more recent cohorts. Since the end of the recession (indicated by the triangles in the figure), the likelihood of STW on SSDI during the year has been about constant for cohorts awarded before 2006, while the likelihood has increased slowly for cohorts whose eligibility began after that time. Although it is not fully represented in the figure (to avoid clutter), the likelihood of STW on SSDI has been almost identical in the years following eligibility among cohorts who had

initial eligibility dates after the end of the recession.²² For the most recent cohort shown (2012), the likelihood of SSDI beneficiaries being in STW status in the year after first eligibility was lower than for all of the pre-recession eligibility cohorts.

Figure V.1. The likelihood of SSDI beneficiaries having at least one month during the year in STW status in each calendar year following initial eligibility, by year of eligibility



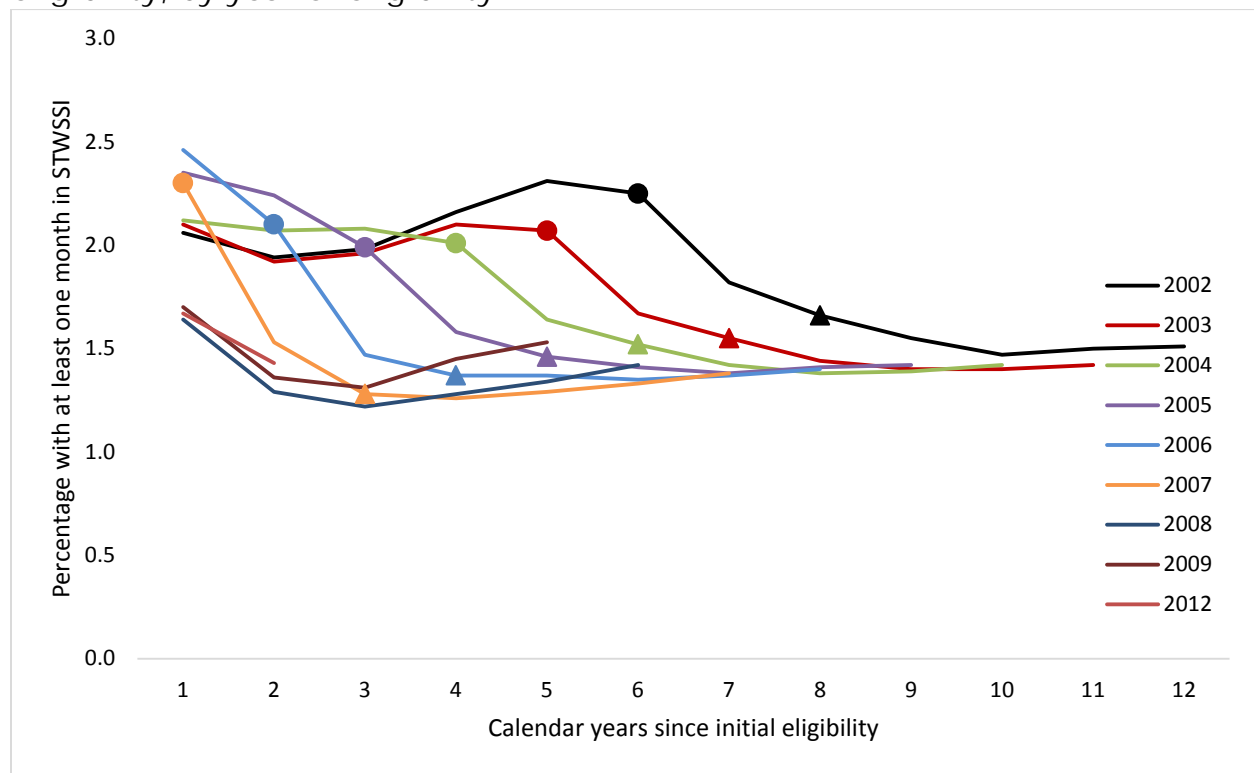
Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSDI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and FRA during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the percentage of each eligibility cohort that had at least one month of STWDI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

In contrast to SSDI, the likelihood of STW among SSI beneficiaries in the years after they become eligible for benefits varies based on the economic conditions in each year (Figure V.2).

²² As shown in the figure, the patterns for 2009 and 2012 are virtually identical; this was also true for the years omitted from the chart (2010, 2011, 2013, and 2014). These years were omitted because they essentially fell on the same line.

Figure V.2. The likelihood of SSI beneficiaries having at least one month during the year in STW status in each calendar year following initial eligibility, by year of eligibility



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and 65 during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the percentage of each eligibility cohort that had at least one month of STWSSI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach age 65, or are suspended or terminated for a reason that is not determined to be work.

Rates of STW among SSI beneficiaries in the first year after eligibility depend on the state of the economy, with cohorts awarded during and immediately after the Great Recession having a lower likelihood of STW than those awarded prior to the recession. Even after that initial period, the economy drives the likelihood of STW—during the recession, rates of STW fell (shown on the graph as the period between the circle and the triangle), whereas during the recovery they have generally increased. Among the post-recession eligibility cohorts, the patterns of STW on

SSI in the years following eligibility have been similar, though again, we present only the trends for the 2009 and 2012 cohorts because they represent the experience of intermediate cohorts well. Among these cohorts, in the first year after eligibility, about 1.7 percent of SSI beneficiaries were in STW status, falling to under 1.5 percent in the second and third years after eligibility before rebounding upward. Interestingly, when comparing the 2009 and 2002 cohorts, changes in STW on SSI with years since eligibility look almost identical, but the level is lower for the post-recession cohort. More recent cohorts appear to be following the same pattern as the 2009 cohort, but it is too early to know if this represents a long-term shift downward.

VI. CONCLUSION

In this paper, we examine patterns in STW and BFW statistics over time and across beneficiary subgroups, and the trajectory of STW and BFW outcomes by calendar year of initial benefit eligibility. Combined with the companion tables, this analysis is the most systematic and comprehensive assessment of STW and BFW to date, and we hope it will be useful for many researchers as well as others interested in the extent to which disability beneficiaries leave the rolls or otherwise forgo benefits due to work.

The statistics reveal that the Great Recession reduced the likelihood that SSDI and SSI beneficiaries experienced STW and accrued BFW, and the effects appear to have lasted well beyond the official end of the recession in 2009. SSI beneficiaries' return-to-work efforts appear to be more directly affected by economic conditions in each year, potentially reflecting differences in their previous connection to the labor force, as well as differences in the earnings rules for the two programs. Earlier work by Schimmel Hyde and Stapleton (2015) highlighted the effects of the recession in the context of revised TTW regulations, which began in the same year as the recession. Our analysis focused less on TTW participants and spanned additional years beyond that earlier study.

More work could be done to understand the effect that the macroeconomy has on beneficiaries' work activity. For example, the Great Recession impacted some states more than others—both in intensity and duration—and it would be interesting to assess whether those state-level differences correlate with beneficiaries' suspension and termination for work. Additional research could also explore whether the reduced share of beneficiaries in STW status during the economic downturn reflected beneficiaries who were previously in STW status and returned to the rolls, potentially after job loss, or fewer beneficiaries having benefits newly suspended or

terminated due to work. Understanding the reasons for changes in STW would potentially help SSA target services to beneficiaries during downturns.

By the end of the study period, a decade and a half had passed since the passage of the Ticket to Work and Work Incentives Improvement Act of 1999. During that period, SSA redoubled efforts to support beneficiaries in returning to work. Between 2002 and 2008, the share of beneficiaries in STW status and the STW-FYE statistics showed signs that more beneficiaries were off the rolls for work. Yet, we cannot isolate whether these pre-recessionary changes were due to macroeconomic improvements or SSA's efforts, such as TTW. Future research could attempt to isolate the causal factors affecting returns to work, possibly by exploring whether state-level changes correlate with local economic factors.

The working-age beneficiary population was growing steadily—as shown in Chapter III, from 2002 to 2014 SSDI beneficiaries increased by 50 percent and SSI beneficiaries increased by 20 percent. In addition to not being eligible to enter STW status immediately after eligibility (at least in the case of SSDI), newer beneficiaries may have differed systematically from beneficiaries who were on the rolls at the start of our observation period. Appendix A shows that rates of STW vary considerably among subgroups, such as age, time since eligibility, and other demographic and beneficiary characteristics. If there have been compositional shifts in the types of beneficiaries newly qualifying for benefits, rates of STW could change over time in a way that reflects the composition of the beneficiary population rather than an underlying shift in the likelihood of returning to work (holding such characteristics fixed). Future research could explore how controlling for changes in the composition of the beneficiary population affects patterns of STW and BFW.

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APPENDIX A

COMPARISON OF STW AND BFW AMONG
BENEFICIARY SUBGROUPS, 2014

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Earlier work has shown that STW is more common among certain subgroups such as younger beneficiaries, those with certain types of impairments, and those with higher levels of education (Ben-Shalom and Mamun 2015). In this appendix, we compare STW and BFW statistics in 2014 across a range of beneficiary groups. More detailed information for each of these subgroups across all years of our analysis is available in the companion tables; Appendix Table B.1 lists the variables we used to define the outcomes.

We focus on characteristics that have previously been shown to be associated with differences in work activity among people with disabilities and disability beneficiaries. Demographic characteristics include gender, age, educational attainment, and primary diagnosis; the companion tables present statistics by state of residence. We also consider characteristics specific to disability benefit receipt including the program status (SSDI-only, SSI-only, any SSDI, any SSI, and concurrent), the amount of time that has elapsed since initial eligibility (the earliest eligibility date in either program for concurrent beneficiaries), age at initial eligibility, ticket assignment status, representative payee status, and the expectation of medical improvement. In addition, we report on the interaction between certain characteristics (for example, outcomes for males ages 18 to 24 versus outcomes for females ages 18 to 24) to provide researchers additional flexibility.

The point at which we define time-varying measures differs across variables. We defined age based on age at the end of the first month that an individual met the selection criteria during the year, which in most cases is January (exceptions are new beneficiaries and those who have just reached age 18 in the case of SSI). Variables that change less frequently, including education, primary diagnosis, and the expectation of medical improvement, are defined in the first month with a non-missing value during the year. This is usually January, so for the majority of

beneficiaries, time-varying measures are measured at the same point. Similar to our program status measure, we consider ticket assignment status over the course of the year. In producing statistics for the December sample, we re-calculated time-varying measures for variables in December.

We consider results from 2014 only, because we did not find large differences over time in the patterns among beneficiary subgroups. We selected 2014 because it is the most recent year in our analysis, the economy was no longer in a recession, and the TTW program had been in existence for more than a decade. Statistics for other years appear in the downloadable compendium of statistics.

As in the preceding section, we exclude beneficiaries who were in termination for work status during all months of the year in which they met the selection criteria. In most cases including these beneficiaries would not have changed the observed differences among the subgroups. The one area in which it would have had a substantive effect is when we considered the differences in STW and BFW based on the number of calendar years since initial benefit eligibility. Those terminated due to work in all months are disproportionately concentrated in the groups with more years on the rolls, as termination for work can continue for many years. The companion tables provide the same statistics for samples including such beneficiaries.

A. STW and BFW among beneficiary subgroups based on personal characteristics

Among SSDI beneficiaries, we found that the likelihood of STW and the number of months in STW status are highest among those who are male, are younger, have higher education, or have a sensory impairment (Table A.1). These findings are generally consistent with the patterns documented among new SSDI awardees in Ben-Shalom and Mamun (2015). Though the levels of STW differ by program, the same general pattern across demographic subgroups holds for SSI

Table A.1. STW and BFW among SSDI beneficiary subgroups based on personal characteristics, 2014

	Number of beneficiaries	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Percentage with at least one month with positive BFW	Average annual BFW among those with positive BFW
Total	10,985,959	1.07	7.77	1.07	\$10,349
Gender					
Male	5,691,925	1.12	7.92	1.11	\$11,332
Female	5,294,034	1.02	7.61	1.01	\$9,188
Age					
18–24	215,449	2.12	7.46	2.10	\$5,275
25–29	300,035	3.70	8.02	3.68	\$7,265
30–34	433,336	2.79	7.97	2.79	\$9,029
35–39	542,462	2.25	7.88	2.25	\$10,497
40–44	779,024	1.81	7.92	1.81	\$11,277
45–49	1,132,253	1.36	7.97	1.35	\$11,584
50–54	1,856,982	0.93	7.80	0.92	\$11,442
55–61	3,655,836	0.62	7.70	0.61	\$11,385
62–64	1,594,479	0.44	7.02	0.44	\$10,459
65–FRA	476,103	0.26	4.88	0.26	\$7,371
Educational attainment					
<12 years	1,707,801	0.72	7.48	0.72	\$7,960
12 years	3,481,027	0.94	7.71	0.94	\$10,061
13–15 years	1,402,152	1.39	7.95	1.38	\$11,313
16 or more years	698,037	1.99	8.34	1.99	\$14,491
Missing, unknown	3,696,942	1.05	7.63	1.05	\$9,386
Primary disabling condition					
Psychiatric impairments	2,892,440	1.30	7.55	1.29	\$9,040
Intellectual disability	758,612	0.77	7.30	0.76	\$6,039
Musculoskeletal system	1,375,103	0.78	7.50	0.78	\$10,417
Back disorders	1,852,839	0.65	7.68	0.65	\$10,947
Sensory	304,840	2.16	8.02	2.15	\$10,131
Systemic	2,324,807	0.95	7.87	0.94	\$11,249
Other known condition	1,429,808	1.55	8.34	1.55	\$12,561
Unknown	47,510	1.25	6.14	1.23	\$8,053

Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We included in our analysis all beneficiaries between the ages of 18 and FRA who had at least one month in current pay on SSDI or in STWDI during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. Statistics presented are based on STWDI and BFWDI measures; the companion Excel tables contain analogous statistics using the combined version of those measures. Table B.1 contains more information about how the covariates in this table were measured.

(Table A.2). In both SSDI and SSI, the age pattern shows that, with the exception of those who have just transitioned to adulthood (ages 18–24), the likelihood of STW declines with age, and the rate of STW is nearly four times as high for workers ages 25 to 44 than for workers ages 55 to 66, the full retirement age in 2014. Younger workers can be more likely to enter STW status

than older workers for various reasons: they have a longer time horizon over which to reap the benefits of work, they may have a different mix of impairments, and they may have lower benefit amounts leading to a greater need for additional income

Table A.2. STW and BFW among SSI beneficiary subgroups based on personal characteristics, 2014

	Number of beneficiaries	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Percentage with at least one month with positive BFW	Average annual BFW among those with positive BFW
Total	5,803,856	3.00	5.69	8.34	\$1,689
Gender					
Male	2,784,372	3.23	5.64	8.91	\$1,664
Female	3,019,484	2.78	5.74	7.82	\$1,714
Age					
18–24	783,797	4.18	4.79	15.59	\$1,570
25–29	461,261	6.44	6.03	16.81	\$1,839
30–34	427,841	5.03	6.10	12.83	\$1,793
35–39	405,711	4.25	6.11	10.28	\$1,853
40–44	475,228	3.39	6.10	8.00	\$1,824
45–49	631,197	2.49	5.92	6.10	\$1,734
50–54	903,464	1.88	5.63	5.02	\$1,617
55–61	1,333,239	1.49	5.36	4.22	\$1,535
62–64	382,118	1.05	5.72	2.53	\$1,201
Educational attainment					
<12 years	1,593,085	2.19	5.38	6.99	\$1,600
12 years	1,382,433	3.43	5.40	9.02	\$1,713
13–15 years	342,378	4.02	5.39	9.24	\$1,836
16 or more years	98,364	4.81	5.53	10.67	\$1,917
Missing, unknown	2,387,596	3.07	6.09	8.63	\$1,688
Primary disabling condition					
Psychiatric impairments	1,980,058	3.32	5.56	8.85	\$1,691
Intellectual disability	972,819	3.80	6.04	13.02	\$1,441
Musculoskeletal system	334,405	2.63	5.45	6.18	\$1,708
Back disorders	338,712	2.10	5.18	5.00	\$1,485
Sensory	160,124	5.90	6.30	11.96	\$2,330
Systemic	761,867	2.67	5.56	6.46	\$1,811
Other known condition	508,795	2.94	5.74	7.11	\$1,763
Unknown	747,076	1.43	5.45	5.38	\$2,015

Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We included in our analysis all beneficiaries between the ages of 18 and 64 who had at least one month in current pay on SSI or in STWSSI during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. Statistics presented are based on STWSSI and BFWSSI measures; the companion Excel tables contain analogous statistics using the combined version of those measures. Table A.1 contains more information about how the covariates in this table were measured.

As discussed in Chapter IV, the percentage of SSDI beneficiaries with positive BFW largely mirrors the percentage in STW status (Table A.1). Differences in average BFW across groups can be due to more months in which benefits are suspended or terminated for work, or due to having a higher monthly benefit forgone due to work (which, in turn, is due to higher pre-SSDI average earnings). For example, men spend about 4 percent more months during the year in STW status than females (column 3), but men's average BFW during the year is approximately 20 percent higher (column 5), indicating that they have a higher average monthly benefit. Those with intellectual impairments have substantially lower average BFW than other impairment groups (column 5), despite similar months in STW status (column 3); this difference is explained by a lower average monthly benefit.

Because SSI beneficiaries can accrue BFW without entering STW status, patterns of BFW and STW can differ among subgroups if beneficiaries earn low amounts of income that reduce benefit amounts but do not lead to suspension (Table A.2). Those with intellectual disabilities are one example; SSI beneficiaries with sensory impairments have the highest likelihood of STW (column 2), whereas beneficiaries with intellectual disabilities have the highest rates of BFW (column 4).

Average amounts of BFW can vary due to the number of months with BFW and the average benefits forgone in months with BFW (Table A.2). For example, men are more likely to have BFW than women (column 4), but average annual BFW is slightly lower for men than for women (column 5). The likelihood of BFW is higher among younger SSI beneficiaries, but among those who accrue BFW, the average BFW amount does not show a clear gradient with age.

B. STW and BFW among beneficiary subgroups based on program characteristics

We next examine patterns of STW and BFW across beneficiary subgroups, where the subgroups are defined based on aspects of disability program participation. Table A.3 contains results for SSDI beneficiaries and Table A.4 contains almost the same measures for SSI beneficiaries. We analyze patterns for disabled adult children (DAC) and disabled widow beneficiaries (DWB) only for SSDI, and we consider the age 18 redetermination only for SSI. We selected program characteristics that may signal something about beneficiaries' ability to work or interest in work; we do not claim that changing these characteristics would causally affect STW and BFW. For example, having assigned a ticket through the TTW program may signal one's interest in work and therefore make STW status and BFW more likely, but that does not mean that use of TTW affected the STW or BFW statistics. Similarly, having a representative payee may signal something about a beneficiary's ability to work, but assigning a representative payee to a beneficiary is not the cause for observed STW or BFW patterns.

Among SSDI beneficiaries, beneficiaries who are receiving disabled worker benefits (based on their own work histories) have a higher likelihood of STW and BFW and a higher average monthly BFW than those who are receiving DAC or DWB benefits. This is unsurprising, given that DAC and DWB do not have substantial enough work histories to qualify for benefits based on their own earnings record, and therefore have less of a connection to work and a lower average monthly benefit.

Table A.3. STW and BFW among SSDI beneficiary subgroups based on program characteristics, 2014

	Number of beneficiaries	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Percentage with at least one month with positive BFW	Average annual BFW among those with positive BFW
Total	10,985,959	1.07	7.77	1.07	\$10,349
Beneficiary status					
Disabled worker	10,051,250	1.13	7.77	1.13	\$10,531
DAC/DWB	934,709	0.43	7.98	0.42	\$5,163
DI-only	9,116,514	1.12	7.86	1.11	\$11,160
Concurrent	1,869,445	0.84	7.20	0.83	\$5,035
Calendar years since initial eligibility					
0	587,430	0.00	4.76	0.00	\$1,253
1	730,418	0.37	4.82	0.37	\$7,133
2	807,756	1.02	7.26	1.02	\$10,900
3–4	1,679,870	1.51	8.32	1.51	\$12,060
5–9	2,946,263	1.40	8.09	1.40	\$10,360
10–14	1,830,988	1.13	7.53	1.13	\$9,464
15–19	953,178	1.04	7.42	1.04	\$9,195
20+	1,450,051	0.63	7.11	0.62	\$9,255
Age at initial eligibility					
18–24	1,141,385	2.11	7.80	2.10	\$7,405
25–29	792,680	1.90	7.87	1.89	\$9,538
30–34	933,189	1.58	7.79	1.57	\$10,503
35–39	1,121,915	1.32	7.77	1.32	\$11,040
40–44	1,292,635	1.05	7.72	1.05	\$11,369
45–49	1,374,871	0.83	7.87	0.83	\$12,098
50–54	1,875,281	0.63	7.82	0.63	\$12,046
55–61	2,194,664	0.50	7.63	0.50	\$11,875
62–FRA	253,748	0.33	6.08	0.33	\$9,692
Ticket assignment status					
Ever assigned	635,303	3.72	7.53	3.72	\$8,813
State vocational rehabilitation agency (TTW payments)	23,379	3.07	6.99	3.07	\$7,853
State vocational rehabilitation agency (traditional payments)	555,148	3.41	7.56	3.40	\$8,675
Employment network	72,287	7.05	7.38	7.04	\$9,258
Never assigned	10,350,656	0.91	7.84	0.90	\$10,737
Expectation of medical improvement					
Not expected	4,218,911	0.87	7.58	0.87	\$10,600
Possible	3,541,278	1.59	7.87	1.59	\$10,061
Expected	203,969	3.28	8.39	3.26	\$12,342
Unknown	3,021,801	0.58	7.65	0.58	\$9,990
Representative payee					
No	9,374,792	1.14	7.79	1.14	\$10,631
Yes	1,611,167	0.64	7.58	0.64	\$7,411
Relative	1,105,997	0.79	7.70	0.79	\$7,522
Social agency/financial organization	113,950	0.27	6.26	0.26	\$5,567
Institution	245,573	0.12	6.17	0.12	\$5,437
Other	145,647	0.66	7.31	0.66	\$7,581

Table A.3. (*continued*)

Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We included in our analysis all beneficiaries between the ages of 18 and FRA who had at least one month in current pay on SSDI or in STWDI during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. Statistics presented are based on STWDI and BFWDI measures; the companion Excel tables contain analogous statistics using the combined version of those measures. Table B.1 contains more information about how the covariates in this table were measured.

Table A.4. STW and BFW among SSI beneficiary subgroups based on program characteristics, 2014

	Number of beneficiaries	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Percentage with at least one month with positive BFW	Average annual BFW among those with positive BFW
Total	5,803,856	3.00	5.69	8.34	\$1,689
Beneficiary status					
SSI-only	5,803,856	3.00	5.69	8.34	\$1,689
Concurrent	1,862,083	5.62	5.91	11.01	\$1,345
Calendar years since initial eligibility					
0	359,605	1.12	2.21	7.00	\$970
1	359,901	2.15	3.98	8.75	\$1,324
2	333,598	2.30	5.03	7.52	\$1,487
3–4	591,033	2.66	5.58	7.43	\$1,660
5–9	1,102,418	3.15	5.89	8.03	\$1,798
10–14	850,433	3.18	6.02	8.40	\$1,892
15–19	682,901	3.14	6.10	8.55	\$1,875
20+	1,515,207	3.09	6.40	8.67	\$1,692
Age at initial eligibility					
<18	1,213,563	4.32	5.77	13.85	\$1,728
Eligible for age 18 redetermination (born 1979 or later)	947,885	4.48	5.58	14.72	\$1,755
Had successful age 18 redetermination	485,824	4.35	5.64	14.60	\$1,808
Did not have successful age 18 redetermination	461,409	4.61	5.52	14.85	\$1,701
18–24	975,337	5.03	5.98	13.66	\$1,646
25–29	433,680	3.15	5.83	7.33	\$1,806
30–34	471,481	2.48	5.93	5.83	\$1,849
35–39	507,614	2.07	5.94	4.84	\$1,855
40–44	526,774	1.71	5.75	4.15	\$1,754
45–49	518,308	1.44	5.42	3.85	\$1,655
50–54	587,717	1.43	4.72	4.18	\$1,507
55–61	532,722	1.77	4.09	5.45	\$1,327
62–FRA	34,894	2.07	3.65	5.30	\$943
Ticket assignment status					
Ever assigned	428,002	10.65	5.89	27.05	\$1,749
State vocational rehabilitation agency (TTW payments)	15,738	11.37	5.62	31.14	\$1,571
State vocational rehabilitation agency (traditional payments)	388,277	10.32	5.91	26.81	\$1,725
Employment network	31,938	16.72	5.89	31.34	\$2,192
Never assigned	5,375,854	2.39	5.62	6.85	\$1,670
Expectation of medical improvement					
Not expected	1,704,647	2.69	6.07	8.27	\$1,536
Possible	2,532,574	3.43	5.85	9.09	\$1,815
Expected	156,235	4.40	5.57	11.07	\$2,038
Unknown	1,410,400	2.43	4.79	6.79	\$1,546

	Number of beneficiaries	Percentage with at least one month in STW	Average months in STW among those with at least one STW month	Percentage with at least one month with positive BFW	Average annual BFW among those with positive BFW
Representative payee					
No	3,494,748	2.75	5.59	6.59	\$1,880
Yes	2,309,108	3.38	5.80	10.99	\$1,515
Relative	1,745,952	3.58	5.83	10.95	\$1,677
Social agency/financial organization	143,134	3.15	5.63	13.35	\$975
Institution	210,923	2.61	5.86	11.91	\$796
Other	209,099	2.61	5.60	8.77	\$1,370

Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We included in our analysis all beneficiaries between the ages of 18 and 64 who had at least one month in current pay on SSI or in STWSSI during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. Statistics presented are based on STWSSI and BFWSSI measures; the companion Excel tables contain analogous statistics using the combined version of those measures. Table B.1 contains more information about how the covariates in this table were measured.

SSI beneficiaries without a successful age 18 redetermination had a very slightly higher likelihood of being in STW status or having positive BFW than those with a successful redetermination (Table A.4).²³ Data limitations make it difficult to know for certain whether those who did not have a successful redetermination simply did not receive a redetermination at all, or had one that was unsuccessful.

Beneficiaries who receive SSDI and SSI in the same year (the concurrent beneficiary measure that we use in this report) have different rates of STW and BFW using the SSDI and SSI version of each measure (Table A.3 and A.4, respectively). On SSDI, concurrent beneficiaries are less likely to have at least one month of STW than those who receive only SSDI benefits, whereas on SSI, such beneficiaries are more likely to have at least one month of STW. Most concurrent beneficiaries receive SSDI and SSI in the same month (rather than serially receiving SSI then SSDI, for example), meaning that they have the required work history for SSDI eligibility but the low income and resources required for SSI eligibility. Concurrent beneficiaries may thus be less successful at returning to work than SSDI-only beneficiaries, but more successful than SSI-only beneficiaries. The average amount of BFW is lower for concurrent beneficiaries on both programs.

Patterns of STW based on years since eligibility differ between SSI and SSDI. For SSDI, the likelihood of being in STW increases in the years since award until reaching 1.5 percent for those who received an award three to four years earlier.²⁴ Beyond that, the longer since initial

²³ As a result of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, all child SSI beneficiaries who turned age 18 after August 22, 1996, were required to have their benefit eligibility redetermined at age 18 under the adult standard (Deshpande 2016). SSI beneficiaries in our sample are over age 18 by virtue of our selection criteria, but we consider those whose eligibility began under age 18 and would have been subject to the age 18 redetermination separately from others (born 1979 or later) and among these we differentiated between those with and without a successful age 18 redetermination.

²⁴ Because of the requirement to complete the TWP before benefit suspension for SSDI, relatively recent SSDI beneficiaries cannot accrue STW. Additionally, because we use years since eligibility rather than years since award,

award, the less likely that beneficiaries will be in STW status. For SSI, the likelihood of being in STW status also increases in the first several years after award. However, rates of STW are approximately equal for all beneficiaries who received an award five or more years earlier. The differences between programs presumably reflect the differences in program rules combined with the fact that the sample excludes beneficiaries in SSDI termination for work status for the full year.

We found similar patterns for SSDI and SSI beneficiaries along several other measures we considered. First, those who became eligible for benefits at younger ages had a higher likelihood of having at least one STW month, having any BFW, and having higher average BFW among those with BFW than those who became eligible for benefits at older ages. A slight exception to this is average BFW among SSDI beneficiaries, which peaks among those who began to receive benefits between ages 45 and 54; this likely reflects a higher monthly benefit among those who had many pre-SSDI years in which to accrue substantial earnings.

Second, among both SSDI and SSI beneficiaries, participants in the TTW program were substantially more likely to have at least one STW month and positive BFW during the year than nonparticipants, and participants who assigned their tickets to an employment network under one of the TTW payment systems had the highest likelihood. This mirrors earlier findings (Schimmel Hyde et al. 2013). For SSI beneficiaries, the average BFW pattern followed that of the share with STW or BFW, with the highest average BFW among participants who assigned their tickets to an employment network. Interestingly, for SSDI beneficiaries, nonparticipants with at least one STW month had a higher average number of STW months and those with any BFW had higher

it is possible that eligibility precedes the first benefit payment. Both factors may contribute to low levels of STW in the first one to two years since an award.

average BFW than their participant counterparts. A possible explanation is that beneficiaries who returned to work without the assistance of TTW were typically more capable of sustaining successful employment than those who participated in TTW and returned to work.

Finally, the relationship between the expectation of medical improvement and STW and BFW was similar for SSI and SSDI beneficiaries. Beneficiaries who were expected to have medical improvement had the highest likelihood of an STW month, of positive BFW, and the highest average BFW compared to beneficiaries for whom medical improvement is possible or not expected. Assuming that the expectation of medical improvement is a good proxy for the severity of one's limitations, these results suggest that those with less severe disabilities may be more able to return to the labor force than those whose disabilities are not expected to improve.

The correlation between having a representative payee and STW and BFW outcomes varied across SSDI and SSI, likely due to the share of beneficiaries in each group who had a representative payee. Among SSDI beneficiaries, 15 percent had a representative payee (Table A.3), compared with 40 percent of SSI beneficiaries (Table A.4); in both cases, the representative payee was predominantly a relative. SSDI beneficiaries with a representative payee were about half as likely as those without one to have at least one month in STW status or to accrue any BFW. In contrast, SSI beneficiaries with a representative payee were slightly more likely to have a month in STW status and to have positive BFW than those without one. In both groups, the average amount of BFW accrued was lower among beneficiaries with a representative payee than among those without one.

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APPENDIX B

SUPPLEMENTARY TABLES AND FIGURES

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Table B.1. Definitions of beneficiary subgroups using DAF15

Subgroup	Variable(s) Used in the DAF	Time point of measurement
SSDI beneficiary	STWDIyymm	Any month during the calendar year
SSI beneficiary	STWSSlyymm	Any month during the calendar year
Concurrent beneficiary	STWDIyymm, STWSSlyymm	Any month during the calendar year
Gender	SEX	Non-time varying
Age	DOBBEST	First month of eligibility for sample in the year
State of residence	PSTyymm	First non-missing entry during the year
FRA	FRA	Non-time varying, depends on individual's birth date
Educational attainment	EDXyymm	First non-missing entry during the year
Primary disabling condition	DXPRIBESTyymm	First non-missing entry during the year
Calendar year of initial eligibility	DOEI, SSIELIG_FIRST	Non-time varying
Age at initial eligibility	DOEI, SSIELIG_FIRST, DOBBEST	Non-time varying
Eligibility for an age 18 redetermination	DOBBEST, SSIELIG_FIRST	Non-time varying (though only calculated for those with initial SSI eligibility less than 18)
Outcome of age 18 redetermination	DOBBEST, SSIELIG_FIRST, AGE18_CDR	Non-time varying (only calculated for those with initial SSI eligibility less than 18 who were born after all people were required to have age 18 redeterminations)
Ticket assignment status	VR_MO_EVyymm, VR_OO_EVyymm, VR_TR_EVyymm, EN_MO_EVyymm, EN_OO_EVyymm	First month of eligibility for sample in the year
Representative payee	REPPYSSD, REPPYSSI, TOP, REPPAYTP	Non-time varying
Expectation of medical improvement	MIEXyymm	First non-missing entry during the year

Table B.2. STW and BFW among **SSDI-only** beneficiaries, 2002-2014

	Number of beneficiaries	Number with at least one month in STW	Percent with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percent with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	5,841,554	95,284	1.63	8.34	94,790	1.62	\$10,573
2003	6,076,581	88,638	1.46	8.24	88,237	1.45	\$10,700
2004	6,367,609	87,189	1.37	8.06	86,908	1.36	\$10,710
2005	6,676,201	92,269	1.38	7.84	92,033	1.38	\$10,622
2006	6,969,118	101,818	1.46	7.83	101,703	1.46	\$10,739
2007	7,274,142	113,575	1.56	7.91	113,725	1.56	\$10,906
2008	7,642,876	121,539	1.59	7.98	121,855	1.59	\$11,021
2009	8,061,352	115,044	1.43	7.96	115,547	1.43	\$11,048
2010	8,436,732	103,874	1.23	7.89	104,420	1.24	\$10,988
2011	8,783,887	98,894	1.13	7.69	99,494	1.13	\$10,739
2012	9,062,925	100,347	1.11	7.53	101,084	1.12	\$10,548
2013	9,169,515	103,548	1.13	7.61	104,353	1.14	\$10,678
2014	9,116,557	101,844	1.12	7.86	102,748	1.13	\$11,049
Using STWDI and BFWDI							
2002	5,841,543	95,279	1.63	8.34	94,785	1.62	\$10,574
2003	6,076,564	88,630	1.46	8.24	88,161	1.45	\$10,708
2004	6,367,596	87,183	1.37	8.06	86,798	1.36	\$10,723
2005	6,676,184	92,255	1.38	7.84	91,810	1.38	\$10,647
2006	6,969,093	101,802	1.46	7.83	101,372	1.45	\$10,772
2007	7,274,124	113,572	1.56	7.91	113,154	1.56	\$10,956
2008	7,642,846	121,523	1.59	7.98	121,070	1.58	\$11,085
2009	8,061,323	115,026	1.43	7.96	114,550	1.42	\$11,133
2010	8,436,684	103,843	1.23	7.89	103,452	1.23	\$11,078
2011	8,783,847	98,866	1.13	7.69	98,515	1.12	\$10,832
2012	9,062,886	100,324	1.11	7.53	100,005	1.10	\$10,643
2013	9,169,482	103,528	1.13	7.61	103,235	1.13	\$10,776
2014	9,116,514	101,812	1.12	7.86	101,557	1.11	\$11,160

Source: Authors' calculations using DAF15.

Notes: This table is analogous to Table IV.1, except it excludes concurrent beneficiaries. We included in our analysis SSDI-only beneficiaries between the ages of 18 and FRA who have at least one month in current pay on SSDI or in STWDI during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table B.3. STW and BFW among **SSI-only** beneficiaries, 2002-2014

	Number of beneficiaries	Number with at least one month in STW	Percent with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percent with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	3,165,695	87,095	2.75	5.51	265,879	8.40	\$1,975
2003	3,213,921	81,517	2.54	5.54	256,272	7.97	\$1,934
2004	3,261,659	77,192	2.37	5.30	256,675	7.87	\$1,826
2005	3,310,685	81,407	2.46	5.37	265,563	8.02	\$1,851
2006	3,362,901	88,052	2.62	5.57	282,656	8.41	\$1,928
2007	3,437,828	94,595	2.75	5.70	303,388	8.82	\$1,985
2008	3,510,846	91,794	2.61	5.86	302,180	8.61	\$2,035
2009	3,641,392	74,935	2.06	5.97	269,145	7.39	\$1,999
2010	3,751,366	71,036	1.89	5.57	255,608	6.81	\$1,946
2011	3,849,560	66,567	1.73	5.45	255,584	6.64	\$1,904
2012	3,924,493	64,576	1.65	5.37	263,457	6.71	\$1,842
2013	3,957,101	65,850	1.66	5.34	274,077	6.93	\$1,877
2014	3,941,841	69,312	1.76	5.34	279,085	7.08	\$1,940
Using STWSSI and BFWSSI							
2002	3,165,635	87,127	2.75	5.53	265,900	8.40	\$1,978
2003	3,213,803	81,503	2.54	5.56	256,249	7.97	\$1,937
2004	3,261,587	77,159	2.37	5.32	256,636	7.87	\$1,828
2005	3,310,653	81,435	2.46	5.39	265,574	8.02	\$1,853
2006	3,362,866	88,091	2.62	5.58	282,682	8.41	\$1,930
2007	3,437,773	94,606	2.75	5.71	303,391	8.83	\$1,987
2008	3,510,792	91,798	2.61	5.87	302,171	8.61	\$2,036
2009	3,641,319	74,928	2.06	5.98	269,126	7.39	\$2,001
2010	3,751,302	71,023	1.89	5.59	255,580	6.81	\$1,948
2011	3,849,481	66,548	1.73	5.47	255,556	6.64	\$1,907
2012	3,924,435	64,578	1.65	5.38	263,444	6.71	\$1,844
2013	3,957,045	65,866	1.66	5.35	274,078	6.93	\$1,878
2014	3,941,773	69,294	1.76	5.35	279,053	7.08	\$1,941

Source: Authors' calculations using DAF15.

Notes: This table is analogous to Table IV.2, except it excludes concurrent beneficiaries. We included in our analysis consists of SSI-only beneficiaries between the ages of 18 and 65 who have at least one month in current pay on SSI or in STWSSI during the calendar year, excluding those whose benefits were terminated for work in all months in which they met the age selection criteria. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table B.4. STW and BFW among **SSDI beneficiaries**, 2002-2014, including beneficiaries terminated for work for the full year

	Number of beneficiaries	Number with at least one month in STW	Percent with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percent with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	7,450,404	215,050	2.89	9.39	383,096	5.14	\$6,809
2003	7,849,153	222,949	2.84	9.51	402,070	5.12	\$6,888
2004	8,222,363	232,766	2.83	9.58	421,964	5.13	\$7,012
2005	8,574,752	247,465	2.89	9.54	443,134	5.17	\$7,164
2006	8,919,997	267,013	2.99	9.50	472,251	5.29	\$7,326
2007	9,281,854	289,832	3.12	9.50	509,896	5.49	\$7,448
2008	9,729,983	309,299	3.18	9.53	535,175	5.50	\$7,637
2009	10,232,406	307,848	3.01	9.68	521,700	5.10	\$7,948
2010	10,632,971	300,066	2.82	9.85	506,899	4.77	\$8,129
2011	10,996,431	300,350	2.73	9.89	504,264	4.59	\$8,245
2012	11,265,348	309,357	2.75	9.88	512,938	4.55	\$8,367
2013	11,326,148	317,843	2.81	9.93	524,170	4.63	\$8,487
2014	11,185,801	319,182	2.85	10.11	517,638	4.63	\$8,788
Using STWDI and BFWDI							
2002	7,450,404	206,856	2.78	9.85	198,711	2.67	\$11,653
2003	7,849,153	213,631	2.72	10.00	205,976	2.62	\$11,960
2004	8,222,363	224,219	2.73	10.04	217,033	2.64	\$12,130
2005	8,574,752	239,525	2.79	9.96	232,704	2.71	\$12,165
2006	8,919,997	259,013	2.90	9.92	252,562	2.83	\$12,223
2007	9,281,854	281,708	3.04	9.90	275,594	2.97	\$12,304
2008	9,729,983	299,970	3.08	9.95	294,135	3.02	\$12,446
2009	10,232,406	299,837	2.93	10.08	294,353	2.88	\$12,716
2010	10,632,971	293,011	2.76	10.23	287,939	2.71	\$12,971
2011	10,996,431	294,356	2.68	10.24	289,552	2.63	\$13,050
2012	11,265,348	304,032	2.70	10.21	299,484	2.66	\$13,059
2013	11,326,148	313,830	2.77	10.24	309,524	2.73	\$13,112
2014	11,185,801	317,280	2.84	10.38	313,207	2.80	\$13,300

Source: Authors' calculations using DAF15.

Notes: This table is analogous to Table IV.1 in the main text, except it includes beneficiaries who were terminated for work during the full year. We included in our analysis beneficiaries between the ages of 18 and FRA who have at least one month in current pay on SSDI or in STWDI during the calendar year. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table B.5. STW and BFW among **SSDI-only** beneficiaries, 2002-2014, including beneficiaries terminated for work for the full year

	Number of beneficiaries	Number with at least one month in STW	Percent with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percent with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	5,930,245	183,975	3.10	10.08	176,317	2.97	\$12,419
2003	6,178,122	190,179	3.08	10.22	183,080	2.96	\$12,732
2004	6,480,411	199,991	3.09	10.25	193,405	2.98	\$12,893
2005	6,797,117	213,185	3.14	10.17	207,051	3.05	\$12,933
2006	7,097,026	229,726	3.24	10.12	224,086	3.16	\$13,013
2007	7,409,460	248,893	3.36	10.10	243,851	3.29	\$13,104
2008	7,786,909	265,572	3.41	10.12	261,029	3.35	\$13,222
2009	8,214,117	267,809	3.26	10.22	263,809	3.21	\$13,430
2010	8,596,879	264,021	3.07	10.34	260,359	3.03	\$13,629
2011	8,951,883	266,890	2.98	10.36	263,504	2.94	\$13,681
2012	9,238,698	276,120	2.99	10.33	273,085	2.96	\$13,680
2013	9,350,835	284,868	3.05	10.35	282,136	3.02	\$13,741
2014	9,303,175	288,462	3.10	10.49	285,999	3.07	\$13,923
Using STWDI and BFWDI							
2002	5,930,245	183,981	3.10	10.08	176,323	2.97	\$12,419
2003	6,178,122	190,188	3.08	10.22	183,018	2.96	\$12,737
2004	6,480,411	199,998	3.09	10.25	193,308	2.98	\$12,900
2005	6,797,117	213,188	3.14	10.17	206,845	3.04	\$12,946
2006	7,097,026	229,735	3.24	10.12	223,780	3.15	\$13,030
2007	7,409,460	248,908	3.36	10.10	243,298	3.28	\$13,132
2008	7,786,909	265,586	3.41	10.12	260,273	3.34	\$13,258
2009	8,214,117	267,820	3.26	10.22	262,841	3.20	\$13,475
2010	8,596,879	264,038	3.07	10.34	259,439	3.02	\$13,674
2011	8,951,883	266,902	2.98	10.36	262,565	2.93	\$13,726
2012	9,238,698	276,136	2.99	10.33	272,045	2.94	\$13,727
2013	9,350,835	284,881	3.05	10.35	281,051	3.01	\$13,789
2014	9,303,175	288,473	3.10	10.49	284,851	3.06	\$13,973

Source: Authors' calculations using DAF15.

Notes: This table is analogous to Table B.4, except it excludes concurrent beneficiaries. We included in our analysis SSDI-only beneficiaries between the ages of 18 and FRA who have at least one month in current pay on SSDI or in STWDI during the calendar year. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table B.6. STW and BFW among **SSI beneficiaries**, 2002-2014, including beneficiaries terminated for work for the full year

	Number of beneficiaries	Number with at least one month in STW	Percent with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percent with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	4,704,183	136,499	2.90	6.33	490,987	10.44	\$2,214
2003	4,907,327	136,662	2.78	6.54	497,637	10.14	\$2,230
2004	5,030,923	137,279	2.73	6.65	512,546	10.19	\$2,243
2005	5,115,909	143,276	2.80	6.69	529,235	10.34	\$2,278
2006	5,213,489	152,956	2.93	6.73	558,438	10.71	\$2,340
2007	5,338,001	163,313	3.06	6.78	597,212	11.19	\$2,384
2008	5,481,369	162,970	2.97	6.90	603,775	11.02	\$2,430
2009	5,686,659	141,952	2.50	7.12	554,014	9.74	\$2,445
2010	5,814,030	133,653	2.30	7.01	528,720	9.09	\$2,420
2011	5,920,651	126,570	2.14	6.99	522,887	8.83	\$2,389
2012	5,977,540	124,210	2.08	6.95	529,707	8.86	\$2,360
2013	5,958,420	124,831	2.10	6.95	542,117	9.10	\$2,384
2014	5,850,180	125,745	2.15	6.99	536,437	9.17	\$2,447
Using STWSSI and BFWSSI							
2002	4,704,183	211,312	4.49	6.12	486,689	10.35	\$1,979
2003	4,907,327	213,409	4.35	6.24	493,143	10.05	\$1,985
2004	5,030,923	219,732	4.37	6.37	507,680	10.09	\$1,993
2005	5,115,909	229,100	4.48	6.48	524,037	10.24	\$2,011
2006	5,213,489	245,871	4.72	6.57	552,576	10.60	\$2,056
2007	5,338,001	263,470	4.94	6.64	590,763	11.07	\$2,079
2008	5,481,369	263,666	4.81	6.74	597,045	10.89	\$2,107
2009	5,686,659	229,807	4.04	6.96	547,730	9.63	\$2,107
2010	5,814,030	222,400	3.83	6.81	522,799	8.99	\$2,090
2011	5,920,651	216,380	3.65	6.87	517,198	8.74	\$2,079
2012	5,977,540	213,452	3.57	6.92	523,871	8.76	\$2,050
2013	5,958,420	217,356	3.65	6.92	536,102	9.00	\$2,069
2014	5,850,180	220,350	3.77	6.98	530,468	9.07	\$2,124

Source: Authors' calculations using DAF15.

Notes: This table is analogous to Table IV.2 in the main text, except it includes beneficiaries who were terminated for work during the full year. We included in our analysis beneficiaries between the ages of 18 and 65 who have at least one month in current pay on SSI or in STWSSI during the calendar year. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table B.7. STW and BFW among **SSI-only** beneficiaries, 2002-2014, including beneficiaries terminated for work for the full year

	Number of beneficiaries	Number with at least one month in STW	Percent with at least one month in STW	Average months in STW among those with at least one STW month	Number with at least one month with positive BFW	Percent with at least one month with positive BFW	Average annual BFW among those with positive BFW
Using STWCM and BFWCM							
2002	3,184,024	105,424	3.31	6.62	284,208	8.93	\$2,351
2003	3,236,296	103,892	3.21	6.91	278,647	8.61	\$2,410
2004	3,288,971	104,504	3.18	7.02	283,987	8.63	\$2,409
2005	3,338,274	108,996	3.27	7.02	293,152	8.78	\$2,419
2006	3,390,518	115,669	3.41	7.07	310,273	9.15	\$2,458
2007	3,465,607	122,374	3.53	7.10	331,167	9.56	\$2,480
2008	3,538,295	119,243	3.37	7.25	329,629	9.32	\$2,522
2009	3,668,370	101,913	2.78	7.54	296,123	8.07	\$2,537
2010	3,777,938	97,608	2.58	7.29	282,180	7.47	\$2,507
2011	3,876,103	93,110	2.40	7.29	282,127	7.28	\$2,469
2012	3,950,890	90,973	2.30	7.26	289,854	7.34	\$2,395
2013	3,983,107	91,856	2.31	7.19	300,083	7.53	\$2,401
2014	3,967,554	95,025	2.40	7.11	304,798	7.68	\$2,446
Using STWSSI and BFWSSI							
2002	3,184,024	105,516	3.31	6.63	284,289	8.93	\$2,353
2003	3,236,296	103,996	3.21	6.92	278,742	8.61	\$2,413
2004	3,288,971	104,543	3.18	7.04	284,020	8.64	\$2,412
2005	3,338,274	109,056	3.27	7.03	293,195	8.78	\$2,421
2006	3,390,518	115,743	3.41	7.08	310,334	9.15	\$2,460
2007	3,465,607	122,440	3.53	7.11	331,225	9.56	\$2,482
2008	3,538,295	119,301	3.37	7.25	329,674	9.32	\$2,523
2009	3,668,370	101,979	2.78	7.55	296,177	8.07	\$2,539
2010	3,777,938	97,659	2.58	7.30	282,216	7.47	\$2,509
2011	3,876,103	93,170	2.40	7.30	282,178	7.28	\$2,472
2012	3,950,890	91,033	2.30	7.27	289,899	7.34	\$2,397
2013	3,983,107	91,928	2.31	7.20	300,140	7.54	\$2,402
2014	3,967,554	95,075	2.40	7.12	304,834	7.68	\$2,447

Source: Authors' calculations using DAF15.

Notes: This table is analogous to Table B.6, except it excludes concurrent beneficiaries. We included in our analysis SSI-only beneficiaries between the ages of 18 and 65 who have at least one month in current pay on SSI or in STWSSI during the calendar year. BFW values were adjusted to 2014 dollars using SSA's Cost of Living Adjustment (COLA).

Table B.8. "Beneficiary equivalents" of years of benefits forgone for work, using STW and BFW, 2002-2014

	SSDI		SSI	
	Number of beneficiary years in STW	Number of benefit years forgone	Number of beneficiary years in STW	Number of benefit years forgone
2002	75,656	81,663	84,124	89,696
2003	70,271	75,947	82,871	88,481
2004	67,840	73,708	81,200	86,673
2005	70,477	76,122	86,349	90,316
2006	77,967	85,023	95,963	98,078
2007	88,165	97,292	105,740	106,345
2008	94,478	101,306	107,099	109,466
2009	88,293	101,040	91,499	101,726
2010	78,082	89,897	83,818	96,087
2011	71,944	80,108	80,191	94,024
2012	71,648	81,370	78,331	93,527
2013	75,000	85,344	80,037	96,659
2014	76,089	86,633	82,484	98,483

Source: Authors' calculations using DAF15.

Notes: This information is presented in Figures IV.1 and IV.2. Number of beneficiary years in STW is calculated by dividing the number of months in STW by 12. Number of benefit years forgone is calculated by dividing the total amount of BFW by the average SSDI benefit in the year for SSDI, and the sum of the average SSI benefit and average BFW (across all beneficiaries) for SSI. Average benefit amounts were pulled from SSA published statistics and updated for inflation using SSA's COLA. Excludes all people terminated for reasons due to work or other reasons in every month in which they met the selection criteria.

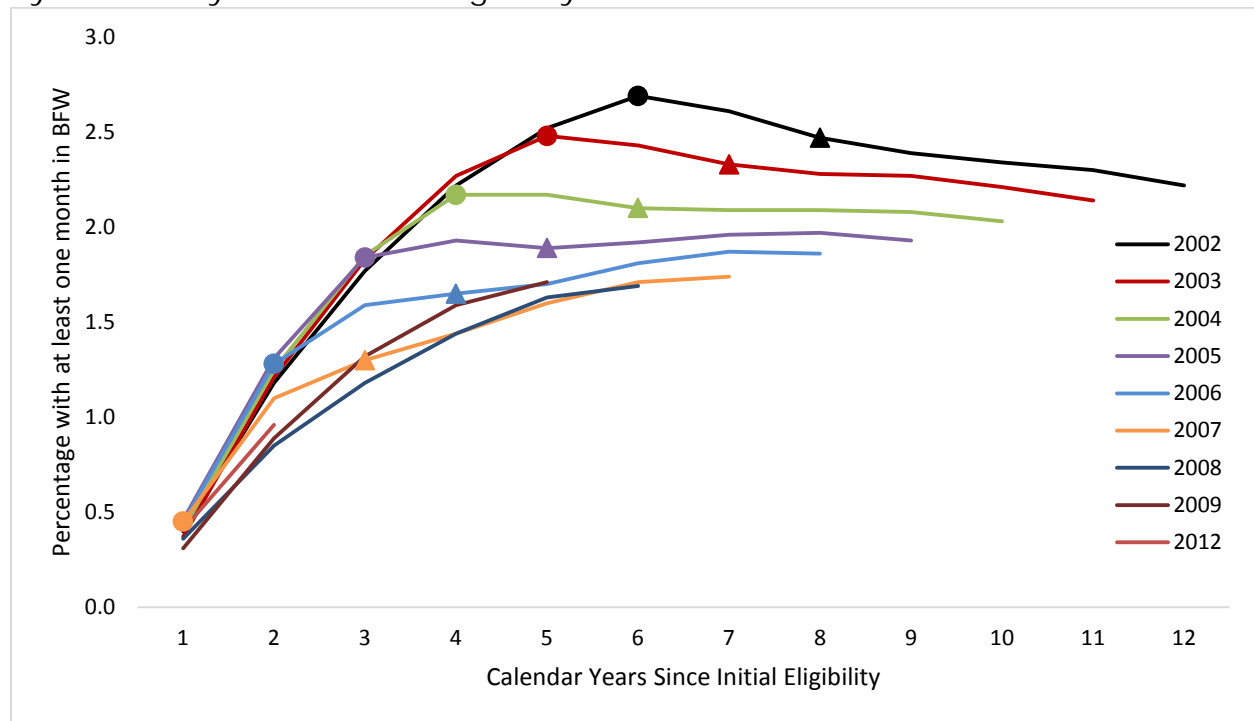
Table B.9. "Beneficiary equivalents" of years of benefits forgone for work, using STW and BFW, 2002-2014, including beneficiaries terminated for work for the full year

	SSDI		SSI	
	Number of beneficiary years in STW	Number of benefit years forgone	Number of beneficiary years in STW	Number of benefit years forgone
2002	169,847	174,763	107,846	109,183
2003	178,007	182,560	110,996	112,079
2004	187,594	191,957	116,685	116,964
2005	198,884	202,056	123,694	121,807
2006	214,041	220,060	134,574	130,003
2007	232,514	243,158	145,718	138,647
2008	248,675	253,618	148,059	142,249
2009	251,942	274,053	133,269	136,457
2010	249,736	272,565	126,253	131,721
2011	251,184	265,155	123,931	130,840
2012	258,788	279,326	123,119	131,108
2013	267,788	290,657	125,376	133,968
2014	274,566	297,874	128,184	135,729

Source: Authors' calculations using DAF15.

Notes: This is analogous to the information contained in Table B.8, but includes beneficiaries who had their benefits terminated for work in all months during the year. Number of beneficiary years in STW is calculated by dividing the number of months in STW by 12. Number of benefit years forgone is calculated by dividing the total amount of BFW by the average SSDI benefit in the year for SSDI, and the sum of the average SSI benefit and average BFW (across all beneficiaries) for SSI. Average benefit amounts were pulled from SSA published statistics and updated for inflation using SSA's COLA.

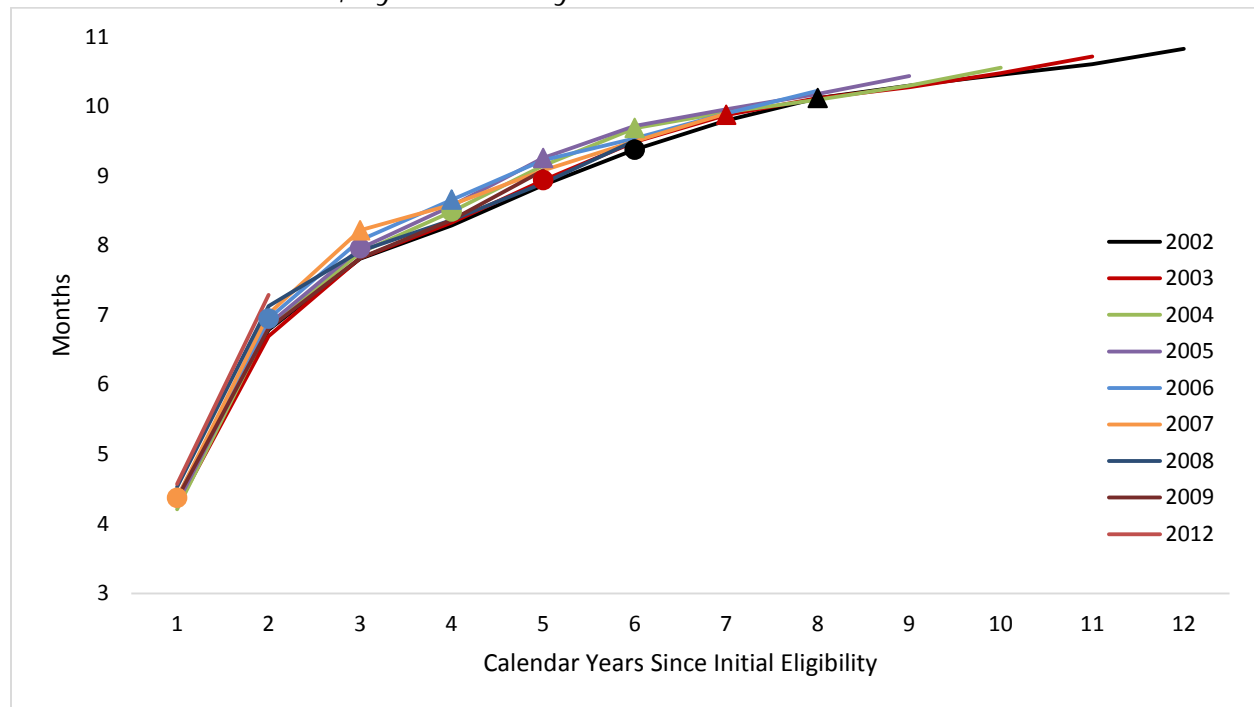
Figure B.1. Percentage of SSDI beneficiaries with positive BFWDI over time, by calendar year of initial eligibility



Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSDI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and FRA during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the share in each eligibility cohort with positive BFWDI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

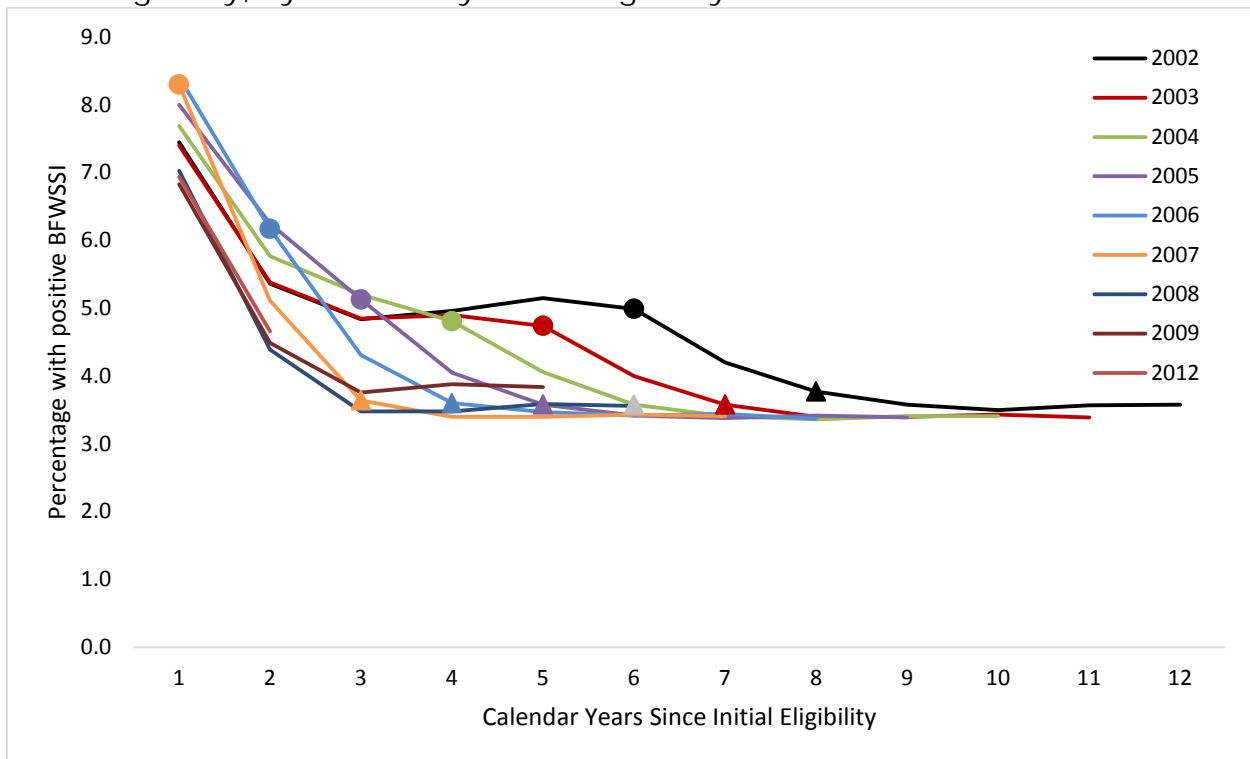
Figure B.2. Average months in STWDI among SSDI beneficiaries with at least one month of STWDI, by calendar year of award



Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSDI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and FRA during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the average number of months in STWDI among those in each eligibility cohort that had at least one month of STWDI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

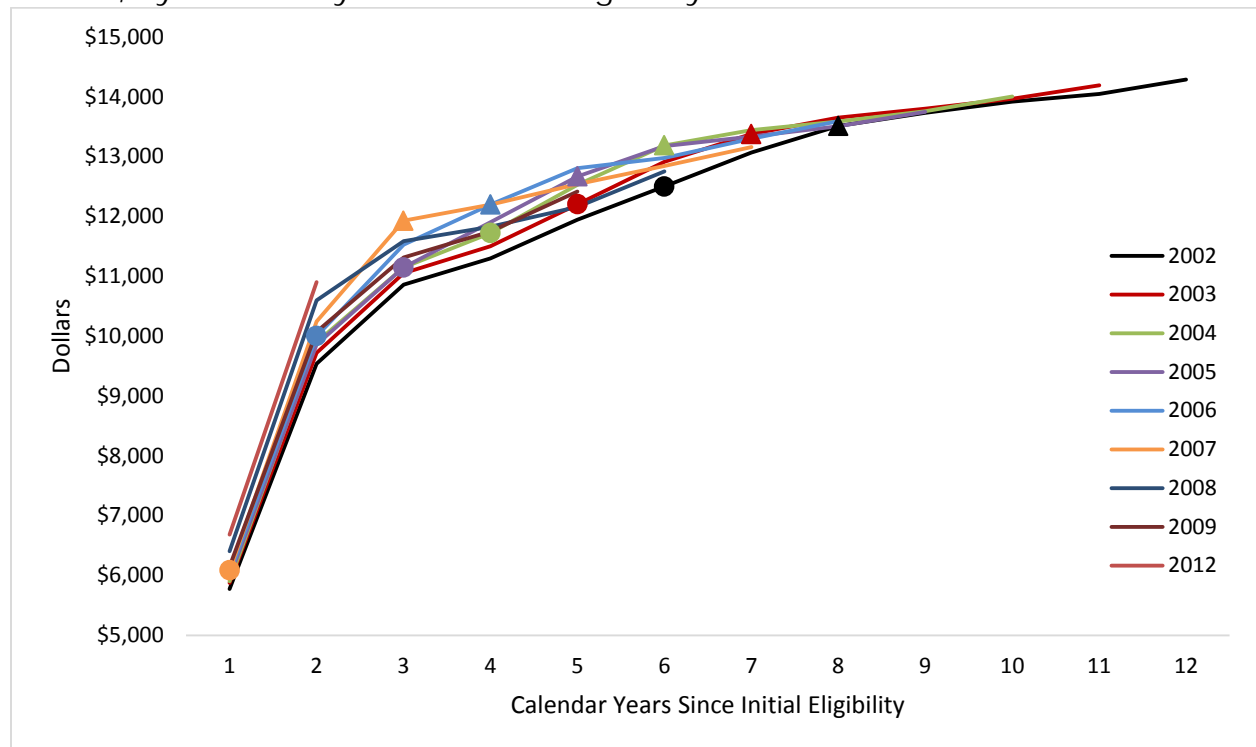
Figure B.3. The likelihood of positive BFWSSI during in each calendar year after eligibility, by calendar year of eligibility



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and 65 during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the percentage of each eligibility cohort that had positive BFWSSI each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach age 65, or are suspended or terminated for a reason that is not determined to be work.

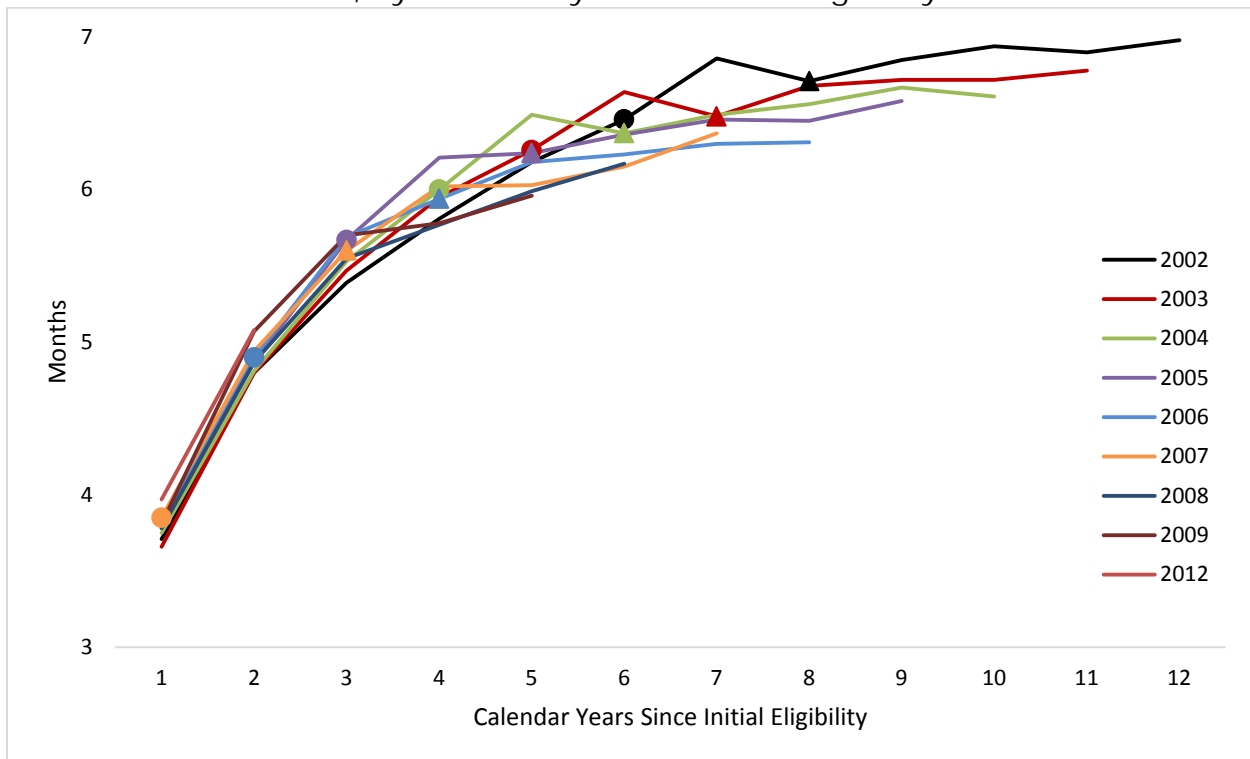
Figure B.4. Average amount of BFWDI among SSDI beneficiaries with positive BFWDI, by calendar year of initial eligibility



Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSDI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and FRA during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the average BFWDI among those in each eligibility cohort with positive BFWDI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

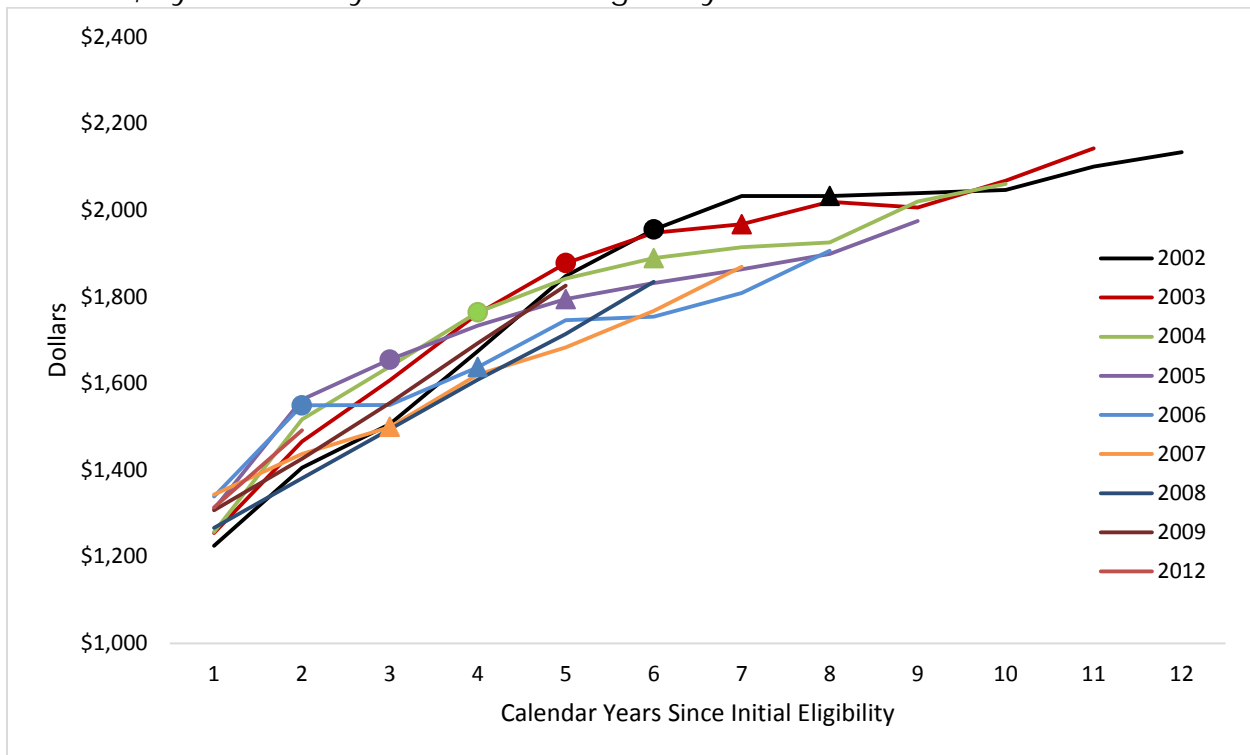
Figure B.5. Average months in STWSSI among SSI beneficiaries with at least one month of STWSSI, by calendar year of initial eligibility



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and 65 during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the average number of months in STWSSI among those in each eligibility cohort that had at least one month of STWSSI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach age 65, or are suspended or terminated for a reason that is not determined to be work.

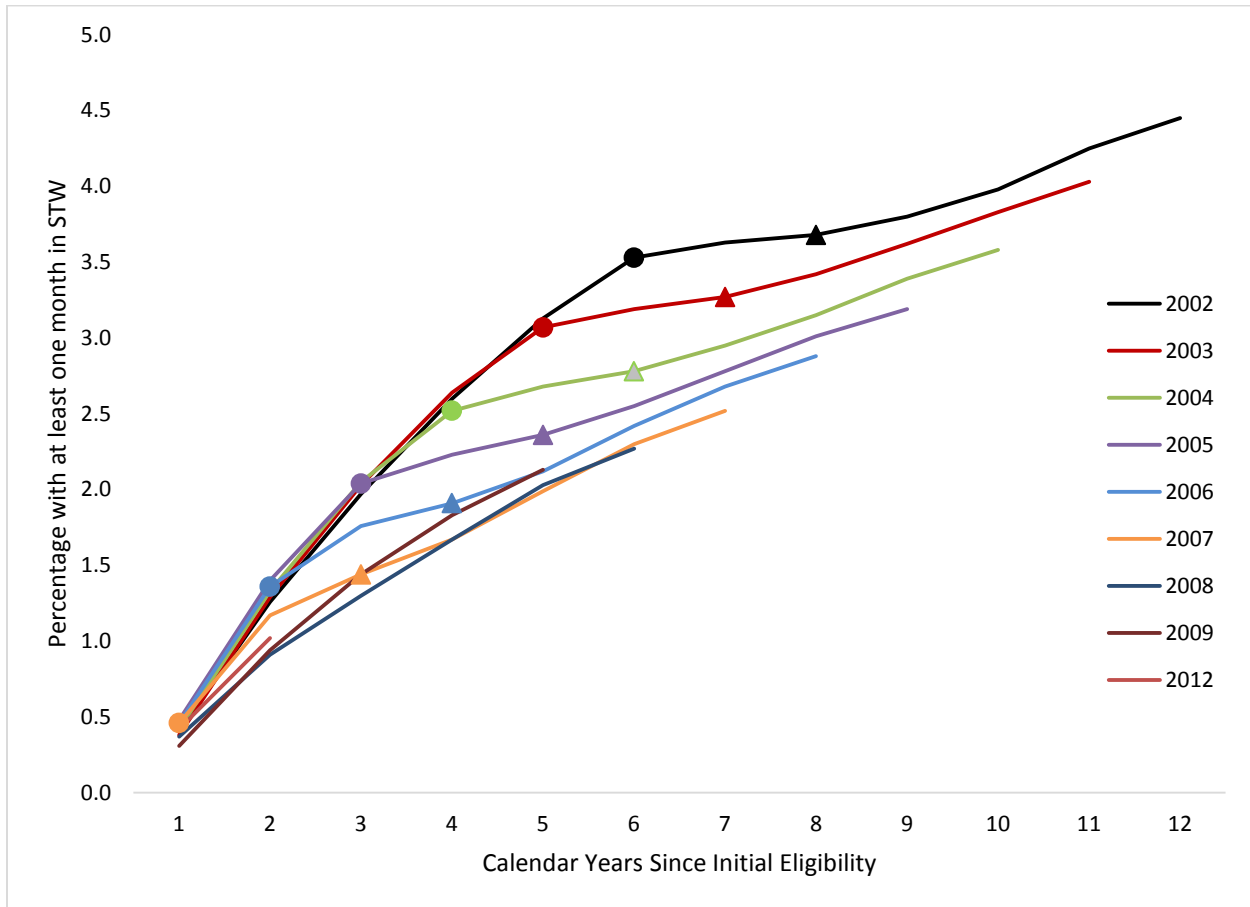
Figure B.6. Average amount of BFWSSI among SSI beneficiaries with positive BFWSSI, by calendar year of initial eligibility



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and 65 during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the average BFWSSI among those in each eligibility cohort with positive BFWSSI in each calendar year following eligibility. Beneficiaries are included in the denominator even as they die, reach age 65, or are suspended or terminated for a reason that is not determined to be work.

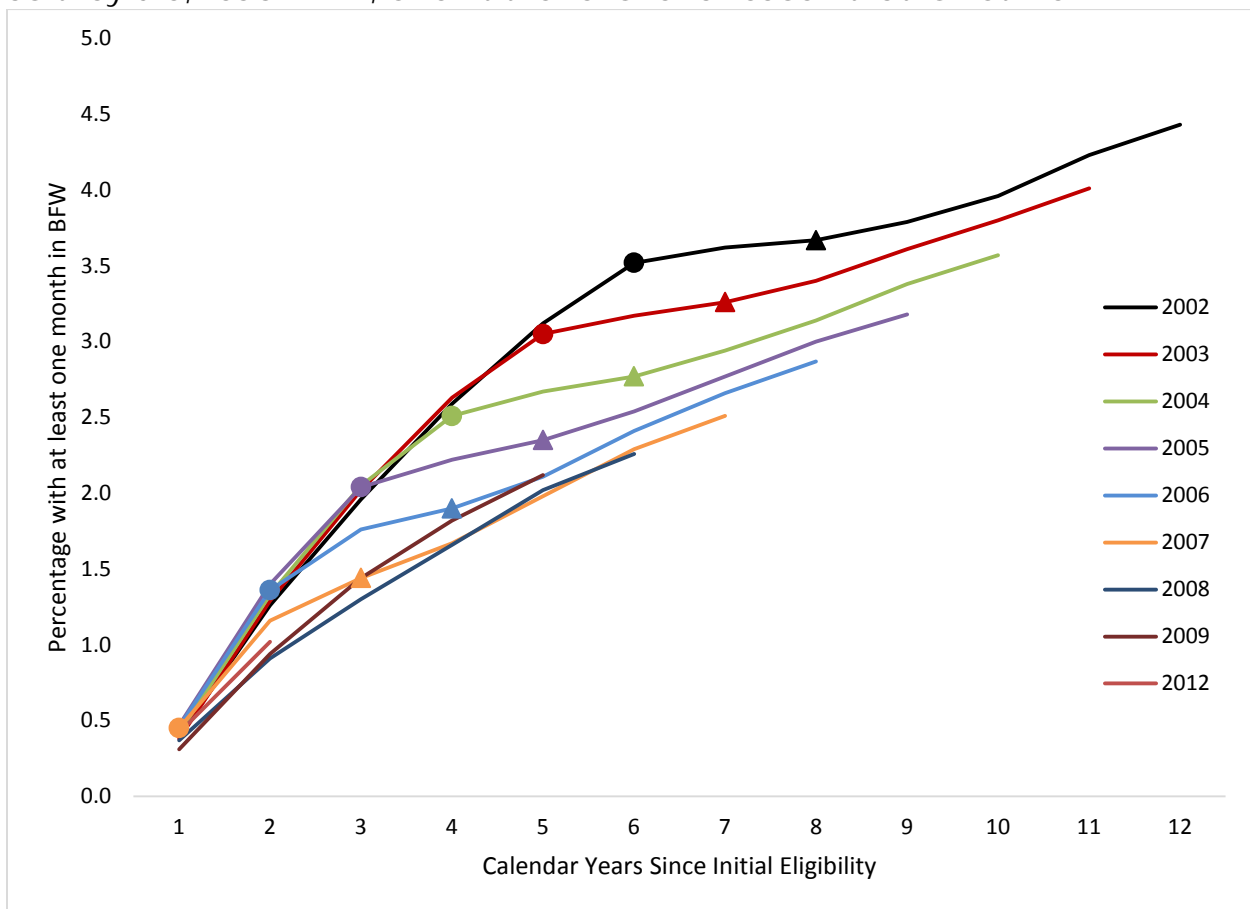
Figure B.7. Percentage of SSDI beneficiaries with at least one month in STW in each year over time, by calendar year of initial eligibility, excluding beneficiaries as they die, reach FRA, or exit the rolls for a reason that is not work



Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSDI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and FRA during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the percentage of each eligibility cohort that had at least one month of STW in each calendar year following eligibility. Figure is analogous to Figure V.1, except that beneficiaries are excluded from the denominator when they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

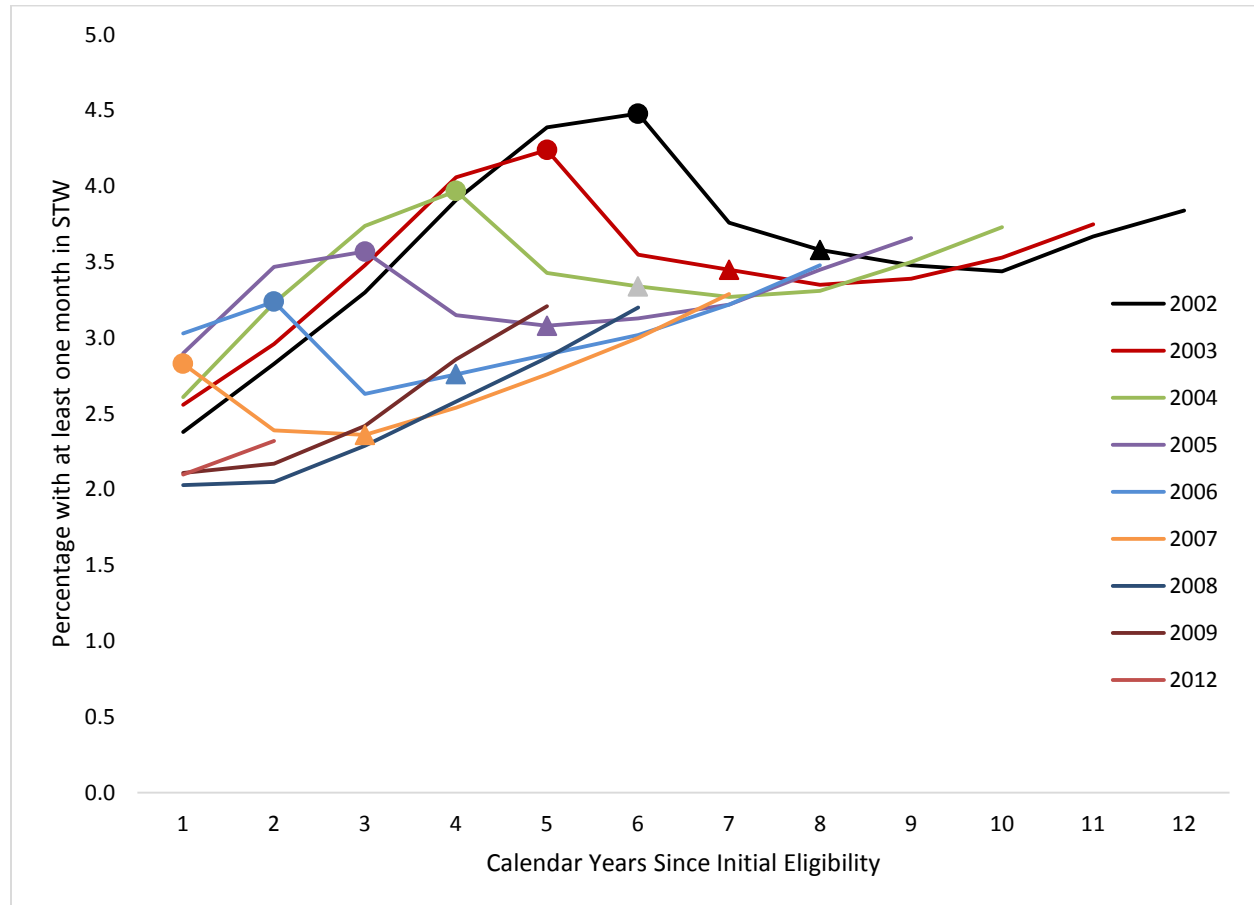
Figure B.8. Percentage of SSDI beneficiaries with positive BFWDI in each year over time, by calendar year of initial eligibility, excluding beneficiaries as they die, reach FRA, or exit the rolls for a reason that is not work



Source: Authors' calculations using DAF15.

Notes: SSDI beneficiaries include those receiving only SSDI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSDI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and FRA during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the share in each eligibility cohort with positive BFWDI in each calendar year following eligibility. Figure is analogous to Figure B1, except that beneficiaries are excluded from the denominator when they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

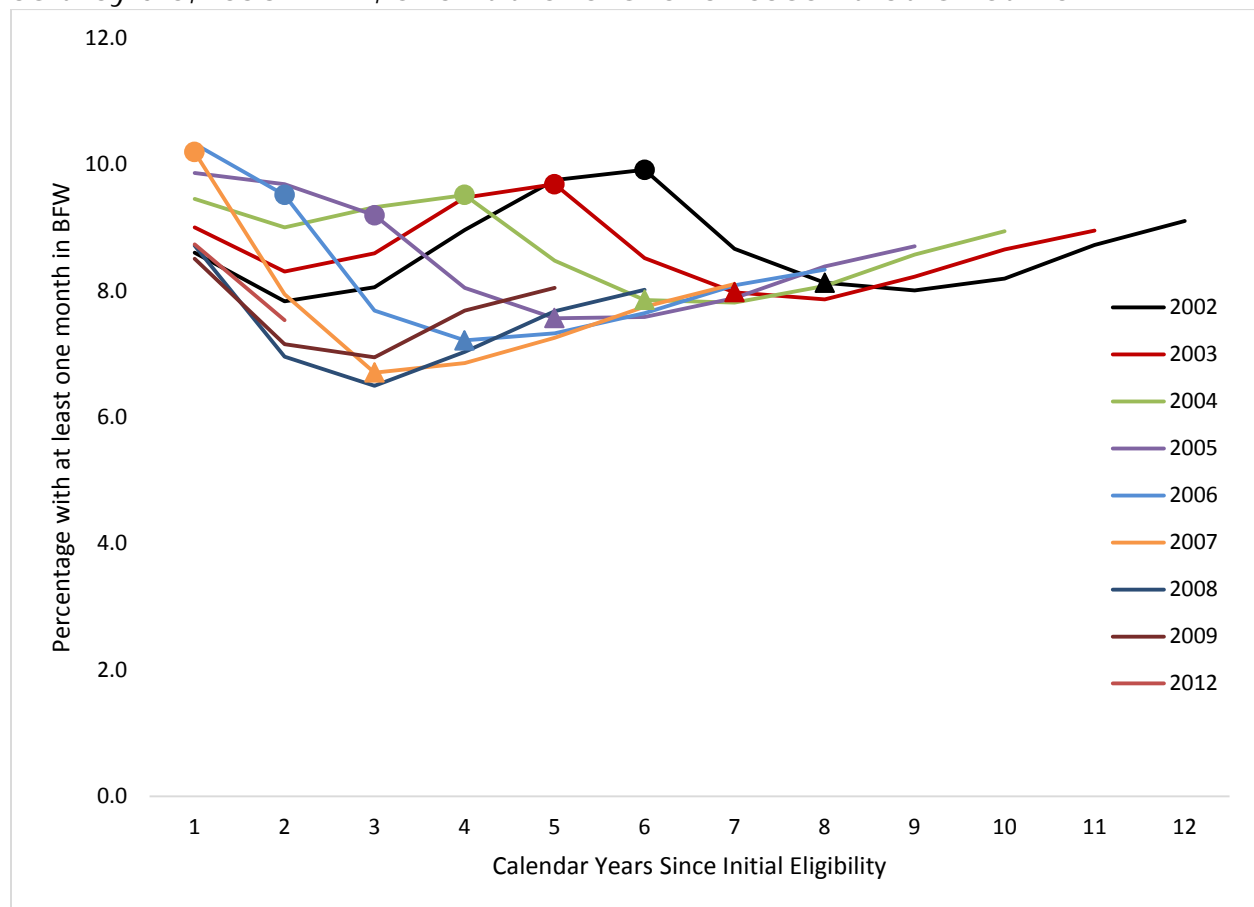
Figure B.9. Percentage of SSI beneficiaries with at least one month in STWSSI in each year over time, by calendar year of initial eligibility, excluding beneficiaries as they die, reach FRA, or exit the rolls for a reason that is not work



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and 65 during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the percentage of each eligibility cohort that had at least one month of STWSSI in each calendar year following eligibility. Figure is analogous to Figure V.2, except that beneficiaries are excluded from the denominator when they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

Figure B.10. Percentage of SSI beneficiaries with positive BFWSSI in each year over time, by calendar year of initial eligibility, excluding beneficiaries as they die, reach FRA, or exit the rolls for a reason that is not work



Source: Authors' calculations using DAF15.

Notes: SSI beneficiaries include those receiving only SSI as well as those concurrently receiving SSDI and SSI. We selected beneficiaries in each year who had at least one month with SSI benefits in current pay status or suspended or terminated for work, who were between the ages of 18 and 65 during that month. We stratified beneficiaries in each year based on the number of calendar years since their initial eligibility for benefits, then plotted the experience of the same group over time. The figure plots the percentage of each eligibility cohort that had positive BFWSSI each calendar year following eligibility. Figure is analogous to Figure B3, except that beneficiaries are excluded from the denominator when they die, reach FRA, or are suspended or terminated for a reason that is not determined to be work.

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