

LONGITUDINAL STATISTICS ON WORK ACTIVITY AND USE OF EMPLOYMENT SUPPORTS FOR NEW SOCIAL SECURITY DISABILITY INSURANCE BENEFICIARIES

by Su Liu and David C. Stapleton*

We present longitudinal employment and work-incentive statistics for individuals who began receiving Social Security Disability Insurance (DI) benefits from 1996 through 2006. For the longest-observed cohort, 28 percent returned to work, 6.5 percent had their benefits suspended for work in at least 1 month, and 3.7 percent had their benefits terminated for work. The corresponding percentages are much higher for those who were younger than age 40 when they entered the DI program. Most first suspensions occurred within 5 years after entry. Cross-state variation in outcomes is high, and, to the extent observed, statistics for more recent cohorts are lower.

Introduction

Knowing how many Social Security Disability Insurance (DI) beneficiaries return to work and eventually have their benefits suspended and then eventually terminated for work is critical to monitoring program performance and informing policy change.¹ The 1999 Ticket Act includes a well-known statistic on exits for work:

Despite such historic opportunities and the desire of millions of disability recipients to work and support themselves, less than one-half of one percent of Social Security Disability Insurance and Supplemental Security Income beneficiaries leave the disability rolls and return to work.— *Public Law 106-170, Section 2(a)(8).*

This statistic, which is published by the Social Security Administration (SSA) each year, is the percentage of DI beneficiaries whose benefits were terminated in the current year because they were working (SSA 2009). Like most such statistics, it is based on the behavior of existing beneficiaries over a short

period—a month or year. Statisticians call this type of statistic “cross-sectional.”

However, there is another important way to measure the number of beneficiaries who leave the rolls for work: by counting them *from the time they first receive their DI award* over a period that is much longer than a year. This kind of statistic, known as “longitudinal,” paints a somewhat different picture of the behavior of DI beneficiaries; in fact, it addresses a fundamentally different question than does the cross-sectional statistic. The longitudinal statistic shows how many DI entrants eventually work enough to leave the program from the time they enter, while the cross-sectional

Selected Abbreviations

AWI	average wage index
BOND	Benefit Offset National Demonstration
DI	Disability Insurance
EPE	extended period of eligibility
FRA	full retirement age

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This article is based on a report prepared for the Social Security Administration as part of the evaluation of the Ticket to Work program, under contract no. 0600-03-60130.

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Selected Abbreviations—Continued

NSTW	nonpayment status following suspension or termination for work
RSA	Rehabilitation Services Administration
SGA	substantial gainful employment
SSA	Social Security Administration
SSI	Supplemental Security Income
TRF	Ticket Research File
TTW	Ticket to Work
TWP	trial work period
VR	vocational rehabilitation

statistic shows how many current beneficiaries leave the rolls for work in a given year. The values of these statistics are different for two important reasons. One is obvious: The longitudinal statistic covers a much longer period. The second is less obvious: The cross-sectional statistic gives disproportionately greater weight to those who stay on the rolls for many years and, by definition, have low exit rates. Those who enter the rolls and leave after finding work are only counted in the denominator of the statistic in the years before they leave. In contrast, the longitudinal statistic gives equal weight to all beneficiaries entering at the same time, regardless of how long they stay on the rolls.

Both cross-sectional and longitudinal statistics have value. There is considerable potential for confusion between the two, however. Further, because cross-sectional statistics are readily available, it might well be that they are interpreted as longitudinal statistics; for example, some might believe that only 0.5 percent of DI entrants eventually will have their benefits terminated for work, but previous work has shown that the actual percentage is likely several times higher (discussed later). This article updates the earlier findings, expands on them in several ways, and considers the implications of the longitudinal statistics for efforts to both increase the employment and earnings of DI beneficiaries and reduce their reliance on the program.

Previous Longitudinal Studies

Despite their great value, longitudinal statistics are rare, perhaps because they are difficult to produce. The first work-related longitudinal statistics for DI beneficiaries we find are produced from SSA's New Beneficiary Survey and New Beneficiary Follow-up.

Both samples were drawn from all Social Security beneficiaries (including those claiming benefits on the basis of age or survivorship) who were initially entitled to benefits from July 1980 through June 1981.

Muller (1992) produced statistics on completion of the trial work period (TWP)—a DI work incentive described in the next section—and employment for the New Beneficiary Survey cohort over a shorter period (the length is unclear), excluding data from the supplementary sample available in the New Beneficiary Follow-up. He found that 10.2 percent of DI beneficiaries had worked after entitlement, 6.1 percent had already completed a TWP, and 2.8 percent had their benefits terminated for work. The last statistic confirms that leaving the rolls after finding work is a relatively rare phenomenon, but it is not nearly as rare as what the cross-sectional statistic quoted in the introduction suggests (less than 0.5 percent). Among other things, Muller also found a very strong negative relationship between age and employment outcomes, a finding we confirm in this study.

Hennessey and Muller (1994) examined the use of vocational rehabilitation (VR) services by New Beneficiary Survey/New Beneficiary Follow-up respondents. The authors estimated that 27 percent received at least one VR service over approximately 10 years. Schechter (1997) estimated that 22 percent of this cohort was employed in the 10 years following entitlement.

Numerous methodological differences between the earlier studies and the analyses we present here make it difficult to directly compare the findings. The New Beneficiary Survey/New Beneficiary Follow-up followed samples from a cohort of *disabled-worker* beneficiaries who were first *entitled* to benefits in a 1-year period; using administrative data alone, we follow 100 percent of all disabled beneficiaries, including the small share who were disabled adult children or disabled widow(er)s, in cohorts that received their awards in each of several calendar years. Two specific differences in the measurement of outcomes are worth noting. Although the earlier studies used a combination of information from administrative records, folder reviews, and survey responses to determine employment, we rely solely on administrative records. The earlier studies also relied on survey responses to determine use of employment services (including those not potentially eligible for SSA financing), whereas our analysis uses administrative records of enrollment for services that were potentially eligible for SSA financing. As described later, there is also one notable programmatic difference that applied to the

1980–1981 cohort until approximately 8 years after its entry into DI; this difference pertains to the period after TWP completion, called the extended period of eligibility (EPE).

There is also significant literature on employment rates for allowed and denied DI applicants, in which applicants are followed for many years after filing for benefits (Bound 1989; Chen and van der Klaauw 2008; French and Song 2009; Maestas, Mullen, and Strand 2011; von Wachter, Song, and Manchester, forthcoming). This literature does not examine use of DI work incentives or suspensions and terminations for work.

Data Sources and Methods

The production of the longitudinal statistics we report here was made possible by using a set of analytic administrative data files constructed for the Ticket to Work (TTW) evaluation. These files, collectively called the Ticket Research File (TRF), contain extensive information on the more than 20 million DI or Supplemental Security Income (SSI) beneficiaries who received a benefit in at least 1 month from January 1996 through December 2007 (Page and others 2009).² For the purpose of this study, annual cohort files are constructed for each cohort from 1996 through 2005. Cohort assignment is based on the month of a beneficiary's DI award—defined as the month in which SSA first sent a payment to the beneficiary. Each cohort is followed from its first year through 2006. Although it is possible for an individual to have multiple entitlements, he or she is assigned to just one cohort based on the year that corresponds to the individual's *first* payment.³

Reporting of earnings data requires access to SSA's Master Earnings File, which includes annual earnings data derived from tax reports under rules established by the Internal Revenue Service. SSA maintains an extract of DI and SSI beneficiaries' earnings records represented in the TRF. To comply with security requirements for the earnings data, SSA staff produced the statistics that are based on those records and verified that the results do not disclose personal information.

To obtain data on enrollment for VR services, we also merge matched records on state VR closures obtained from the Rehabilitation Services Administration (RSA) for fiscal years (FY) 1998–2007, under an interagency agreement between SSA and RSA's parent agency, the Department of Education. These data, known as the RSA-911 records, contain information

on closed VR cases only, as the state agencies only report information on individual cases when the cases are closed. The date of eligibility determination is used to establish the year of service entry.

Although data are available through 2007, we end the analysis in 2006. Many of the 2007 values for SSA variables will be revised at a later date because of delays in reporting of earnings, as well as the processing time required for determining work incentive status. In addition, although we report 2006 VR service enrollment statistics, these data are subject to substantial revisions because of the nature of the RSA-911 data: Enrollment for a case is not captured in the file until the case is closed. Enrollment by a DI beneficiary in 2006 will only be recognized if the beneficiary's VR case closed before September 2007 or the beneficiary assigned his or her ticket to the state agency. Hence, we consider the enrollment estimates for 2006 to be preliminary.⁴

Study Population

All of the statistics presented are based on 100 percent of the relevant DI population, including people receiving concurrent SSI benefits; that is, the data represent population statistics, rather than estimates. Because we are mostly interested in return-to-work issues among working-age beneficiaries, we exclude beneficiaries who died before January 1, 1996; were younger than age 18 as of December 31, 2005; or were above the full retirement age (FRA) as of the month of initial entitlement or January 1, 1996. Disabled widow(er)s and disabled adult children who otherwise met the above criteria are included along with disabled workers in each cohort. All individuals are followed through 2006, or up to benefit termination because of death, FRA attainment, or medical recovery. The size and age/sex composition of each cohort we include in this analysis is provided in the Appendix table.

Changes in cohort age/sex composition over our study period suggest that even if return-to-work behavior does not change across cohorts, employment outcomes are likely to change simply because age and sex composition changes. Hence, for the cross-cohort comparisons, the national statistics are adjusted to the age/sex composition of the 2001 award cohort—the middle cohort of those examined and the last cohort prior to the TTW rollout.⁵ The percentages of the 2001 cohort in each age/sex category are used as weights to produce the age/sex-adjusted national totals and means. Similarly, all state series are adjusted to the national age/sex composition in 2001 so that

cross-state differences for the 1996 cohort do not reflect cross-state variation in cohort age/sex composition. Note that the initial national statistics for the 1996 cohort are not age/sex adjusted.

Program Work Incentives

The most important of the DI work incentives we examine in this study are the TWP, the EPE, and the TTW program.⁶ The TWP consists of 9 months during which beneficiaries are permitted to work and earn at any level without loss of benefits, provided that they continue to meet medical eligibility requirements. The 9 months need not be consecutive—any 9 months in a 60-month rolling window are counted. In 2008, a beneficiary was considered to be in a TWP month if he or she had monthly earnings of at least \$670 (TWP income) or was working at least 80 self-employed hours. The TWP income limit increased from \$200 in 2000 to \$530 in 2001 and was indexed to SSA's average wage index (AWI) thereafter.

The month after the last TWP month is automatically the first month of the beneficiary's EPE. During the next 36 months, benefits are suspended if the beneficiary engages in substantial gainful activity (SGA), that is, no benefits will be paid, except that each beneficiary has 3 grace-period months during which benefits are paid even if the beneficiary is engaged in SGA. The beneficiary is entitled to full benefits during any month of this period when he or she is not engaged in SGA, provided that benefits have not been terminated for medical recovery or some other reason. After the first 36 months of the EPE and use of any remaining grace-period months, benefits are terminated if the beneficiary engages in SGA; the now former beneficiary must reapply to obtain benefits again.⁷ DI beneficiaries may continue to have earnings and remain on the rolls until termination for some other reason if their work does not constitute SGA. The nonblind SGA amount was \$500 from the beginning of the sample period through June 1999, after which it was increased to \$700 and, starting in 2001, indexed to the AWI.⁸ Prior to 1988, and before the sample period, the EPE during which benefits were suspended because of SGA lasted only 15 months.

DI beneficiaries are also eligible to enroll for employment services that SSA will pay for, provided that the beneficiary achieves sufficient earnings over a specified period. TTW, which was implemented over 3 years starting in 2002, is the current version of this work-incentive program. At award, the beneficiary

receives a "ticket" that he or she may present to any employment network to obtain services. Employment networks include all state VR agencies and other private and public entities that meet criteria set by SSA and that have agreed to accept tickets. Because RSA-911 data before FY 1998 have not been matched to the TRF, the service enrollment statistics we present are for the 1998 and later cohorts only.⁹

In general, the path from entitlement month to the termination for work month must pass the following markers in this order: award month, TWP completion month, and first suspension month.¹⁰ Termination for work can occur after the EPE, even if there is no suspension during the EPE. Beneficiaries need not enroll for employment services along the way to termination for work; if that marker is passed, it may be passed at any month during the process. Benefits might be terminated for other reasons at any point along the way—most commonly because of mortality or attainment of the FRA (when retirement benefits replace DI benefits), and less commonly because of medical recovery and other miscellaneous reasons.

For each cohort, we develop a series of annual outcome measures, based on the return-to-work progress markers discussed earlier:

- TWP completion.
- Benefit suspension for work, during the first 36 months of the EPE.
- Benefit termination for work after the 36th month of the EPE. If benefits were terminated for work, the beneficiary remains in "terminated for work" status in our analysis unless he or she dies, attains the FRA, or returns to the rolls, in which case the beneficiary's status is changed as appropriate. This does not necessarily mean that the beneficiary is continuing to engage in SGA.
- Number of years in nonpayment status following suspension or termination for work (NSTW) is a composite measure of the extent to which beneficiaries are not receiving benefits because they are working.¹¹ It is defined as the total number of months with no payments following suspension or termination for work, divided by 12. After the month of suspension or termination for work, every additional month during the analysis period is counted until the month of death, FRA attainment, or return to the rolls. This cumulative measure reflects the longitudinal nature of the analysis and has implications for total program savings over a longer period.

- First-time service enrollment is identified when beneficiaries assign their tickets to a provider (according to the TRF) or are determined eligible for rehabilitation services (according to RSA-911 files), whichever occurs earlier.¹² This variable only captures enrollment for services that will potentially be paid for by SSA.
- Employment is defined as having annual earnings of at least \$1,000 in 2007 dollars, based on data from the Master Earnings File (inflation adjusted using the AWI). For each cohort, we present employment statistics starting with the second full calendar year after the award year, so that those with carried-over earnings from preaward jobs, but no subsequent earnings, are not included in the statistics.¹³ Average earnings are calculated for all beneficiaries, including those with zero earnings. If earnings were not reported to the IRS, they are not reflected in the statistics.¹⁴

Many statistics we report are cumulative statistics for the above measures from award year through the year indicated (for example, percentage of beneficiaries in the 1996 award cohort having completed the TWP *by the end* of 2006; that is, the unduplicated count of individuals who completed a TWP during the 10-year period, expressed as a percentage of the number in the cohort). One cumulative statistic is an exception: The cumulative employment rate covers the period from the second year after award through the year indicated.

We also report mean annual earnings, adjusted to 2007 earnings levels using the AWI. For comparison purposes, in 2007 the nonblind SGA amount was \$900 monthly and \$10,800 annually. The blind SGA amount was \$1,500 monthly and \$18,000 annually.

Factors Affecting Employment and Work-Incentive Statistics over the Study Period

We have previously described the following three programmatic changes, each of which might have influenced the patterns observed in the statistics presented later: (1) the 1999 SGA increase and subsequent indexing to the AWI, (2) the 2001 increase in the TWP income amount, and (3) the 2002 introduction of TTW. The 1999 SGA increase seems very likely to have reduced NSTW months because some months that would have counted as SGA under the earlier SGA amount would not be counted as SGA under the higher SGA amount. In a similar fashion, the increase in the TWP income amount seems very likely to have

reduced, or at least delayed, TWP completion; consequently, this might have reduced or delayed first suspension for work and termination for work. TTW was designed to increase beneficiary access to employment services and, as a result, increase or hasten employment, earnings, TWP completion, and NSTW months.

Several additional programmatic changes during the sample period might have influenced the statistics. The first is the processing of continuing disability reviews (CDRs). SSA conducts periodic medical CDRs for beneficiaries deemed to have a chance of medical recovery; the agency also conducts work CDRs for those who might have completed the TWP or been engaged in SGA after the TWP. The backlog of CDRs was very high in the mid-1990s because SSA had diverted its limited administrative resources to the processing of a high volume of applications. Congress authorized additional resources to clear the backlog, resulting in a near quadrupling of CDRs from 1999 through 2002 relative to 1996 levels, after which CDRs fell to approximately the same level as in 1996 (Social Security Advisory Board 2006; SSA 2010). The effect on work-incentive statistics might be mixed because increased terminations for medical recovery are quite likely to reduce TWP completions and suspensions or terminations for work, but increased work CDRs are quite likely to have the opposite effect.

The 1999 Ticket Act resulted in the following changes besides the introduction of TTW, all designed to encourage beneficiary work activity and reduce reliance on benefits: substantial grant programs to fund counselors and advocates for working beneficiaries, SSA system upgrades to speed up the processing of earnings information and work CDRs, restrictions on the use of work activity to trigger medical CDRs, and an expedited reinstatement process for those whose benefits are terminated for work (Stapleton and others 2008). The Ticket Act also provided Medicaid Infrastructure Grants in support of state efforts to provide public health insurance for workers with disabilities under Medicaid Buy-In programs, including DI beneficiaries.

The business cycle also quite likely affected the patterns observed for some statistics.¹⁵ Economic growth was very strong from before 1996 through the middle of 2000. Growth slowed down in the second half of 2000 and the first quarter of 2001, and the economy declined from April 2001 through November 2001. The recovery started in 2002, but unemployment remained high through 2003.

Data Limitations

The administrative data used for this analysis have limitations, like most data of its kind, stemming from the fact that it is collected for administrative, rather than research, purposes. The statistics we report all have an important administrative purpose and are generally reliable, but are also subject to errors that reflect the processing of postentitlement work (that is, determining TWP months and SGA and effectuating suspensions and terminations for work). If such errors occurred consistently over time, they would not affect trends in statistics across award cohorts. However, the postentitlement work backlog, and SSA's effort to address this, varied over this period, which might have contributed to possible reduction of such errors during our study period. Hence, it is possible that some trends observed reflect changes in the processing of postentitlement work rather than changes in policy or the economic environment.

Our employment and earnings data are based on posted earnings in the Master Earnings File, which could include items such as sick pay, vacation pay, and commissions from prior work; hence, positive earnings do not necessarily represent current employment. This is why we choose to present employment statistics starting with the second full calendar year after the award year. Still, it is possible that some individuals not actively working may be counted as "employed" in the analysis. At the same time, because we only count someone as employed if they have annual earnings of at least \$1,000, some who are actually working but earning below \$1,000 are not counted as employed.

The measurement of NSTW months is particularly challenging. We used a new indicator of NSTW months developed to support the TTW evaluation. NSTW is not 100 percent accurate, but has held up well to a careful review of sample cases (Schimmel and Stapleton 2011).

One aspect of the TRF's construction, coupled with the sometimes lengthy period between entitlement month and award month, made it difficult to definitively identify the first award year for a small share of beneficiaries. Although the TRF covers beneficiaries in 1996 and later, its benefit data date back to January 1994. For those individuals whose initial entitlement month was prior to that, we cannot be certain that the first month with a payment appearing in the TRF is the first award month. We developed a rule to address this issue, which is necessarily imperfect.

No doubt we excluded some beneficiaries in each award cohort that should have been included and vice versa. Such errors are very small as a percentage of all beneficiaries in each award cohort, and there is no reason to think those errors have a material impact on the statistics. We were particularly concerned about impacts for the earliest cohorts, which have the largest percentage of ambiguous cases because of the nature of the ambiguity, but discovered that our major findings changed very little when we omitted all of the ambiguous cases.¹⁶

Major Findings

We summarize findings from the 1996 award cohort first by documenting the different pathways that led beneficiaries to benefit termination. We then present a series of longitudinal statistics on employment, earnings, and use of work incentives for the entire cohort and by age groups. Key statistics are then compared across states with statistics from more recent award cohorts. We then compare selected statistics for later cohorts with those for the 1996 cohort.

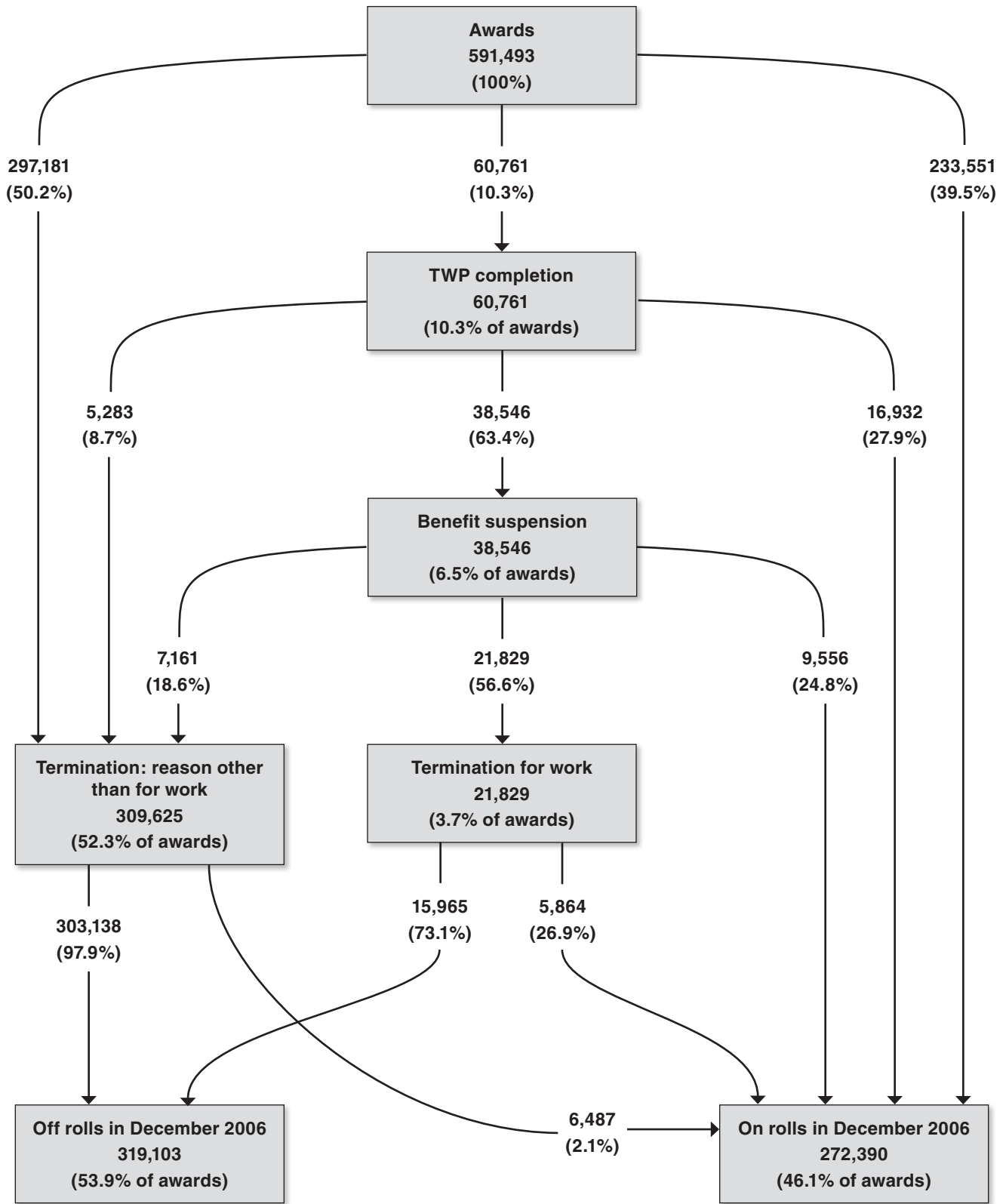
1996 DI Award Cohort

Chart 1 shows the progression toward termination for work for the entire 1996 award cohort.¹⁷ The number of beneficiaries reaching the return-to-work markers and the percentage of the total cohort those figures represent are shown in the boxes. The routes through which beneficiaries reach each marker and how many beneficiaries follow the specific route from the previous marker are presented outside of the boxes. The bottom boxes show the status of beneficiaries in December 2006, the end of our study period.

We find that 46 percent of the 1996 awardees were on the rolls in December 2006, including 40 percent who did not use any DI work incentives. Of the 54 percent who were no longer on the rolls, most (50 percent of the cohort) had exited for reasons other than work—attainment of the FRA, death, or medical recovery. Over 10 percent made some progress toward termination for work by completing the TWP. A substantial majority of those (63 percent, or 6.5 percent of the cohort) went on to have their benefits suspended for work in at least 1 month, and more than half of those eventually had their benefits terminated for work—3.7 percent of the cohort.

Nearly 27 percent of the 1996 awardees whose benefits were terminated for work in their first 10 years on the rolls had their benefits reinstated by December 2006. This highlights the importance of another

Chart 1.
Paths toward benefit termination for work for the 1996 award cohort, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

NOTE: One return-to-work marker not captured here is service enrollment.

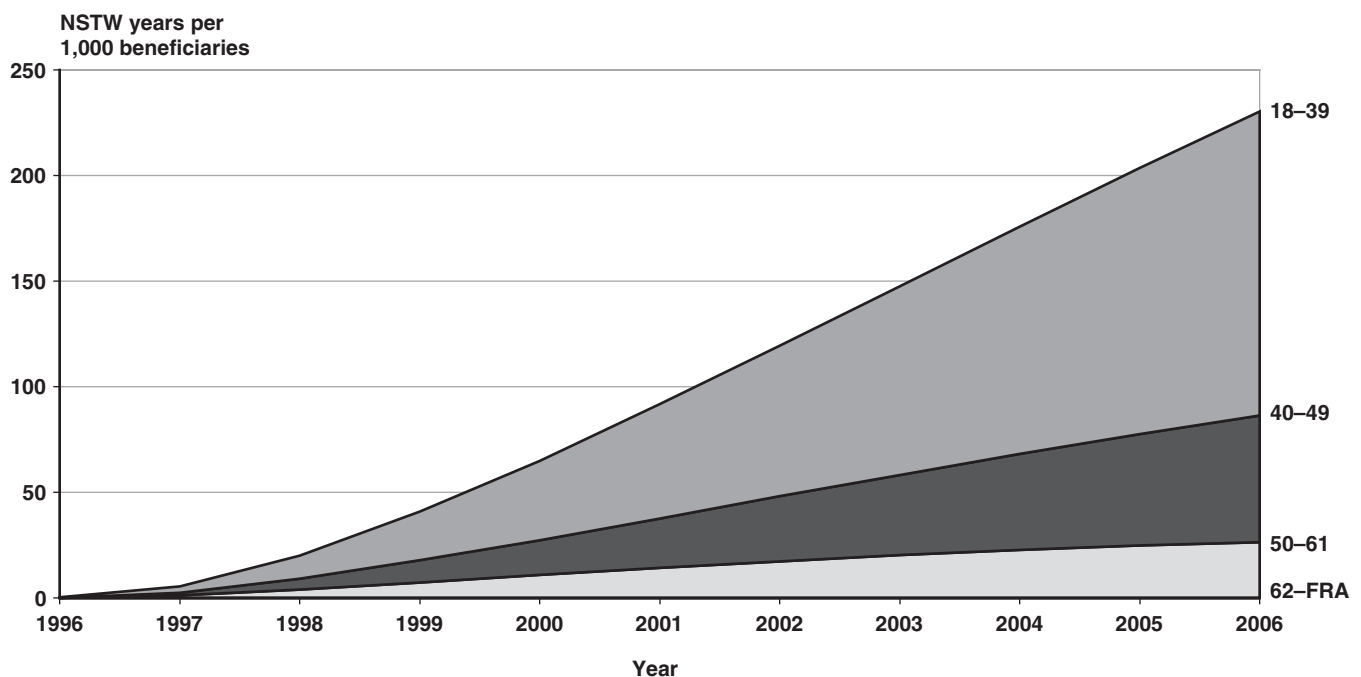
dimension of measuring beneficiary work activity and the extent to which beneficiaries actually forego benefit payments for work: the duration of time off the rolls for work. Chart 2 shows the number of NSTW years per thousand awardees. As of December 2006, the cohort had accumulated 230 NSTW years per thousand beneficiaries—less than 3 months per beneficiary over 10 plus years. This is equivalent to 2.3 percent of all possible months, or 3.4 percent of those months in which their benefits were not terminated for some other reasons. Although small in percentage terms, the total amount of benefits these months represent is substantial. The magnitude of benefits in 2008 dollars can be assessed by assuming that the mean benefit foregone was equal to the average amount (\$1,063) for all DI beneficiaries in December 2008. That assumption yields an estimate of \$2.9 million per thousand beneficiaries or \$1.7 billion for the entire 1996 cohort.¹⁸

Because of differences in the characteristics of younger and older beneficiaries—such as impairments, benefit amounts, assets, and motivation—we conduct most of our analyses by age groups (18–39, 40–49, 50–61, and 62–FRA). Chart 2 shows that a large majority of cumulative years of benefit suspension or termination for work (62 percent as of 2006)

is attributable to the youngest age group, even though this group accounts for less than 25 percent of the cohort. Those in the 40–49 age group are close in number to the youngest group (24 percent of the cohort), but account for a much smaller share of years off the rolls for work (26 percent). Only a small minority (11 percent) is accounted for by those aged 50–61 at the time of award, even though that age group is by far the largest of the four groups (almost 45 percent of all beneficiaries in the cohort). The contribution of the oldest age group is so small that it is not clearly visible in the chart. The age-group pattern reflects higher levels of employment and lower mortality among younger beneficiaries, along with the fact that most surviving beneficiaries in the two oldest cohorts attained the FRA during the 10-year study period.

Statistics on the extent to which beneficiaries return to work and make progress toward termination for work are also of significant interest to policymakers and others. As with exit statistics, the statistics most often cited are cross-sectional in nature. For instance, Livermore, Stapleton, and Roche (2009) found that less than 13 percent of DI-only beneficiaries and 15 percent of DI beneficiaries concurrently receiving SSI benefits reported having worked

Chart 2.
Cumulative years with benefits suspended or terminated for work (per 1,000 beneficiaries) for the 1996 award cohort, by age group at award, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

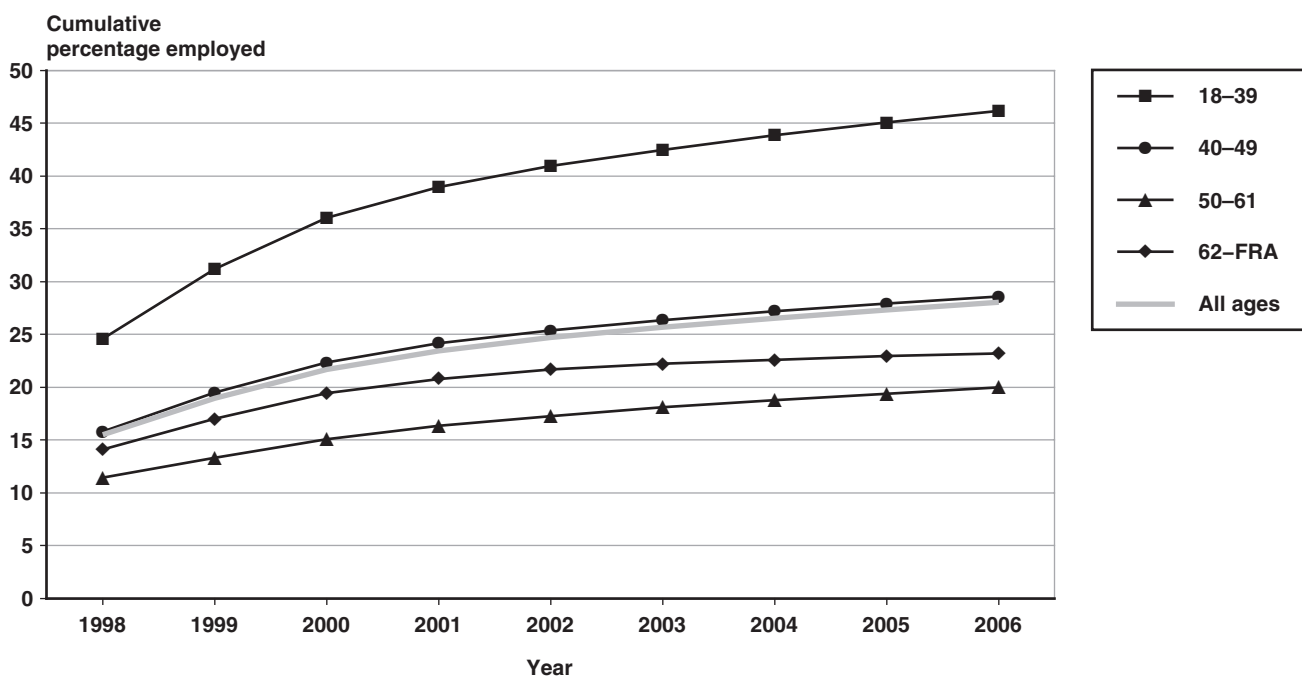
NOTE: The contribution of the oldest age group is so small that it is not clearly visible on the chart.

during the previous year, based on the 2006 National Beneficiary Survey.

Longitudinal statistics show that a much larger percentage of beneficiaries eventually return to work (Chart 3). By 2006, 28 percent of the beneficiaries in the 1996 award cohort had worked (earning more than \$1,000) in at least 1 year since the second postaward year. Cumulative employment rates increase each year, indicating that beneficiaries not employed previously are becoming employed for the first time, but the rate of increase steadily diminishes. By the fifth year after award (2001), the weighted cumulative rate is 23.5 percent, and this rate only increases by 4.5 percentage points through the 10th year (2006). Not surprisingly, cumulative employment rates for the youngest group are much higher than for all older groups: 46 percent of the youngest group had worked in at least 1 year by 2006, compared with 29 percent, 20 percent, and 23 percent for those aged 40–49, 50–61, and 62–FRA at award, respectively. The fact that the cumulative rate is higher for the oldest age group than for the next oldest age group might reflect the attainment of the FRA for some members of the oldest group by the end of the third year after award. Once that age is attained, beneficiaries can earn above the SGA amount without risk of benefit loss.

The cumulative percentage of employed beneficiaries we report is the percentage of the 1996 cohort that worked *in at least 1 year* from 1998 through the year indicated on the horizontal axis. The percentage employed *in each year* (Chart 4) is smaller, as some who return to work do not continue to work in every subsequent year. The annual percentage of working beneficiaries peaks in 2000, 5 years after the award and at the beginning of the recession. This pattern is consistent across age groups with the notable exception of the oldest age group, for which employment monotonically declines. For the youngest age group (18–39), the annual percentage employed peaks at nearly 28 percent in 2000 and then declines gradually to just over 24 percent by 2006. Of the 46 percent of the youngest age group that worked in at least 1 year, more than half worked in the 10th year after award. For the other age groups, fewer than half of those who worked in at least 1 year were working in the 10th year after the award.¹⁹ The oldest age group (62–FRA) has a higher employment rate than the second oldest age group (50–61) in the second and third year after award; the two rates are essentially the same in the fourth year, and thereafter the rate for the oldest group is lower. This might reflect the difference in timing of FRA attainment for the two groups, as well

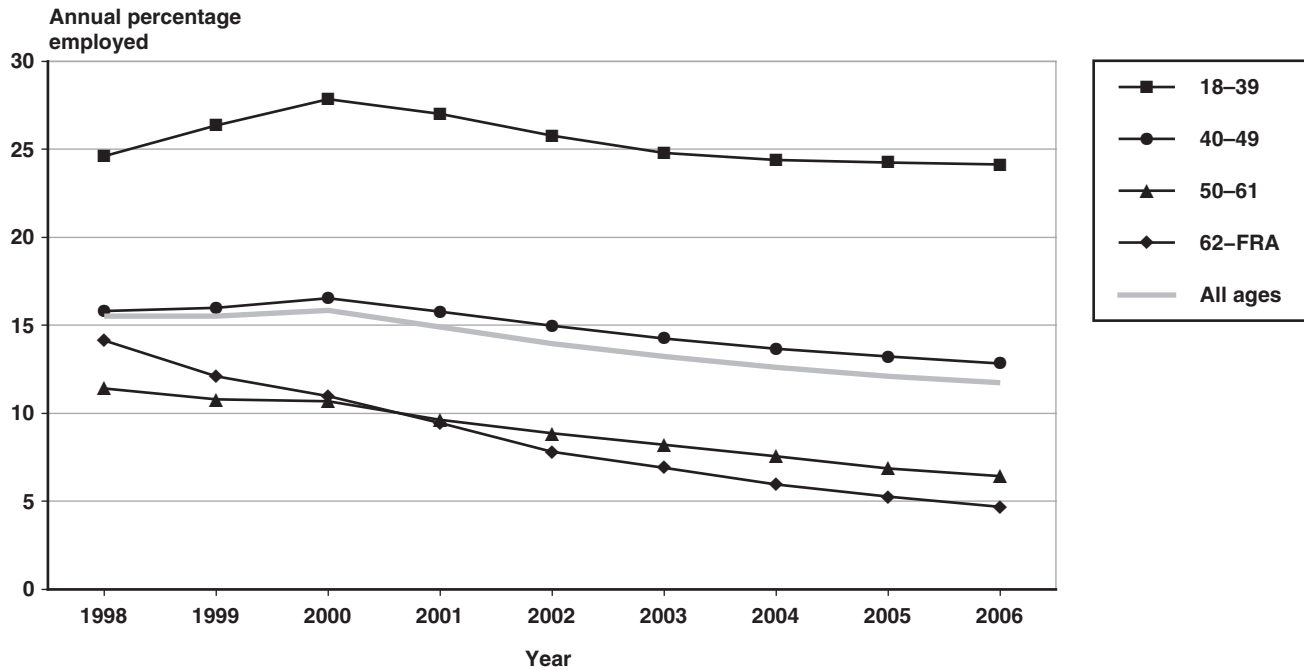
Chart 3.
Cumulative percentage employed for the 1996 award cohort, by age group at award, 1998–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

Chart 4.

Annual percentage employed for the 1996 award cohort, by age group at award, 1998–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

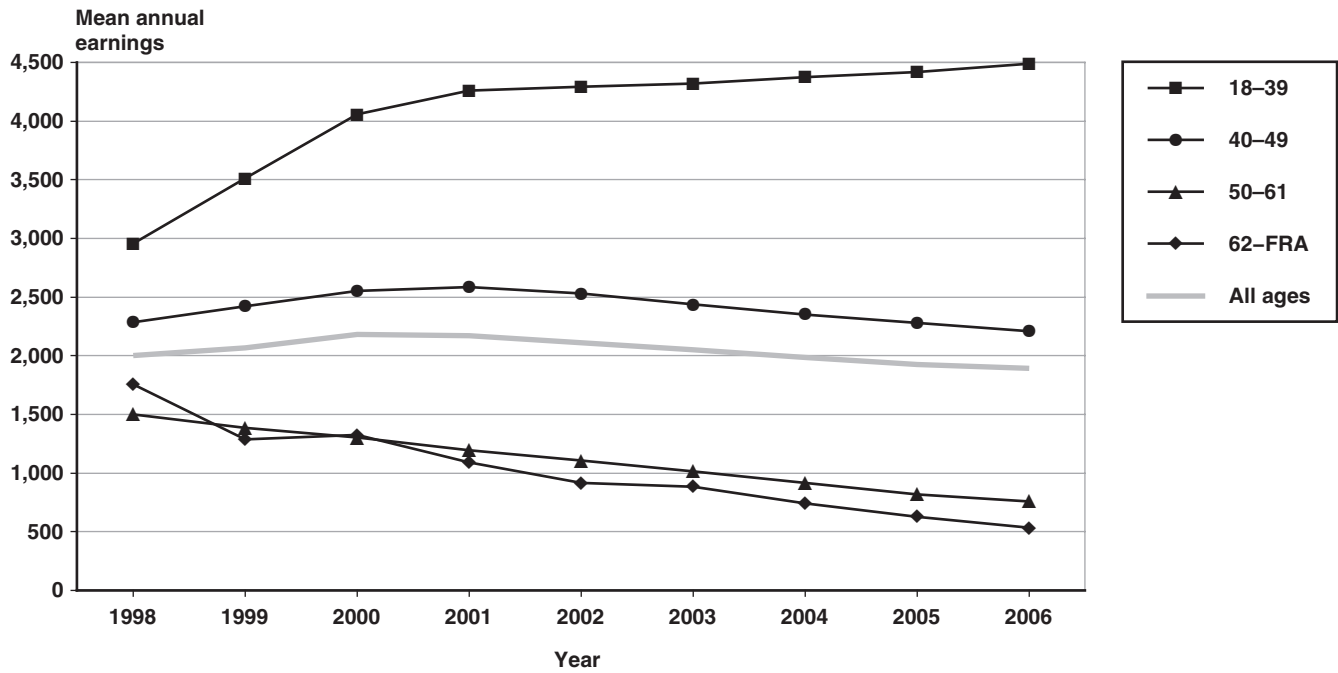
as differences in other characteristics at the time of award and any direct effect of age on earnings.

Mean annual earnings (including those with zero earnings) for the entire cohort do not exhibit a strong pattern over the 10-year period, but the cohort means disguise differences across the age groups (Chart 5). The youngest age group (18–39) experiences a substantial increase throughout the period, especially from 1998 through 2000, and the increase continues after their employment rate starts to drop in 2001. With one exception, the means for those who are employed in the youngest two age groups are above the annual nonblind SGA amount (\$10,800) in every year (Chart 6). The exception is for the youngest age group in 1998 (\$8,108). Remarkably, mean earnings for the youngest age group rise faster than for the next youngest age group (40–49), surpassing the latter in 2003 and reaching \$15,790 in 2007. Note also that growth continued through the 2001 recession. One possible explanation for this growth is that the shrinking number of employed beneficiaries (or former beneficiaries) in the youngest group represents those able to achieve the highest earnings. Presumably the same phenomenon would apply to the other groups, but perhaps to a lesser degree. Another possible explanation

for the relative high growth of earnings for the youngest group is that, on average, they initially invest more heavily in training or education, which pays off later in terms of higher earnings.²⁰ The relative means for the oldest and next oldest age groups reflect the same pattern as their relative employment rates, shown in Chart 4, and quite likely reflect the timing of FRA attainment.

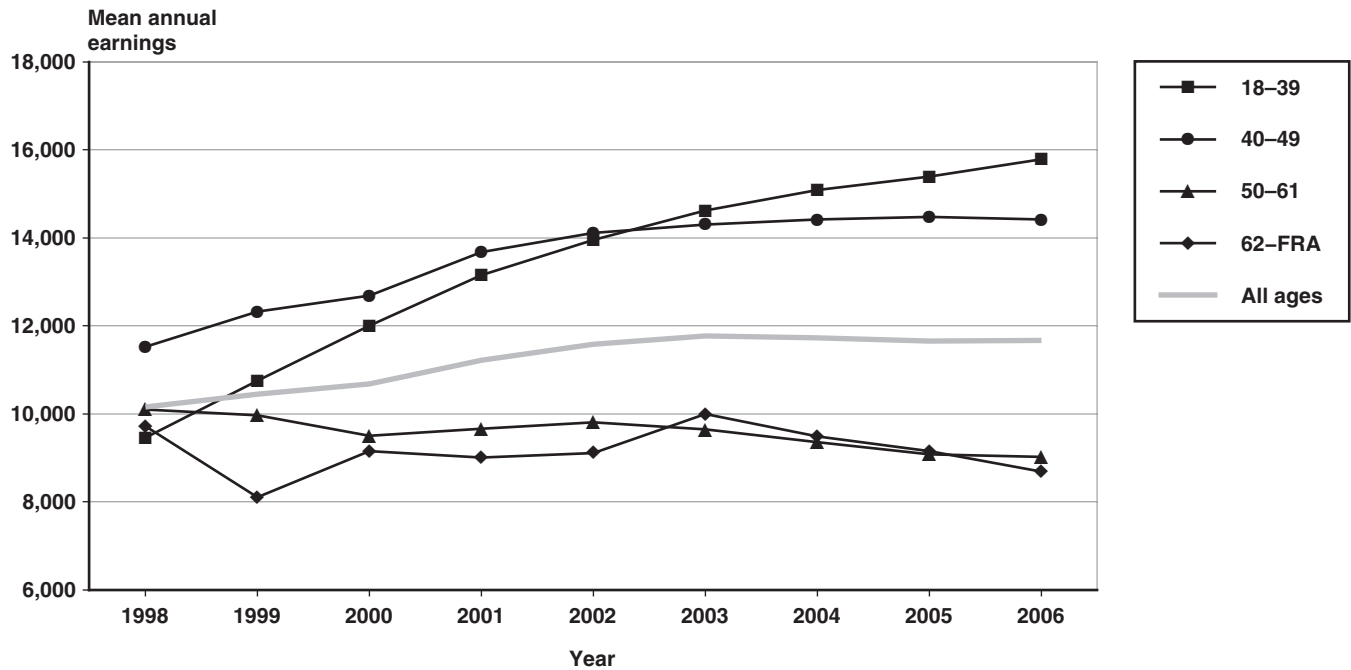
The two patterns that dominate the cumulative employment statistics—rapidly diminishing growth after 5 years on the rolls and much higher rates for the youngest cohort—are repeated in the statistics for other markers. Chart 7 presents cumulative statistics for the percentages of the 1996 award cohort that complete the TWP, have their benefits suspended for work, and have their benefits terminated for work. The first two of those return-to-work markers all increase rapidly during the first 5 years on the rolls, with the rate of increase diminishing rapidly thereafter. The cumulative percentage terminated for work mirrors the same pattern, but with a delay of 3 to 4 years, reflecting the fact that benefits cannot be terminated for work until the 9-month TWP and the first 36 months of the EPE have been completed. Age differences are displayed in Chart 8.

Chart 5.
Mean annual earnings, by age group, 1998–2006 (in 2007 dollars)



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

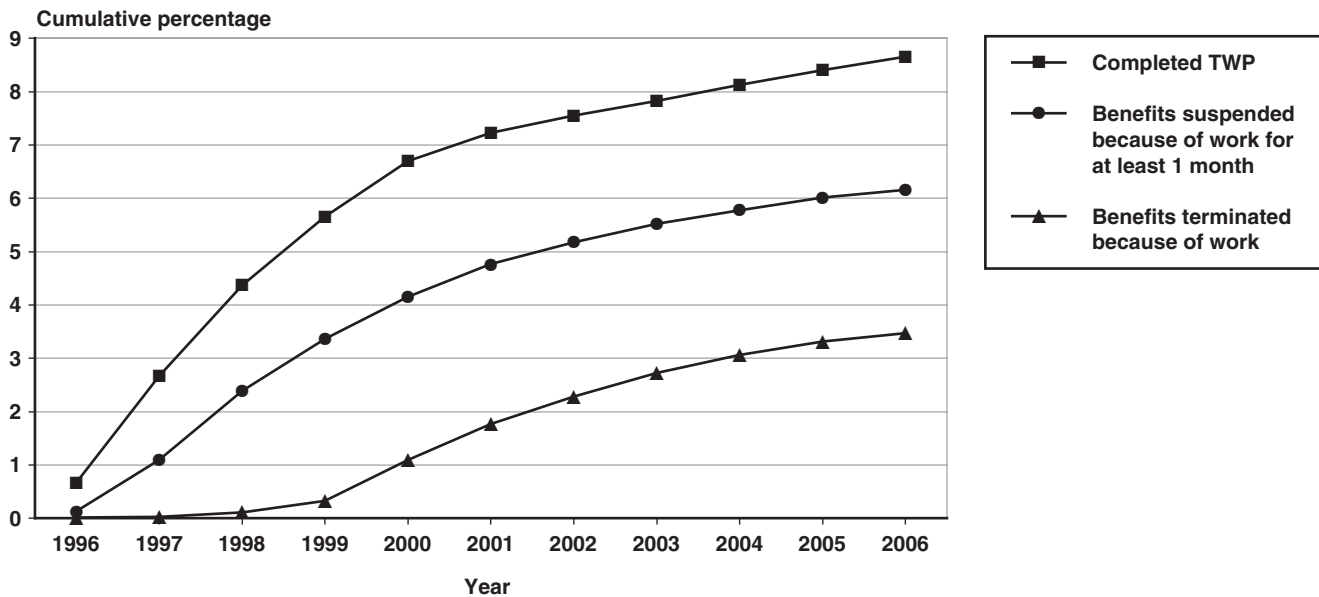
Chart 6.
Mean annual earnings for those with positive earnings among the 1996 award cohort, by age group, 1998–2006 (in 2007 dollars)



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

Chart 7.

Age/sex-adjusted cumulative longitudinal work-incentive statistics for the 1996 award cohort, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

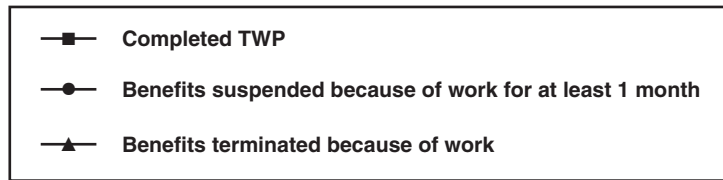
NOTE: Weights were used to adjust the series to reflect the age/sex composition of the 2001 award cohort. See the text for details.

The previous figures do not show one important return-to-work marker because of incomplete data for the 1996 cohort: service enrollment. A separate analysis (data not shown) for the 1998 cohort—the first cohort with complete data—finds that a large majority of those whose benefits were suspended or terminated for work by 2006 (79 percent) had not enrolled for employment services, or at least had not done so with providers that would be eligible for payment from SSA. However, service receipt could have made critical contributions to suspensions and terminations for work among those who did enroll. We find that 38,327 beneficiaries (6.6 percent of the 1998 cohort) had enrolled for services by 2006. One-third of those had also completed the TWP (33.5 percent), 17.7 percent had their benefits suspended for work in at least 1 month, and 8.4 percent had their benefits terminated for work. Thus, only a minority of service users achieves each of these markers. Nevertheless, the rates at which they achieve these markers are well above the corresponding rates for the entire 1998 award cohort, which are very similar to those for the 1996 cohort.²¹ It could be that services received were instrumental to the outcomes for those whose benefits were suspended or terminated for work.

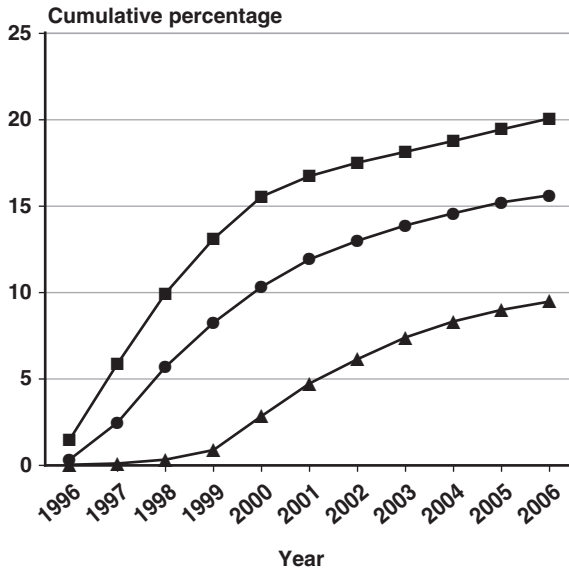
State Variation

Chart 9 illustrates cross-state variation in employment and work-incentive statistics for the 1996 award cohort as of 2006, the 10th full year after award, adjusted to the national age/sex distribution for the 2001 award cohort. The full length of each bar (that is, the length of all four components combined) is the cumulative percentage employed for the corresponding geographic area (individual state, Puerto Rico, the District of Columbia, or the entire United States), and the areas have been ordered from lowest to highest by this measure. Moving from left to right, the first component of each bar represents the percentage with benefits ever terminated for work; the combined first and second components represent the percentage with benefits ever suspended for work; and the combined first, second, and third components represent the percentage having completed the TWP.²² Taking South Dakota, the state with the highest percentage employed, as an example, we find that 5.7 percent of its weighted 1996 award cohort had benefits terminated for work, 9 percent had benefits suspended for work, 16.6 percent completed the TWP, and 41.5 percent were employed at some point during our study period (1996–2006).

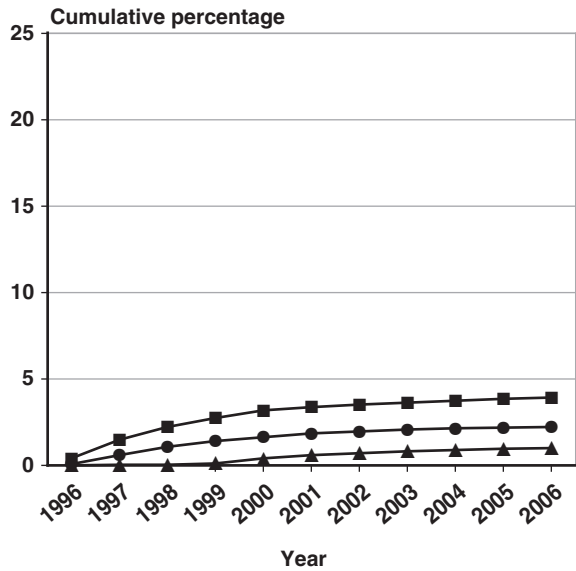
Chart 8.
Cumulative longitudinal work-incentive statistics for the 1996 awardee cohort, by age group, 1996–2006



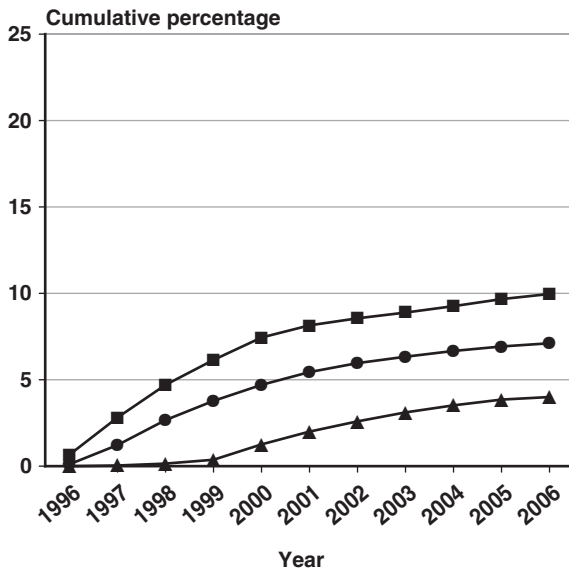
Aged 18–39



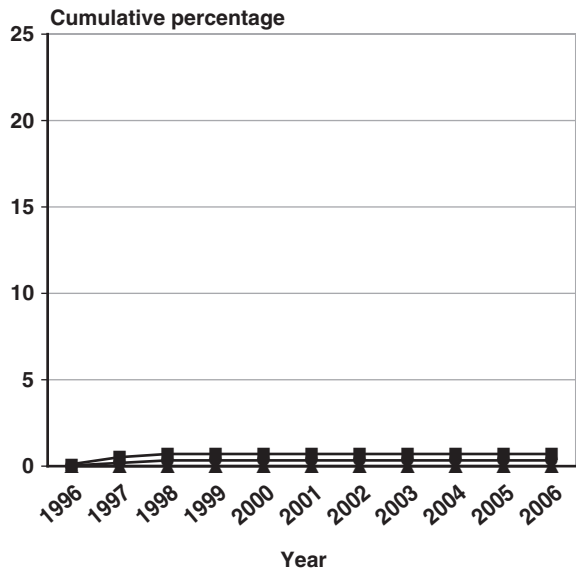
Aged 50–61



Aged 40–49

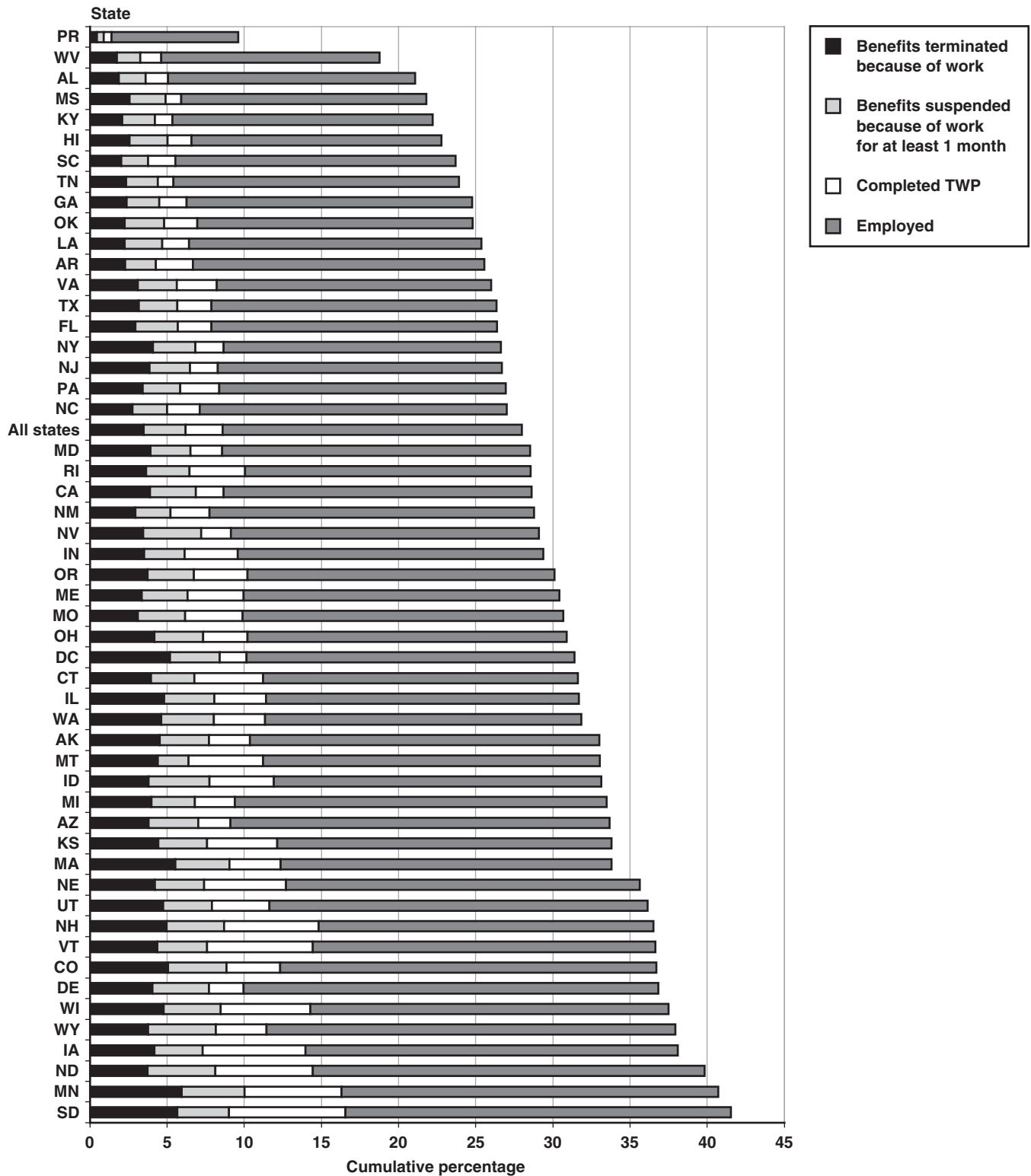


Aged 62–FRA



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

Chart 9.
Age/sex-adjusted cumulative work-incentive statistics for the 1996 award cohort, by state, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

NOTE: Weights were used to adjust each state's values to the age/sex composition of the national 2001 award cohort. See the text for details.

Variation in the cumulative percentage of employed beneficiaries is high, ranging from 9.6 percent in Puerto Rico and 18.7 percent in West Virginia to 41.5 percent in South Dakota. The median cumulative percentage employed was 30.0 percent in Oregon. Reflecting the fact that the four most populous states have cumulative employment rates below the median, the national mean is lower than the state median: 28.9 percent. In all states, a large majority of those who were employed had not completed the TWP and had never had their benefits suspended or terminated for work. The percentage completing the TWP ranges from 1.4 in Puerto Rico and 4.6 in West Virginia to 16.6 in South Dakota; the percentage with benefit suspension for work ranges from 0.9 in Puerto Rico and 3.2 in West Virginia to 10.0 in Minnesota; the percentage with benefits terminated for work ranges from 0.5 in Puerto Rico and 1.7 in West Virginia to 5.9 in Minnesota. Variation across states in all work-incentive statistics follows the pattern seen in the cumulative percentage employed, although inexactly.

We also find large cross-state variation in the cumulative percentage enrolled for services and cumulative years spent off the rolls for work (not shown). Intriguingly, there is a strong positive relationship between those two measures across states; the simple correlation coefficient is 0.64. The cause of this relationship is unclear. High service enrollment might contribute to high employment, but it seems likely that this is only part of the explanation, at best, because we know from national statistics that cumulative service enrollment is much lower than cumulative employment. The alternative, and perhaps more plausible, hypothesis is that beneficiaries in some states are more likely to work and leave the rolls than beneficiaries in other states because of differences in the distributions of personal characteristics (for example, health or functional limitations) or environmental differences (for example, the strength and nature of the economy, population density, availability of public transportation, and so forth), which could lead to greater utilization of VR services in those states.

More Recent Cohorts

The longitudinal analysis of the more recent cohorts (1997–2005) allows us to compare the progress of these cohorts with that of the 1996 cohort for as long as the later cohorts are observed. It also provides some evidence on the extent to which policy change and the economic environment influence outcomes. We hypothesize that (1) the 2000–2001 recession

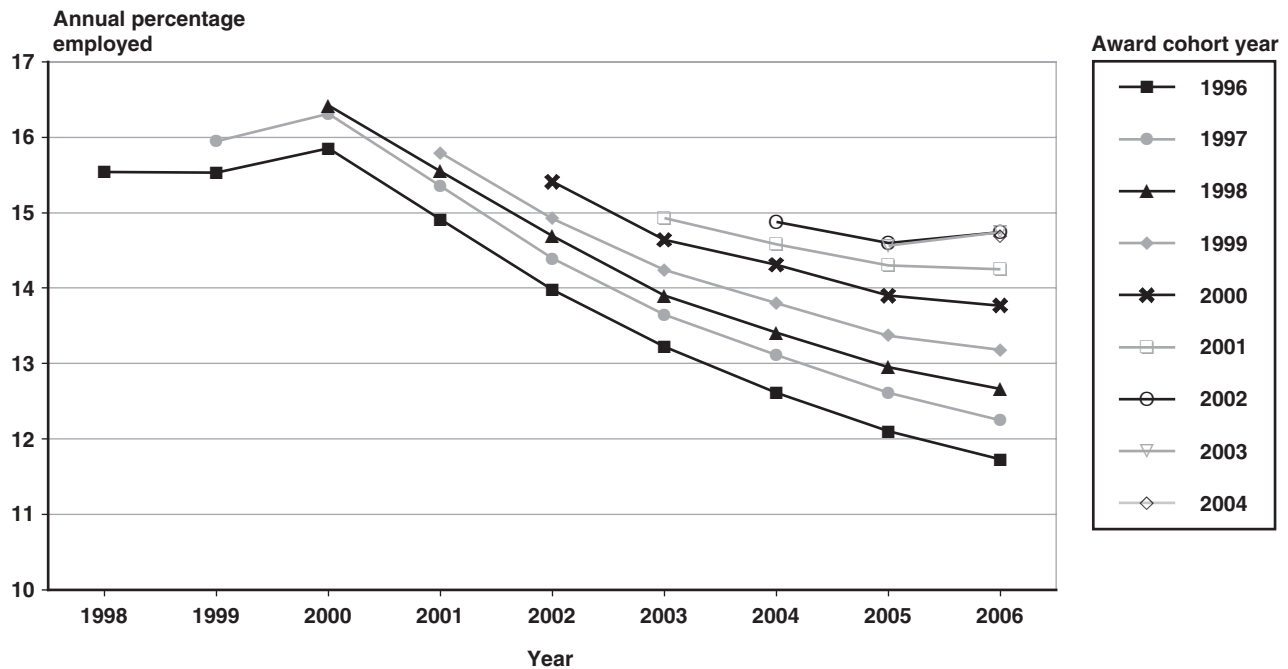
would have a negative employment impact on cohorts awarded benefits during that time; (2) the 2001 increase in the TWP income amount would reduce TWP completions and exits from the rolls; and (3) the 1999 increase in the nonblind SGA amount, and subsequent indexing of the SGA amount to the AWI, would also reduce months off the rolls for work.

The next three charts show clear evidence that the increase in the TWP income amount reduced TWP completions and NSTW months. They also suggest that the 2001 recession had a negative impact on many statistics, but do not provide clear evidence of any effects from the 1999 SGA increase. Each chart is shown similarly, with calendar year on the horizontal axis, outcome measure on the vertical axis, and each series corresponding to a cohort (all weighted to the 2001 cohort's age/sex composition), which can be identified visually by the starting point of the series (for example, the series starting in 1996 represents the weighted 1996 cohort). Moving from left to right, as the cohort becomes more recent, there are fewer years of data to show.

In Chart 10, we compare the percentage of beneficiaries employed (that is, earning at least \$1,000) in each calendar year across cohorts. Because we compute the employment statistics starting from the second postaward year, the series for the 1996 cohort starts with 1998, and the last series, starting in 2006, is for the 2004 cohort. Beneficiaries in the 1997, 1998, and 1999 cohorts all had higher employment rates in the second postaward year than those in the 1996 cohort, very likely reflecting strong economic growth during the period. As the economy entered into recession in 2001, the economic downturn appears to have affected all cohorts regardless of number of years on the rolls. Through 2000, the employment rates for the earlier cohorts appeared to be steady or increasing. The first employment rate observed for each cohort decreases steadily from 2001 through 2005 (for the 1999 through 2003 cohorts). Further, for each cohort the employment rate declines from 2001 through 2005, although the rate of decline slowed after 2003, as the economy recovered. It is somewhat surprising that the cohorts entering the rolls during and following the recession (2001 through 2003) do not return to work at higher rates than those who entered earlier, as presumably their entry was more likely to be caused by job loss for reasons other than their disability. It might be, however, that in comparison with their counterparts in the earlier cohorts, some who enter during a recession find it more difficult to return to work later because

Chart 10.

Annual age/sex-adjusted percentage employed since the second postaward year, by award cohort year, 1998–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

NOTE: Weights were used to adjust the series to reflect the age/sex composition of the 2001 award cohort. See the text for details.

many of the jobs for which they have experience no longer exist. It is also possible that the high levels of CDR during this period discouraged early return to work.

We did find some positive signs among awardees in 2003, the first cohort that entered during the recovery, although their initial employment percentage is the lowest among all cohorts considered. Similar to the trend we see with the 1996 cohort, the employment percentage among awardees in 2003 appears to be on a rising path, with just 2 years of data for the second and third postaward years. The first (and only) observation for the 2004 cohort, in 2006, is also encouraging, as it is higher than the first observation for the 2003 cohort. It seems likely, however, that any positive trends after 2006 were short-lived because of the severe recession starting in 2008.

Chart 11 compares the cumulative TWP completion percentage across the 10 study cohorts. To facilitate cross-cohort comparisons of outcomes for the same postaward year, we connect the points representing the second- and fourth-year values for each cohort (corresponding to the first and third full postaward year, respectively)—the two lines that cross the cohort

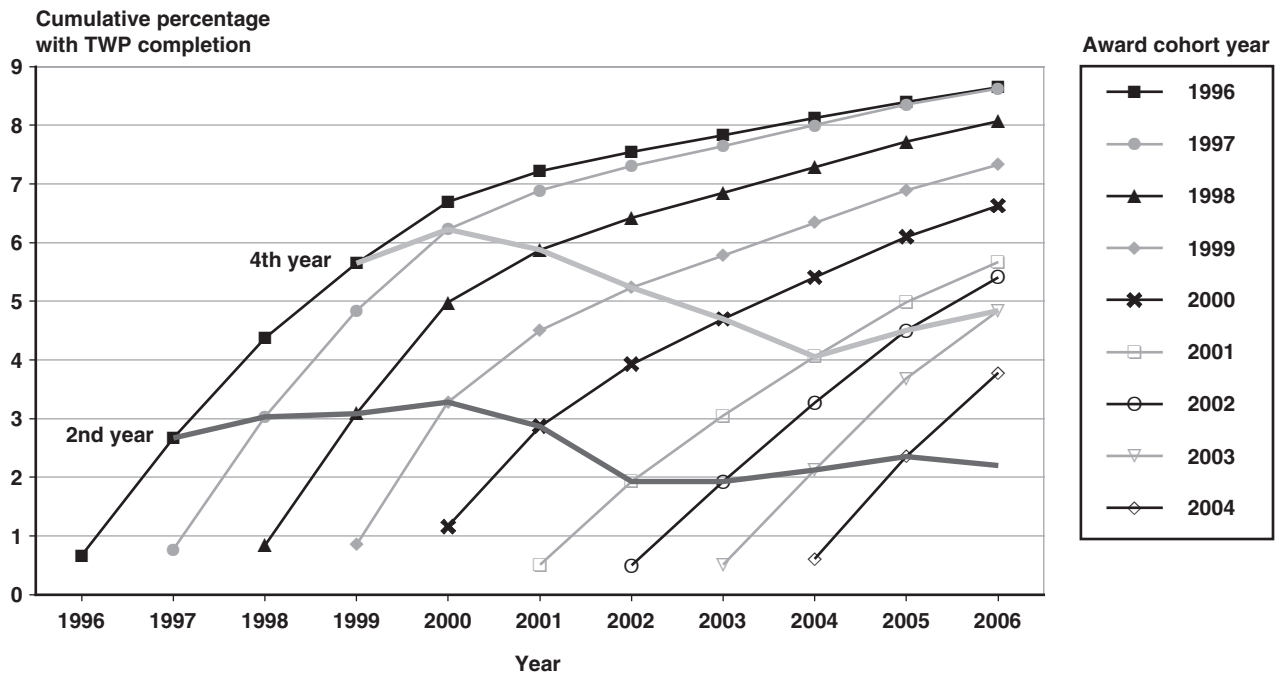
lines in the exhibit. Because the statistics are age/sex adjusted, the shape of the cross-cutting lines quite likely reflect the effects of changes in policy or the economic environment. In the absence of any such changes, we would expect these lines to be nearly straight and horizontal.

Instead, what we see is a small but steady increase between the 1996 cohort and the 2000 cohort in the percentage of beneficiaries who complete the TWP in the first year on the rolls, followed by a sudden drop for the 2001 cohort. After this drop, the first-year percentage starts to increase again, although quite slowly. A closer examination shows that the drop is not associated with the 2001 cohort alone. The substantial decline between calendar years 2000 and 2001 is also apparent when comparing second-year values (the lower horizontal line) between the 1999 and 2000 cohorts, as well as the third-year values between the 1998 and 1999 cohorts, and the fourth-year values between the 1997 and 1998 cohorts (the higher horizontal line).²³

One obvious explanation for the decline from 2000 to 2001 is the substantial 2001 increase in the TWP income threshold. Numerous months that would have

Chart 11.

Age-adjusted cumulative percentage with TWP completion, by award cohort year, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

NOTE: Weights were used to adjust the series to reflect the age/sex composition of the 2001 award cohort. See the text for details.

been counted as TWP months under the pre-2001 amount do not count under the higher value for 2001 and later years.²⁴ The decline stops with the 2001 cohort, the first cohort subject to the higher TWP income threshold starting from its award year; later cohorts complete the TWP at modestly higher rates, holding years since award constant.

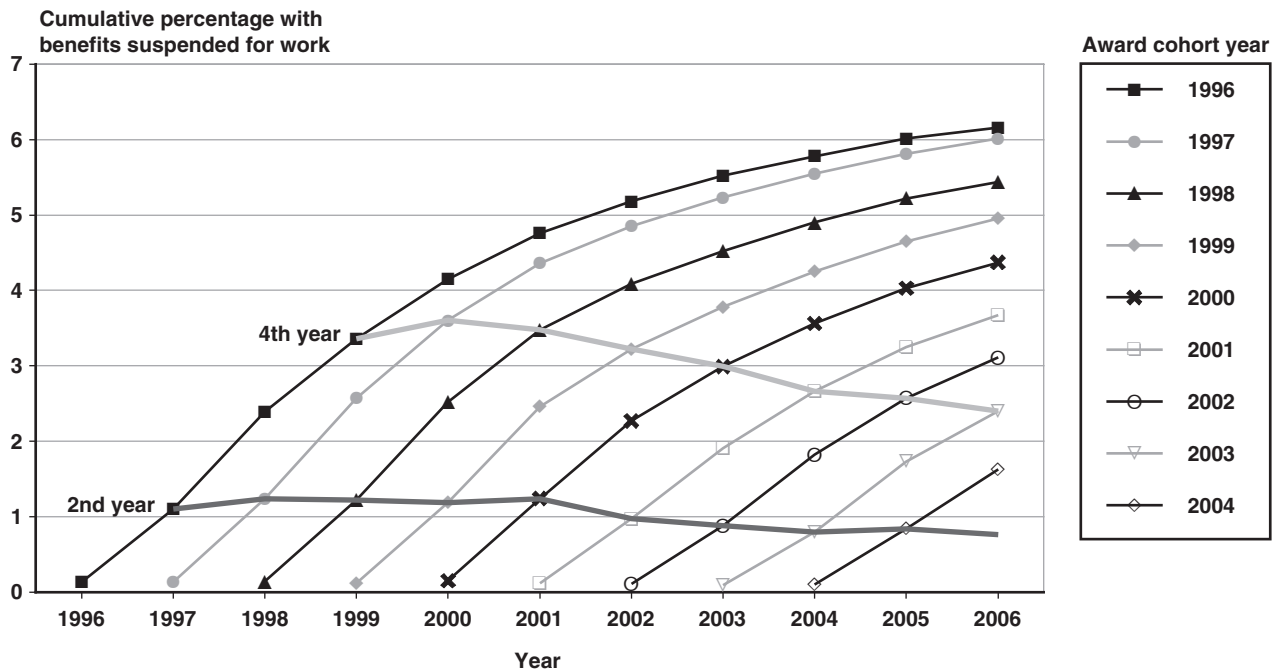
If the TWP threshold increase was the only explanation for the difference between the experiences of the 2001 and the 1997 cohorts in their first 4 years on the rolls, then the impact of the TWP income increase, as of the fourth year on the rolls, would be a reduction in the cumulative TWP completion percentage from 6.2 percent (fourth-year value for the 1997 cohort) to 4.1 percent (fourth-year value for the 2001 cohort)—a 35 percent decline. However, it is unlikely that the increase in the TWP threshold is the only factor behind the decline in TWP completion. In particular, the analysis of the employment statistics in Chart 10 suggests that the economic downturn and recovery played a role in the 2001 decline in TWP completion, as well as in the growth in TWP completion thereafter. The possible effect of stepped up CDR activity on TWP completion is unclear. Increased terminations that are due to medical recovery would very likely

reduce TWP completions, but increased work CDRs would most likely have the opposite effect.

It is possible that the TWP threshold increase only delayed TWP completion for some beneficiaries. We do not know the extent to which this increase reduced the number of awardees who eventually complete their TWP. However, the size of the differences between the series for the 1997 and 2001 cohorts suggests that the effect is more than just delay. The TWP completion percentage for the 2001 cohort at the end of its sixth year on the rolls, 5.7 percent, was below the TWP completion percentage for the 1997 cohort by the end of its fourth year on the rolls, 6.2 percent. If this difference was explained solely by induced delays in TWP completion, then the length of the typical delay would have been greater than 2 years.

Like the TWP completion percentage, the cumulative percentage of awardees with at least 1 month of benefit suspension for work began to decline in 2001, holding years since award constant (Chart 12). Presumably the TWP threshold increase also delayed initial benefit suspensions for work because suspensions only occur after TWP completion. The 1999 increase in the nonblind SGA amount and subsequent

Chart 12.
Cumulative age/sex-adjusted percentage with benefits suspended for work, by award cohort year, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

NOTE: Weights were used to adjust the series to reflect the age/sex composition of the 2001 award cohort. See the text for details.

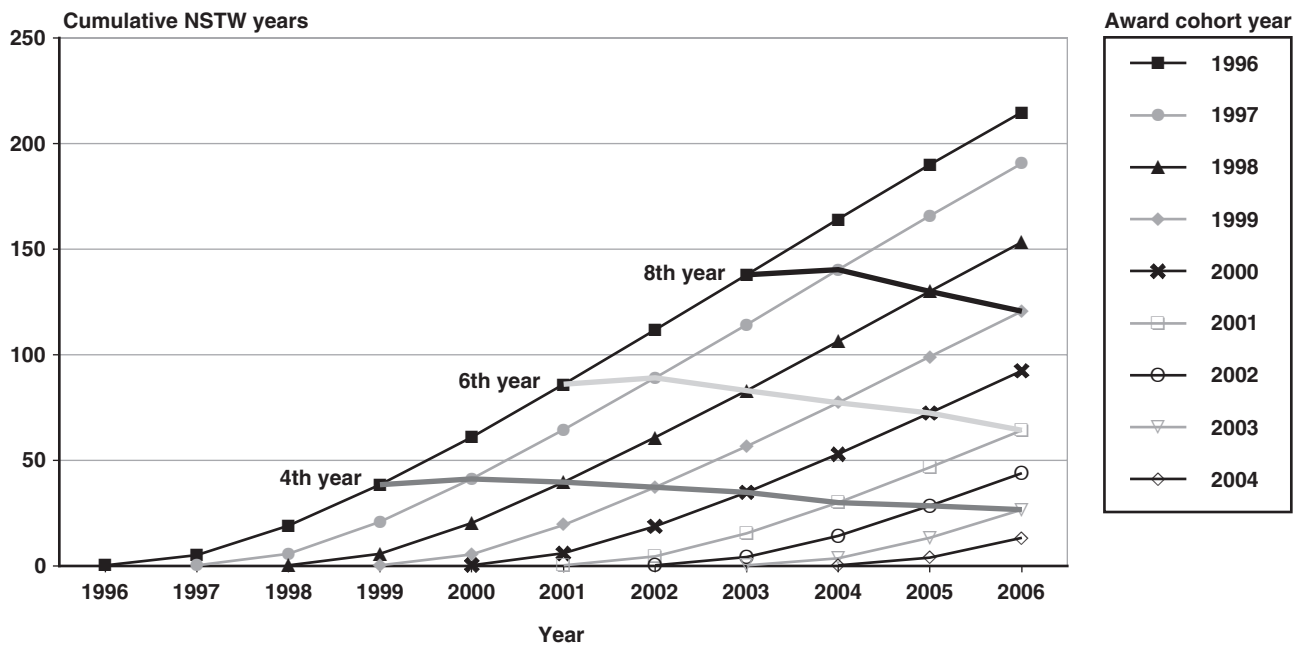
indexing to the AWI might also have had an effect. As a result, monthly earnings needed to be higher than before to trigger benefit suspension for work after June 1999, potentially delaying first benefit suspension and reducing the number of beneficiaries that ever reach that marker. However, Chart 12 shows no clear decline in suspensions (holding years since award constant) from 1998 through 2000—years that span the increase in the SGA amount and precede the TWP threshold increase. This suggests that any effect of the 1999 increase in the SGA amount on months off the rolls for work was too small to discern in the cohort statistics. A separate analysis focusing on those beneficiaries who completed the TWP in 1998 (regardless of when they entered DI) concludes that the increase in the SGA amount reduced their months off the rolls in 2000 by 6.5 percent (Schimmel, Stapleton, and Song 2010)—a substantial reduction, but not large enough to be visible in the statistics we report here.

Unlike the upswing seen for the percentage completing the TWP starting with the 2002 cohort, the percentage with benefit suspension continues to decline for later cohorts, although the rate of decline

appears to have diminished by the end of the period. It is likely that this reflects the lingering effects of the 2001 recession and might also reflect the 1999 increase in the SGA amount. Other policy initiatives designed to increase earnings and exits from the rolls began during this period—most notably the rollout of the Ticket to Work program, starting in 2002. The TTW evaluation found evidence that TTW increased service enrollment (Stapleton and others 2008; Thornton and others 2007), but any impacts of TTW on earnings or months of benefit suspension or termination for work were too small to detect. It is also possible that the expansion of counseling and advocacy services increased beneficiary awareness of how much they could earn without losing their benefits, so that some wishing to keep their benefits were more careful to keep their earnings below that level—a phenomenon known as “parking.”

To show the net effects of the economy, numerous policy changes, administrative/budget issues, and other factors relevant to suspension or termination for work across cohorts, we present age-adjusted cohort statistics on NSTW years per 1,000 beneficiaries (Chart 13).

Chart 13.
Cumulative NSTW years per 1,000 age/sex-adjusted awardees, by award cohort year, 1996–2006



SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

NOTE: Weights were used to adjust the series to reflect the age/sex composition of the 2001 award cohort. See the text for details.

Holding years since award constant, the 1997 cohort experienced the most such years, and each successive cohort has experienced fewer. As of the sixth year since award, the 1997 cohort had experienced 89 NSTW years per 1,000 beneficiaries; for the 1999 and 2001 cohorts, the corresponding values are 77 years (13 percent lower) and 64 years (28 percent lower).

Conclusions and Policy Implications

Knowing the extent to which disability beneficiaries find work can help shape the efforts of policymakers to encourage more beneficiaries to give up their benefits and become self-sufficient. In general, longitudinal statistics paint a somewhat more optimistic picture of the efforts of beneficiaries to find work than SSA’s published statistics, which are cross-sectional. The longitudinal statistics show that nearly 30 percent of DI beneficiaries eventually find work, and a small but nontrivial share (nearly 7 percent) have their benefits suspended for at least 1 month for work. These shares are much higher for the roughly one-quarter of beneficiaries who enter the rolls before age 40.

Many beneficiaries return to work without ever having their benefits suspended or terminated for work.

For instance, 21.5 percent of the 1996 cohort returned to work during the 10-year period, but never had even 1 NSTW month. In addition, benefit termination for work is sometimes followed by eventual reinstatement. There are numerous reasons for this, including increases in functional limitations and declines in health, but perhaps many of those beneficiaries would have earned enough to give up their benefits for an extended period if more assistance or better work incentives had been available.

Most beneficiaries who find work and use the work incentives do so during their first 5 years on the rolls—a finding that has implications for return-to-work initiatives. If beneficiaries are most likely to return to work during this period, perhaps work incentives should specifically target recent awardees. These findings also give policymakers a reason to pay close attention to how recent awardees respond to innovations in work incentives.

We also find that making changes to the DI program to help beneficiaries increase earnings might not produce program savings, even if the changes increase exits from the rolls. This is because the program may end up providing additional support to those who would exit anyway. We illustrate this point by drawing

some implications specific to the TTW program and the Benefit Offset National Demonstration (BOND).

Implications for TTW

The Ticket to Work program was designed to expand SSA financing for employment services for those who find work and have their benefits suspended or terminated. However, statistics show that 79 percent of beneficiaries in the 1998 cohort who had their benefits suspended or terminated for work never enrolled in SSA-financed services. TTW might therefore have expanded SSA-financed services to those who would have had their benefits suspended or terminated even if the services had been unavailable—a cost to SSA with no program savings unless such benefits were suspended or terminated for longer periods.

Among employment service recipients in the 1998 award cohort, the small share (17.7 percent) whose benefits were suspended for work might suggest to some that additional expenditures will at best result in only small benefit reductions, even if received by beneficiaries who would otherwise remain on the rolls. It would be premature, however, to draw this conclusion based on this finding alone. SSA's payments to service providers depend on the number of months the beneficiary foregoes benefits for work, or the extent to which he or she achieves earnings that might lead to benefit suspension or termination. TTW has increased incentives for providers to help their beneficiary clients forego benefits for work for a long time; that could lead to more months of benefit suspension or termination for work than we find for the 1996 cohort.

Implications for BOND and Other Employment Initiatives

A similar observation applies to the benefit offset that is currently being tested under BOND. Under the offset, beneficiaries no longer lose all of their benefits if they engage in SGA after they complete the TWP and grace period. Instead, annual benefits will be reduced by \$1 for every \$2 of countable earnings above the annualized SGA amount, paid on a monthly basis. If this offset had been in place for the 1996 cohort, at least 6.5 percent of beneficiaries would have used the offset within the next 10 years—that is, the percentage with benefits suspended because of work in at least 1 month of that period. Their benefits were zero for an average of 42 months, but would quite likely have been much higher under an offset.

To illustrate the possible magnitude of the benefit increase for these beneficiaries under a benefit offset, assume that they would have received partial payments under the benefit offset equal to half of the mean December 2008 disabled-worker benefit (after indexing). That would require their earnings, on average, to have exceeded the monthly SGA amount (\$940 for nonblind beneficiaries in 2008) by an amount equal to the benefits they would have received if they had not engaged in SGA.²⁵ The total increase in benefits paid to this group over 10 years would have been \$868 million.²⁶ The amount would have been higher if those who gave up benefits for work under current law earned less than assumed, and lower if they earned more. For the offset to achieve benefit-neutrality relative to current law (that is, not affect total SSA payments to the cohort), it would have had to induce an equal amount of benefit reductions for other beneficiaries.²⁷

The finding that most beneficiaries who use the offset will likely do so within their first 5 years on the rolls implies that the long-run impacts of BOND might be quite different than the mean impacts for those observed in the demonstration. Most beneficiaries in the demonstration areas will have been on the rolls for many years before they become eligible to use the benefit offset, and many might be past the point where they could potentially increase their earnings and use the offset. To enable the BOND evaluation to assess long-term impacts—when all beneficiaries will have been entered after the implementation of the offset—half of the beneficiaries offered the offset will be those who have been on the rolls for 36 or fewer months (Stapleton and others 2010).

More generally, longitudinal statistics show that the number of months spent off the rolls for work under current law is a small but nontrivial percentage of all months during the first 10 years after award. To produce benefit savings for SSA, any initiatives to increase months off the rolls for work would have to offset any additional payments made for the support of beneficiaries in months they would have been off the rolls in the absence of the initiative; in evaluation terminology, such payments represent a “base” that other savings will have to “buy” or offset to achieve benefit-neutrality. BOND illustrates this point, but it also applies to TTW to the extent that SSA makes outcome payments for some months in which Ticket participants would have been off the rolls even if they had not assigned their tickets.

Initiatives that are targeted more narrowly at beneficiaries who would not leave the rolls for work under current law and at reducing their benefits during the months in which they currently receive full benefits will have a smaller base to buy, but it may be very difficult to narrow the target of such initiatives in this manner without making them ineffective. SSA could, for instance, prohibit the employment network from making cash payments to their participant clients because such payments are especially attractive to beneficiaries who would exit on their own, but such payments might also be a very efficient means of providing other beneficiaries with the resources and incentives they need to exit the rolls for work. As another example, initiatives could be targeted at only those who have been on the rolls for at least 5 years, so that most beneficiaries who would exit the rolls on their own would already have done so, or at only those who are older than age 50, who rarely exit for work under current law. However, large shares of those who recently entered the DI program and those who are relatively young return to work without having their benefits suspended or terminated, and assistance targeted at those individuals might be relatively effective in reducing benefits or increasing the number of months in which they forego benefits for work. Of course, targeting work support to certain groups of beneficiaries raises equity concerns that might make it unattractive, even if efficient.

In summary, the longitudinal statistics represent “good news” in that, compared with the cross-sectional statistics, they show more beneficiaries leaving the rolls after finding work. They also show that some beneficiaries return to work but do not leave the rolls; perhaps a change in the work incentives of the DI program, such as those to be tested under BOND, would encourage such beneficiaries to become more self-sufficient.

Implications for Future Work

It is unfortunate that comparability issues undermine any attempt to assess whether the statistics for the 1996 and later cohorts presented here represent a substantive change in beneficiary work activity and suspensions or terminations for work relative to the statistics for the 1980–1981 New Beneficiary Survey/New Beneficiary Follow-up cohort. The earlier statistics are broadly similar, but somewhat lower than what

we find. It would be interesting to know how earlier cohorts fared relative to more recent cohorts. For instance, prior research has suggested that eligibility expansions (starting with the 1984 Amendments to the Social Security Act) and expansion of DI work incentives (for example, the 1988 increase in the length of the EPE, the 1990 and 1999 SGA increases, the 2001 TWP income increase, and the 2002 introduction of TTW) have increased the sensitivity of awards to layoffs caused by recessions, industrial restructuring, or other economic factors, with more workers induced to apply for benefits because of such layoffs than in the past (Autor and Duggan 2003). That would suggest that the share of new beneficiaries who are capable and interested in returning to work is larger today than in the 1980s. An analysis of the administrative data for earlier cohorts might substantially improve our understanding of how past programmatic and other changes affect the number of awards to individuals who return to work and influence the extent to which new beneficiaries eventually exit the rolls for work. Such an analysis might also provide information about the extent to which possible future policy changes, such as a benefit offset, might induce DI entry of workers with disabilities who would benefit from an offset.

It would also be interesting to examine how the return-to-work activities of future award cohorts change in response to programmatic and economic factors. Those who receive their awards in 2009 will be the first full award cohort to receive tickets under the July 2008 TTW regulations. Whether they enroll for services at substantially higher rates than past cohorts will be telling. Effects on earnings and benefits are quite likely to take much longer to emerge, however, because the 2009 cohort entered the DI program at the bottom of a business cycle that was the worst since the Great Depression. Given the experience of those who entered during the much weaker downturn from 2000 through 2002, it seems quite likely that we will see a substantial decline in the employment rates of new beneficiaries, even if service enrollment increases. Any contributions of the new TTW regulations to improvements in return-to-work outcomes might well be obscured until the economy substantially recovers and later cohorts receive their awards.

Appendix

Appendix table.

Annual award cohort size and age/sex composition, by award year, 1996–2005 (in percent)

Age/sex composition	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total number	591,493	562,998	578,504	590,023	597,925	665,135	719,109	747,777	762,234	785,405
Women	44.2	45.6	46.5	47.0	46.7	47.1	47.2	47.2	47.5	48.0
Men	55.8	54.4	53.5	53.0	53.3	52.9	52.8	52.8	52.5	52.0
18–39	24.7	23.1	22.4	21.9	21.9	22.2	21.7	20.7	19.9	19.5
Women	42.4	44.6	45.6	46.3	46.5	46.8	47.2	47.6	47.8	48.0
Men	57.6	55.4	54.4	53.7	53.5	53.2	52.8	52.4	52.2	52.0
40–49	23.6	23.2	23.6	23.6	22.8	22.6	22.6	22.4	22.0	22.0
Women	46.3	48.0	48.7	49.2	49.0	49.4	49.7	49.4	49.7	49.9
Men	53.7	52.0	51.3	50.8	51.0	50.6	50.3	50.6	50.3	50.1
50–61	44.6	46.4	46.8	47.1	47.2	47.7	48.2	49.0	49.7	50.0
Women	45.3	46.1	47.1	47.6	47.2	47.2	47.1	47.0	47.3	48.1
Men	54.7	53.9	52.9	52.4	52.8	52.8	52.9	53.0	52.7	51.9
62–FRA	6.8	7.0	7.0	7.1	7.7	7.5	7.5	7.8	8.3	8.4
Women	38.2	38.8	39.7	40.1	40.2	40.5	40.7	41.4	41.9	42.5
Men	61.8	61.2	60.3	59.9	59.8	59.5	59.3	58.6	58.1	57.5

SOURCE: Analysis of DI beneficiary records in the 2007 TRF.

Notes

Acknowledgments: We would like to thank Dawn Phelps for the substantial contributions made developing the reported statistics from administrative data; Sarah Prenowitz for carefully preparing all of the charts in the article; and Paul O’Leary, Gina Livermore, Scott Muller, Kalman Rupp, Evan Schechter, and Robert Weathers for their helpful comments on earlier versions.

¹ Unless otherwise indicated, statistics for “DI beneficiaries” in this article are combined statistics for three groups of Old-Age, Survivors, and Disability Insurance (OASDI) beneficiaries: (1) disabled workers, (2) disabled adult children of other OASDI beneficiaries or deceased workers, and (3) disabled widow(er)s of deceased workers. Disabled workers are by far the largest group. Reflecting the status of the primary beneficiary, benefits to disabled adult children are most often paid from the Old-Age and Survivors Insurance (OASI) Trust Fund, rather than the Disability Insurance (DI) Trust Fund; disabled widow(er) benefits are always paid from the OASI Trust Fund.

² Extracts from several Social Security administrative files were merged to create the Ticket Research File (TRF), including the Disability Control File, Master Beneficiary Record, Supplemental Security Record, Numerical Identification System (Numident) file, and the 831 and 832/33 Disability files.

³ The first payment month (that is, the award month) is the month in which the first payment was actually made, which is usually after the first month for which the beneficiary is entitled to a benefit (that is, the entitlement month).

The latter is often used in SSA’s statistics to classify beneficiaries by entry year (for example, SSA 2009). We use the award month instead because our focus is on the activities of beneficiaries once they become informed of their award and are entitled to use the DI work incentives.

⁴ Because RSA-911 data captures 90 percent of closures within 5 years of application, and the median time in the VR program before exiting is 465 days for those with employment and 667 days for those without employment (GAO 2005), service enrollment statistics for 2004 and 2005 may be underestimated.

⁵ Specifically, the age/sex-adjusted statistics for each cohort are weighted means of statistics in eight categories defined by four age groups (18–39, 40–49, 50–61, 62–FRA) and sex.

⁶ There are other DI work-incentive programs (for example, impairment-related work expenses) that do not play a prominent role in this analysis and therefore are not described. For more detail, see Social Security’s *2011 Red Book: A Summary Guide to Employment Support for Individuals with Disabilities under the Social Security Disability Insurance and Supplemental Security Income Programs*. In addition, other federal and state agencies also implemented or strengthened programs designed to help disability beneficiaries and potential beneficiaries return to work or increase their earnings during the period examined. Most notably, many states introduced Medicaid Buy-In programs, which allow workers with disabilities (including DI beneficiaries) to enroll in Medicaid for a sliding-scale premium, and many states’ One Stop Employment Centers introduced Disability Program Navigators

and took other steps to help job seekers with disabilities take advantage of available services.

⁷ The TTW legislation created an expedited reinstatement or “easy back on” provision where an individual who is terminated for work need not reapply, but is subjected to a process more akin to a continuing disability review (CDR).

⁸ The higher blind SGA amount was already indexed to the AWI, and it was only increased to keep up with the AWI in 1999.

⁹ SSA implemented substantial changes in the TTW in July 2008, after the end of the period examined here.

¹⁰ There is one exception: Benefits would not be suspended if the first month with earnings above SGA (following the grace period) occurs 36 months after the TWP completion or later.

¹¹ Presumably benefits would have been paid during the months when a beneficiary was not earning more than the SGA amount.

¹² As noted in the previous section, the 2006 data for this variable should be considered preliminary because 2006 VR service entrants that did not assign their tickets and continued to receive services through the end of FY 2007 will not have a record in the RSA-911 data file.

¹³ Muller (1992) noted that earnings reported to the Internal Revenue Service (IRS), the basis of our employment measure, can include those for work performed in a different year, such as delayed compensation, commissions, and vacation pay. It is for this reason that we did not include the first year after award in our employment and earnings statistics. Our annual estimates for later years quite likely reflect errors in the timing of work, but it seems much less likely that the cumulative statistics reflect such errors.

¹⁴ One potentially important example of earnings not captured in the IRS data is the earnings of beneficiaries who work in sheltered workshops, which are not subject to payroll taxes.

¹⁵ This description of the business cycle is based on statistics for real gross domestic product and civilian employment (Council of Economic Advisors 2011, Tables B-2 and B-3).

¹⁶ The rule is simple: We exclude each ambiguous case if the month of first entitlement was more than 144 months before the first observed payment. Application of this rule excludes 2 percent of all beneficiaries who would otherwise have been included in each cohort and ranges from 1.7 percent in the 1996 cohort to 2.4 percent in the 2005 cohort. Conversely, the cases that are included despite the ambiguity ranged from 10.8 percent of all beneficiaries who would have been included without the rule in 1996 to 0.1 percent in the 2005 cohort. We perform a sensitivity analysis by excluding the ambiguous cases and discover that doing so would have no substantive impact on the findings for the 1996 cohort—the cohort most affected by the ambiguity

of our current exclusionary rule. We later determine that about 25 percent of the excluded cases in each year comprised disabled adult children, and an additional 5 percent comprised disabled widow(er)s. The first entitlement date of the excluded cases was actually the first entitlement date of the primary beneficiary. This represents about 9 percent and 4 percent of the disabled adult children and disabled widow(er) awards, respectively; hence both groups of cases are somewhat underrepresented in each cohort. We do not think this has a material effect on the statistics or, more importantly, trends in the statistics.

¹⁷ Because of data limitations previously discussed, paths for some beneficiaries do not follow the appropriate order. For example, some individuals indicate suspension or termination for work even though there is no documentation of a completed TWP. We did some recoding (mostly on the TWP completion variable, affecting 1.7 percent of the records) in order to correctly identify the paths for each individual. Other analyses in the article are based on the raw data and are not affected by this recoding and therefore may show slightly different statistics.

¹⁸ The mean benefit for disabled workers in December 2008 was \$1,063 per month (SSA 2009, Table 2), equivalent to \$12,756 per year. There were 591,493 beneficiaries in the 1996 award cohort (as shown in the Appendix table), so at that benefit level, forgone benefits for the entire cohort would be $\$1,063 \times 230 \times 12 \times 591,493/1,000 = \$1,735,369,482$. This estimate is inexact, but is likely to be close. Mean benefits foregone by disabled workers whose benefits were suspended for work were somewhat higher than the mean benefits for all disabled workers in December 2008 (\$1,186), but mean benefits for those terminated for work in 2008 were somewhat lower (\$1,043); see SSA (2009, Tables 54 and 55). Only a very small share of the months in which benefits were foregone were for disabled adult children and disabled widow(er)s, whose benefits were considerably lower (\$660 and \$646, respectively, in December 2008).

¹⁹ The employment statistics in Chart 4 are roughly comparable with those reported by von Wachter, Song, and Manchester (forthcoming), although time periods and definitions differ. The authors define employment as any positive earnings, based on the same data source that we use. They provide statistics for male applicants aged 30–44 and 45–64, allowed at the state Disability Determination Service level only, during each of two periods: 1982–1987 and 1992–1997. For both periods the authors find that about 20 percent of the younger men were employed in the third year after application, gradually declining to about 17 percent in the tenth year. The corresponding statistics for the older men are approximately 12 percent in the third year and 7 percent in the tenth year. The employment rates are slightly higher for those allowed in the more recent period than for those allowed in the earlier period.

²⁰ The earnings statistics in Chart 6 are roughly comparable with those provided by von Wachter, Song, and

Manchester (forthcoming) for men in the two allowed-applicant age groups, after inflation by 25 percent for the change in the AWI from 2000 through 2007. For their more recent period (1992–1997), the authors find that allowed men aged 30–44 at application with positive earnings had mean annual earnings of approximately \$12,500 in the third year after application (adjusted to 2007 dollars), rising to approximately \$15,500 in the tenth year. The comparable figure for men aged 45–64 at application is approximately \$10,000 in both the third and tenth years.

²¹ Age-adjusted statistics for the 1998 cohort are shown in charts appearing later in the article.

²² Although the presentation of the statistics might suggest that those passing one marker are always a subset of those passing what is normally the previous marker, this is not always true. For instance, some whose benefits are terminated for work did not experience a suspension for work first, and TWP completion is sometimes not recorded in the data for those whose benefits are suspended or terminated for work.

²³ The only exception is evident when comparing the fifth-year values between the 1996 and 1997 cohorts: We find an increase in the percentage with TWP completion from 2000 through 2001. This is not surprising, given the 1997 cohort in general appears to outperform the 1996 cohort. In fact, the rising trend indeed slowed down in 2001.

²⁴ There is no simple way to determine whether the TWP income increase had an impact on beneficiary behavior. It is possible, for instance, that some beneficiaries reacted by reducing their earnings to keep them below the new threshold and avoid using up TWP months and entering the EPE, but we suspect that extremely few beneficiaries are so well informed that they would engage in such strategic behavior, even if they had sufficient motivation to do so; in addition, reduction in working hours may not always be accommodated.

²⁵ For example, if the individual's benefit when not working was \$1,000, but under current law the individual would give that benefit up to earn \$1,940, then under the benefit offset the individual would receive a benefit of \$500, assuming no change in earnings.

²⁶ This amount is half of the previously imputed value of \$1.7 billion benefits foregone because of work by the 1996 award cohort as of 2006.

²⁷ Weathers, Hemmeter, and Wiseman (2010) found that the Benefit Offset Pilot Demonstration (BOPD), during which time the benefit offset was offered to small samples of volunteers in four states, had, if anything, a positive impact on the volunteers' mean benefits in the next 2 years. BOPD volunteers might be atypical of all potential benefit offset users, however, so BOND results might be quite different.

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