How Common is "Parking" among Social Security Disability Insurance Beneficiaries? Evidence from the 1999 Change in the Earnings Level of Substantial Gainful Activity

by Jody Schimmel, David C. Stapleton, and Jae G. Song*

Fewer Social Security Disability Insurance (DI) beneficiaries have their earnings suspended or terminated because of work than those who are actually working, partly because beneficiaries "park" earnings at a level below substantial gainful activity (SGA) to retain benefits. We assess the extent of parking by exploiting the 1999 change in the SGA earnings level from $500 to $700 monthly for nonblind beneficiaries using a difference-in-difference analysis that compares two annual cohorts of beneficiaries who completed their trial work period, one that was affected by the SGA change and one that was not. Our impact estimates, along with results from other sources, suggest that from 0.2 to 0.4 percent of all DI beneficiaries were parked below the SGA level in the typical month from 2002 through 2006. The SGA change did not yield any difference in mean earnings, although it did result in a small reduction in months spent off of the rolls because of work.

Introduction

The Social Security Disability Insurance (DI) program was designed to support qualified individuals who are unable to engage in "substantial gainful activity" (SGA) because of a medically determinable physical or mental impairment that is expected to result in death or last for at least 1 year.[1] Growth in the DI rolls in recent decades has been substantial; from 2000 through 2007 alone, the number of disabled-worker beneficiaries increased by approximately 2 million, to more than 7 million beneficiaries (SSA 2008). Autor and Duggan (2006) documented some of the reasons for this rapid expansion: aging of the labor force, growing percentages of women who meet the program's work history requirements, changing eligibility criteria, rising value of the Medicare benefits for which DI beneficiaries attain eligibility after 24 months on the rolls, and rising after-tax DI replacement rates for low-wage workers.

In addition to the rising number of people who receive DI benefits, employment rates among beneficiaries have been declining over the years. Employment among working-age people with disabilities is significantly lower than that for those without disabilities; in 2008, 39 percent of those with disabilities worked, compared with 77 percent of those without disabilities (Census Bureau 2009). This differential has not improved in recent decades, and in fact, seems

Selected Abbreviations	
AWI	average wage index
DD	difference in difference
DI	Disability Insurance
EPE	extended period of eligibility
MEF	Master Earnings File

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Selected Abbreviations—*Continued*	
NSTW	nonpayment status following suspension or termination for work
SGA	substantial gainful activity
SSA	Social Security Administration
TRF	Ticket Research File
TWP	trial work period

to have worsened (Weathers and Wittenburg 2009). Further, relative to other workers, those with disabilities are increasingly likely to be employed on a part-time rather than full-time basis (Hotchkiss 2004). It appears that employment rates for successive cohorts of DI entrants after program entry were quite stable for those who entered from the mid-1980s through the 2000s (Von Wachter, Song, and Manchester, forthcoming), but it also appears that there was a decline in employment for those entering the DI program during and after the 2001 recession (Liu and Stapleton 2011).

Once workers enter the DI program, a substantial minority returns to work, but a much smaller share leaves the rolls because of work. In each year, the number who leaves the rolls is minimal, but over time, more beneficiaries do ultimately have their benefits terminated because they are working. For instance, of those who received their DI awards in 1996, 28 percent had annual earnings of at least $1,000 in 1 or more of the next 10 years, but only 6.5 percent had their benefits suspended for at least 1 month because of work, and only 3.7 percent had their benefits terminated because of work (Liu and Stapleton 2011).

One reason that the percentage of beneficiaries who have their earnings suspended or terminated because of work is far lower than the percentage who return to work might be because of "parking." Parking occurs when beneficiaries intentionally keep their earnings at a level below SGA to avoid loss of their DI benefits. If beneficiaries engage in SGA—in essence, earn more than $1,000 a month for nonblind and $1,640 for blind beneficiaries in 2010—for a sustained period of time, they risk losing their DI benefits (described in more detail later). Unless the earnings increase is large enough to more than make up for the benefit loss at the point of this "cash cliff," total income from earnings plus benefits actually declines. Hence, there is a strong incentive to "park"—to intentionally keep earnings just below the SGA level. Anecdotes about this behavior are widespread, but no statistics on the extent of this phenomenon are available.

If parking is widespread, then policy reforms designed to increase work incentives for DI beneficiaries capable of SGA could potentially increase beneficiary earnings and reduce reliance on benefits. A $1-for-$2 benefit offset for earnings above the SGA level, currently being tested by the Social Security Administration (SSA), is an important example of such a reform. Widespread parking might also explain why so few beneficiaries have exited the rolls under the Ticket to Work program (Stapleton and others 2008). This phenomenon might also suggest that increases in the SGA earnings level could induce increases in DI entry by those able to engage in SGA. If, instead, parking is fairly rare, then efforts to address only the work-incentive issue would not very likely have large impacts on earnings and benefits, parking would not be an important reason for low exit rates under the Ticket to Work program, and DI entry would likely not be very sensitive to modest increases in the SGA level.

It is possible to count the number of beneficiaries with annual earnings at a level that is just below 12 times the relevant SGA earnings level, but not all of such beneficiaries are parked; some are quite likely earning as much as they can, and some are likely temporarily protected from benefit loss because of earnings. Hence, any such count would overstate the number of parkers, as defined in this article. Our approach to estimating the number of beneficiaries purposefully keeping earnings below the SGA level in order to retain their benefits is to infer it from observed changes in earnings when the SGA level increases.

In this article, we investigate the extent to which a large change in the nonblind SGA earnings level induced nonblind DI beneficiaries to park. Specifically, we estimate the impact of the change on the distribution of annual earnings for a beneficiary group directly affected by the change, as well as the impact on the number of months in which those beneficiaries were in nonpayment status following suspension or termination because of work (NSTW). In July 1999, the SGA earnings level for nonblind beneficiaries increased from $500 per month to $700 (SSA 2011; Social Security Advisory Board 2009). Before that time, the nonblind SGA level had been nominally set at $500 since 1990. After the 1999 increase, the nonblind SGA level was indexed to the average wage index (AWI), and, as a result, has increased nominally in every subsequent year except 2010. While the SGA level for nonblind beneficiaries increased substantially in 1999, the higher SGA level for the small share of statutorily

blind beneficiaries increased only because of the small AWI adjustment (Table 1).

To our knowledge, there have been no rigorous studies of parking behavior and relatively few studies that assess the impact of SGA changes on earnings and benefits. Work from the 1970s found that the SGA earnings-level increases in 1966, 1968, and 1974 had no measurable effects on labor force participation rates or earnings among beneficiaries (Franklin 1976; Franklin and Hennessey 1979). A more recent report by the Government Accountability Office (GAO 2002) found that SGA-level increases affect the earnings of only a small portion of beneficiaries. Examining the period from 1985 through 1997, the report found that only 1 percent of all beneficiaries and only 7.4 percent of beneficiaries who worked in a given year had earnings greater than 75 percent of the level of SGA (annualized). In other words, modest changes in SGA were irrelevant for a vast majority of beneficiaries. The GAO report found that those who earned near the SGA level in a given year were very likely to experience substantial declines in earnings in the following years. In addition, the report also found that about 13 percent of beneficiaries who had earnings near the SGA level in 1985 had earnings close to that level a decade later, providing some evidence that some workers with earnings just below SGA might respond to increases in the SGA level and might engage in parking behavior. However, this evidence is not definitive—it is not known what share of those earning close to the SGA level would have had higher earnings if the SGA level

had been higher. Recognizing the limitations of the data in measuring the effect of the SGA level on earnings, the GAO report called for more research before drawing conclusive findings.

There are three reasons why the previous studies might not have found a significant impact of the change in the SGA level on individual employment and earnings, even if the true impact was substantial. First, earlier studies did not distinguish between blind and nonblind beneficiaries, even though the earnings level of SGA faced by each is different. Second, and perhaps more importantly, the earlier studies did not distinguish between those beneficiaries who had completed the trial work period (TWP) and those who had not. The TWP consists of 9 months (not necessarily consecutive) over a rolling 60-month period during which the beneficiary can earn any amount without loss of benefits. We address the two limitations of earlier studies by using longitudinal Social Security administrative data on annual cohorts of nonblind TWP completers, focusing on the years just after they complete the TWP. The third limitation of previous studies is that they did not allow for the disparate effects of an increase in the SGA earnings level on beneficiaries earning below the old SGA level and on those who earned more than the old SGA and, consequently, had foregone their benefits for work, at least temporarily. In theory, an increase in the SGA level could induce some beneficiaries in this high-earnings group to reduce their earnings, countering any positive impact of the SGA increase on the earnings of those with lower earnings. Those offsetting effects might account for the absence of a substantial impact on the average earnings of beneficiaries in earlier studies. We address that limitation by studying changes in earnings of individuals grouped by the level of their earnings during the year in which they completed the TWP.

Specifically, we exploit the change in the nonblind SGA earnings level in 1999 to determine the extent to which the higher SGA level induced additional individuals to engage in parking behavior. Our analysis compares the longitudinal earnings and NSTW months of the cohort that completed its TWP in 1998 with corresponding outcomes for the 1996 TWP cohort. Those two cohorts faced the same nominal SGA level in the year they completed the TWP, but the nominal value for the 1998 cohort increased by $200 halfway through the first year after TWP completion, whereas it remained the same for the 1996 cohort until halfway through the third year after TWP completion.

Table 1.
SGA earnings levels for blind and nonblind DI beneficiaries, 1995–2006 (in dollars)

Year	Nonblind SGA earnings level	Blind SGA earnings level
1995	500	940
1996	500	960
1997	500	1,000
1998	500	1,050
1999	[a] 500/700	1,110
2000	700	1,170
2001	740	1,240
2002	780	1,300
2003	800	1,330
2004	810	1,350
2005	830	1,380
2006	860	1,450

SOURCE: SSA (2011).

a. Nominal nonblind SGA earnings level increased from $500 to $700 on July 1, 1999.

Our difference-in-difference (DD) methodology compares changes from the TWP completion year with changes in the second year after TWP completion for the 1998 cohort (spanning the increase in the SGA level) with corresponding changes for the 1996 cohort. The effect of the increase in the SGA earnings level is clearly evident, but its size is not very large.

In the Background section, we describe the "work-incentive" features of the DI program, which were designed to provide beneficiaries with an opportunity to test their ability to engage in SGA without imme-diate loss of benefits, and consider the theoretical impacts of an increase in the SGA level on earnings and benefit receipt. In the section that follows, we describe our data and sample and then detail the DD methodology used to identify the impact of the increase in the SGA earnings level. To justify the suit-ability of the DD approach, we then present earnings distributions of successive TWP cohorts. The next section highlights the results of our DD estimates and summarizes our findings from alternative specifica-tions and robustness checks. The Conclusion and Discussion provides estimates of the extent to which beneficiaries overall engage in parking and a discus-sion of policy implications.

Background and Conceptual Discussion

The SGA earnings level is closely tied to the statu-tory definition of disability for adults, as described in the Introduction. SSA considers a person to be engaged in SGA, and therefore not disabled by the statutory definition, if unsubsidized earnings, net of any impairment-related work expenses, exceed the SGA level. Hence, beneficiaries may work, as long as the work is not considered to be SGA. The TWP was designed to encourage beneficiaries to return to SGA, by giving them a chance to test their ability to do so without benefit loss. An individual's TWP lasts for 9 (not necessarily consecutive) months in a rolling 60-month period, meaning that over the course of any 5-year period, a beneficiary can earn as much as he or she would like for up to 9 months and still remain on the DI rolls.

Months with sufficiently low earnings do not count toward the 9-month TWP. The TWP minimum earnings amount from 1990 through 2000 was $200 per month (or 40 hours of self-employment); it was increased to $530 per month (or 80 hours of self-employment) in 2001 and has been indexed to the AWI in each year since. In 2009, the monthly TWP minimum earnings amount was $700. In other words,

only months in which a beneficiary earned more than $700 in 2009 counted toward his or her TWP; months in which earnings were below $700 did not affect completion of the TWP. The TWP limit is the same for both blind and nonblind DI beneficiaries. Because of the change in the TWP limit in 2001, we restrict our analysis to cohorts of TWP completers prior to that year because the earnings distributions of cohorts that completed the TWP before and after that change could be substantially different.

After exhausting the TWP, the beneficiary enters the extended period of eligibility (EPE), and ben-efits continue indefinitely if the beneficiary does not engage in SGA. If he or she does have earnings above the SGA level, benefits are paid for 3 additional grace period (GP) months. After that point, benefits are suspended in full during each month in which the beneficiary engages in SGA, but otherwise are paid in full until the 36th EPE month. If earnings are above SGA in the 36th month, benefits are terminated; otherwise full benefits continue until the first month of SGA after completing the GP, at which point they are terminated. This structure of benefits explains why at least some fraction of beneficiaries may engage in parking behavior. During the TWP and GP, ben-eficiaries have little incentive to restrain earnings, as benefits continue regardless of the amount of earnings in those months. After finishing the TWP and GP, however, there is strong incentive to restrain earnings below the SGA level.

Among beneficiaries who have completed their TWP and are in their EPE, the expected effect of an SGA increase on earnings and NSTW months depends on what their earnings would have been in the absence of the increase. First, beneficiaries who would have had earnings below the initial SGA level might increase their earnings by up to $200 because they could do so without exceeding the new, higher SGA level. For example, someone who kept his or her monthly earnings at $475 to stay below an SGA level of $500 might now earn $675 if the SGA level was increased to $700. For those individuals, we would expect to see higher average annual earnings, but no change in the number of months spent off the rolls for work because these beneficiaries would continue to receive benefits in each month they worked.

Second, beneficiaries who would have earned above the new SGA level and thus lost their benefits might make an effort to earn less than the new level to retain benefits. Consider, for example, someone with a DI benefit of $600 per month who has the potential to

earn $1,200. With an SGA level of $500, the beneficiary could retain benefits by keeping earnings just below $500, for total monthly income of just under $1,100, or could forego benefits and increase income to $1,200. Under an SGA level of $700, that same individual could retain benefits by keeping earnings just below $700, for total monthly income of just under $1,300—more than the beneficiary would earn if he or she were to forego benefits. This individual has a stronger incentive to keep earnings below the new SGA level than below the initial level and is therefore more likely to reduce earnings and retain benefits under the new level. More generally, we would expect beneficiaries who would have earned above $700 under the old SGA level to decrease their earnings under the new SGA level because the required reduction in earnings to keep benefits is lower, and therefore they would have fewer months with cash benefits suspended.

Third, beneficiaries who would have earned an amount between the initial $500 SGA level and the new $700 level, and thus would have left the rolls, are not likely to change the amount they earn by much but will be able to retain their benefits. Those individuals would have left the rolls under the initial SGA level despite the strong incentive to restrain their earnings and remain on the rolls.

Given the relationship between earnings in the absence of the SGA increase and the effect of the SGA increase on earnings, we would expect to see a change in the cumulative distribution of earnings for TWP completers much like the stylized change displayed in Chart 1, assuming that all else is held constant. The percentage of beneficiaries with earnings below the initial SGA level is expected to fall, as the percentage with earnings above the new SGA level is also expected to fall, and the old and new cumulative distributions will cross at some level of earnings between the old and new SGA levels.

Data and Sample Description

Our analysis sample was drawn from the 2007 Ticket Research File (TRF).[2] It consists of longitudinal Social Security administrative data on all working-age beneficiaries who participated in the DI or Supplemental Security Income (SSI) programs for at least 1 month between January 1996 and December 2007. The TRF contains demographic information about beneficiaries, as well as a monthly history of their DI and SSI benefit receipt, any time spent off of the disability rolls, use of work incentives (including the month of TWP completion), and many other variables generated from Social Security administrative records. Data from the TRF were merged with annual

Chart 1.
Stylized shift in the earnings distribution of TWP completer cohorts after an SGA earnings-level increase
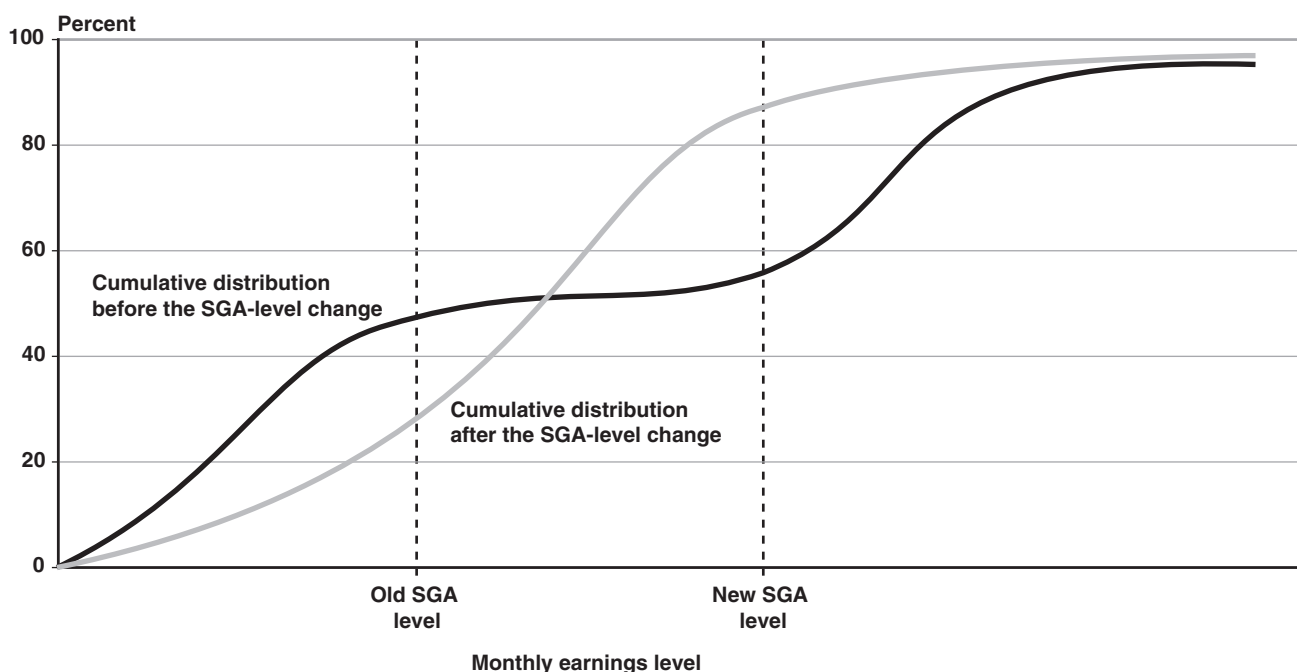
SOURCE: Authors' illustration of the hypothetical effect of an SGA earnings-level change on the distribution of earnings.

earnings records contained in SSA's Master Earnings File (MEF) for several years before and after TWP completion.

Using the TRF, we identified 138,142 DI beneficiaries who completed their TWP: 61,953 in 1996 and 76,189 in 1998. We excluded those whose birth date indicated they were younger than age 18 or older than age 59 at the end of the calendar year during which they completed their TWP, who had died within the 5 calendar years following TWP completion, or who had inconsistent data related to their initial DI entitlement and TWP completion date. Finally, we excluded beneficiaries who were determined to be blind, as they were subject to the SGA level for blind individuals, which did not change during this time.[3] That process left a final sample of 116,965 DI beneficiaries (52,490 in 1996 and 64,475 in 1998), or 85 percent of all TWP completers in those 2 years. Those beneficiaries include a small number of disabled adult children and disabled adult widow(er)s of Social Security beneficiaries. While those two subgroups must meet the same disability criteria as DI beneficiaries, most of the children and all of the widow(er)s are technically Old-Age and Survivors Insurance program beneficiaries, rather than DI beneficiaries, because they are receiving benefits as a dependent of a retired or deceased Social Security beneficiary. For simplicity of exposition, we refer to all of the TWP completers as DI beneficiaries in the remainder of this article.

Understanding differences in the demographics of TWP completer cohorts is important in assessing the extent to which observed changes in outcomes might reflect compositional differences in the cohorts as opposed to impacts of the SGA increase. The demographic profile of TWP completer cohorts in 1996 and 1998 was quite similar, suggesting that changes we observe are unlikely to solely reflect changing demographics of TWP completers (Table 2). Education data is missing for a substantial proportion of both cohorts, which is unfortunate because it is likely a strong predictor of work activity and earnings. However, the proportion with missing data is similar across cohorts, and we control for it in our regression models. The later cohort, however, was somewhat more likely to be older than age 40, female, nonwhite, and have certain primary disabling conditions, such as back problems and major affective disorders. This generally mirrors the changing demographic profile of all DI beneficiaries during this period (SSA 1997 and 2001).

The key outcomes in our analysis are nominal annual earnings and percentage of months in a calendar year spent off the DI rolls for work. Unfortunately, monthly data on earnings are not available, even though they would have been ideal for assessing earnings relative to the monthly SGA level. Instead, we converted annual earnings to mean monthly earnings

Table 2.
Demographic profile of nonblind TWP completers, 1996 and 1998 cohorts (in percent)

Characteristic	1996	1998
Sample size	52,490	64,475
Age		
Under 30	21.1	19.3
30–39	32.9	31.0
40–49	29.1	30.2
50–59	16.9	19.5
Sex		
Male	57.4	55.5
Female	42.6	44.5
Race		
White	71.7	70.3
Black	20.0	21.0
Hispanic	3.9	4.4
Other	2.5	2.6
Missing	1.9	1.7
Primary disabling condition		
Schizophrenia or psychoses; anxiety and neurotic disorders; other mental disorders	14.1	13.5
Major affective disorders	11.9	13.3
Mental retardation	10.4	10.4
Musculoskeletal system and back disorders	8.9	9.7
Injuries	4.4	4.2
Nervous system	4.1	4.2
Circulatory system	3.1	3.2
Neoplasms	2.2	2.3
Endocrine/nutritional	2.2	2.7
Other (known)	38.4	36.3
Other (unknown)	0.3	0.2
Education (years)		
0–8	3.7	3.8
9–11	9.3	9.3
12	28.9	27.8
13–15	8.2	8.3
16 or more	5.8	5.6
Missing	44.1	45.2
Concurrent (DI and SSI) beneficiary	10.2	10.2

SOURCE: SSA's 2007 TRF.

NOTES: Other known primary disabling conditions include visual impairments, disorders and diseases of the genitourinary system, severe hearing impairment, HIV/AIDS, digestive system, respiratory system, blood/blood-forming diseases, and infectious/parasitic diseases. Each of these categories included fewer than 2 percent of TWP completers in 1996.

for the year by dividing the annual amount by 12, for purposes of comparison with the monthly SGA amount. Because earnings might vary from month to month, a value of mean monthly earnings greater than (less than) the SGA amount does not imply that earnings in all months are above (below) the SGA amount. We also note that annual earnings reported in the MEF do not always accurately represent a beneficiary's earnings from all paid work during the year. In some cases, earnings are not reported by the employer. In other cases, the reported earnings might be in the form of delayed compensation of some sort from an earlier year. There is no reason to think that such errors will bias the results. It seems likely that earnings not reported in the MEF account for the fact that a small share of TWP completers has no MEF-reported earnings in their TWP completion year.

We also examine the impact of an SGA earnings-level increase on a monthly measure: the number of months that beneficiaries forego benefits because they are working. This measure is based on a variable contained in the TRF, an indicator for NSTW months (Schimmel and Stapleton 2011). That variable identifies months in which cash benefits were suspended or terminated because of earnings above the SGA level. While the measure includes both suspensions and terminations, the latter are irrelevant in our case because we are focusing on the year of TWP completion and 2 years later, when benefits can only be suspended for work, not terminated.

Methodology

This section begins by describing the rationale for using selected TWP completion cohorts for our DD analysis. It then describes our dependent variables, model specification, and predictions for key parameter estimates. It concludes with a discussion of the role of confounding factors on our estimator and the reasoning for using nominal as opposed to real earnings in our estimation.

Selection of TWP Completer Cohorts Suitable for DD Analysis

Like other DD estimators, the validity of our analysis relies on the assumption that the cohort subject to the change in the earnings level of SGA would have behaved similarly to the cohort not subject to the change, and that the trend in outcomes across those cohorts would have been the same if not for the change in SGA (Imbens and Wooldridge 2007). Because of that assumption, we ultimately selected the 1996 and

1998 TWP completer cohorts for our analysis. The 1996 cohort—the earliest cohort for which we had complete data—was not affected by the change in the SGA earnings level until after the first 36 EPE months; the 1997 cohort experienced the SGA earnings-level increase in the middle of the second calendar year after TWP completion; the 1998 cohort experienced it in the first calendar year after TWP completion; the 1999 cohort experienced it during the TWP calendar year; and all cohorts from 2000 onward were subject to the higher SGA earnings level in the entirety of their TWP year and all subsequent years. By comparing the 1998 cohort with the 1996 cohort, we consider one cohort that did not experience an SGA earnings-level change from the TWP year to 2 years later (the 1996 cohort, using data from 1996 and 1998) with a cohort that did experience the SGA change during a similar period (the 1998 cohort, using data from 1998 and 2000).

The 2000 and later cohorts were also candidates for comparison groups, but we elected not to use them because of two external factors that quite likely had a substantial effect on their outcomes (Liu and Stapleton 2011). The first factor is the 2001 recession, and the second is the 2001 increase in the minimum earnings amount for a TWP month. Both of those factors would substantially bias any estimates that used the 2000 cohort, or any later cohort, as the comparison cohort.

Chart 2 shows the cumulative distribution of average monthly earnings (annual earnings divided by 12) for the 1996 and 1998 completer cohorts in the TWP completion year as well as in the second year following TWP completion year.[4] We conclude that the TWP-year distributions for the 1996 and 1998 cohorts are quite comparable, apart from a small rightward shift from 1996 to 1998 that could reasonably be attributed to wage growth. Differences in the second year after the TWP completion year presumably reflect comparable wage growth, as well as the effects of the 1999 SGA earnings-level increase.

Visual inspection of the cumulative distributions in Chart 2 does not reveal any obvious effect of the SGA earnings-level increase. The effect can be seen, however, by adjusting the earnings distribution for the 1998 cohort in the second post-TWP year for the difference between the TWP-year distributions for the 1998 and 1996 cohorts and comparing the result with the second post-TWP year distribution for the 1996 cohort (Chart 3). The adjusted distribution for the 1998 cohort in the second post-TWP year is the actual

Chart 2.
Cumulative distribution of monthly earnings in the TWP completion year and in the second year after TWP completion, 1996 and 1998 cohorts
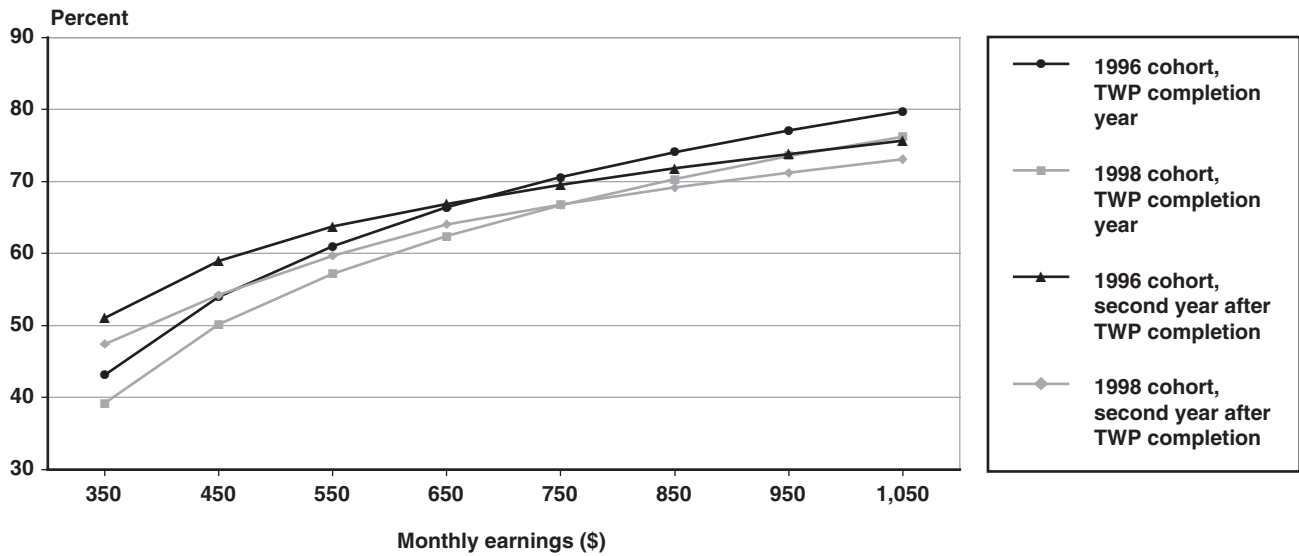
SOURCE: SSA's 2007 TRF data merged with MEF data.

NOTES: Nominal earnings are in $100 intervals; the dollar value denoted is the midpoint of the interval. Level differences across the cohorts reflect our use of nominal earnings; when earnings were adjusted by the contemporaneous AWI, those level differences disappeared.

Chart 3.
Cumulative distribution of monthly earnings in the second year after TWP completion, 1996 cohort (actual earnings) and 1998 cohort (adjusted earnings)
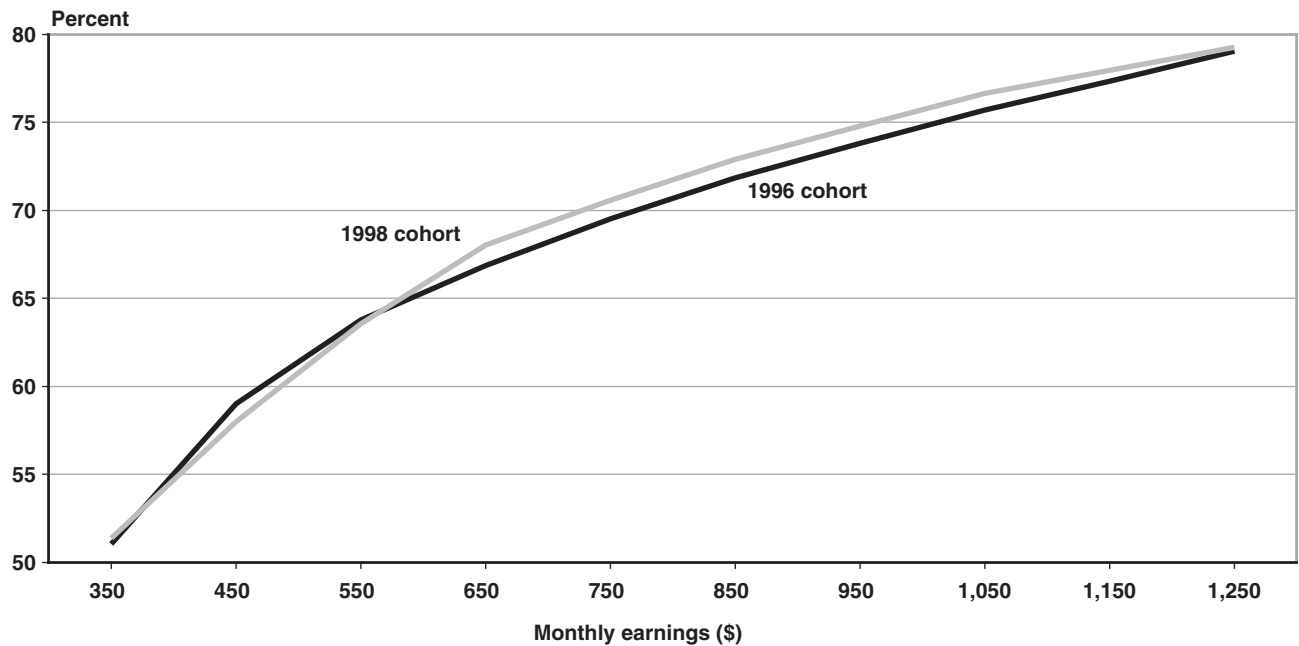
SOURCE: SSA's 2007 TRF data merged with MEF data.

NOTES: The 1998 cohort distribution has been shifted upward by the vertical distance between the TWP-year distribution for the two cohorts. Nominal earnings are in $100 intervals; the dollar value denoted is the midpoint of the interval.

earnings distribution shifted upward by the vertical difference between the TWP-year distributions for the two cohorts, as shown in Chart 2.

What emerges is a pattern that matches the exaggerated stylized pattern of Chart 1. The adjusted distribution for the 1998 cohort, subject to the higher SGA, crosses the distribution for the 1996 cohort between the old and new SGA values ($500 and $700). That is, the comparison is consistent with the prediction that the increase in the SGA level increased the earnings of some who would otherwise have had earnings below $500 and reduced the earnings of some who would otherwise have had earnings above $700. The difference-in-difference estimates presented in the next section provide a more rigorous assessment of the extent of those visible changes.

Turning to NSTW months during the TWP completion year, the values for the 1996 and 1998 cohorts were also similar (Chart 4). The pattern for both cohorts was in line with expectations; as average monthly earnings during a year increased, the mean NSTW months increased, reflecting more months with earnings above SGA. There were small differences within earnings categories, which might reflect wage growth or other factors. The largest difference, for those with average monthly earnings in excess of

$1,000, was only 0.2 months. Hence, we conclude that NSTW months during the TWP year are a strong base for the DD estimator of the impact of the SGA earnings-level increase on time off of the rolls for work.

Model Specification

We use a DD strategy to estimate the impact of the SGA increase on the earnings distribution, as well as on monthly earnings and NSTW months in the second year after TWP completion. That is, we compare changes in outcome variables for the 1996 and 1998 cohorts from the TWP year with those in the second year after the TWP completion year. As discussed earlier, the 1998 cohort experienced a large increase in its nonblind SGA earnings amount during its first post-TWP year, whereas the 1996 cohort did not.

We used a regression-based DD estimator to control for the possible effects of observable differences in the characteristics of the two cohorts. The estimator is based on the following standard model:

$$Y_{it} = \alpha + \beta D_t + \delta C_i + \gamma C_i D_t + \pi' X_i + \varepsilon_{it},$$

where Y_{it} is the dependent variable for beneficiary i in the tth year after TWP completion ($t = 0$ or 2, depending on the application); D_t is an indicator variable for the second year after TWP completion; C_i is an

Chart 4.
Mean number of NSTW months in the TWP completion year, by TWP-year average monthly earnings interval, 1996 and 1998 cohorts
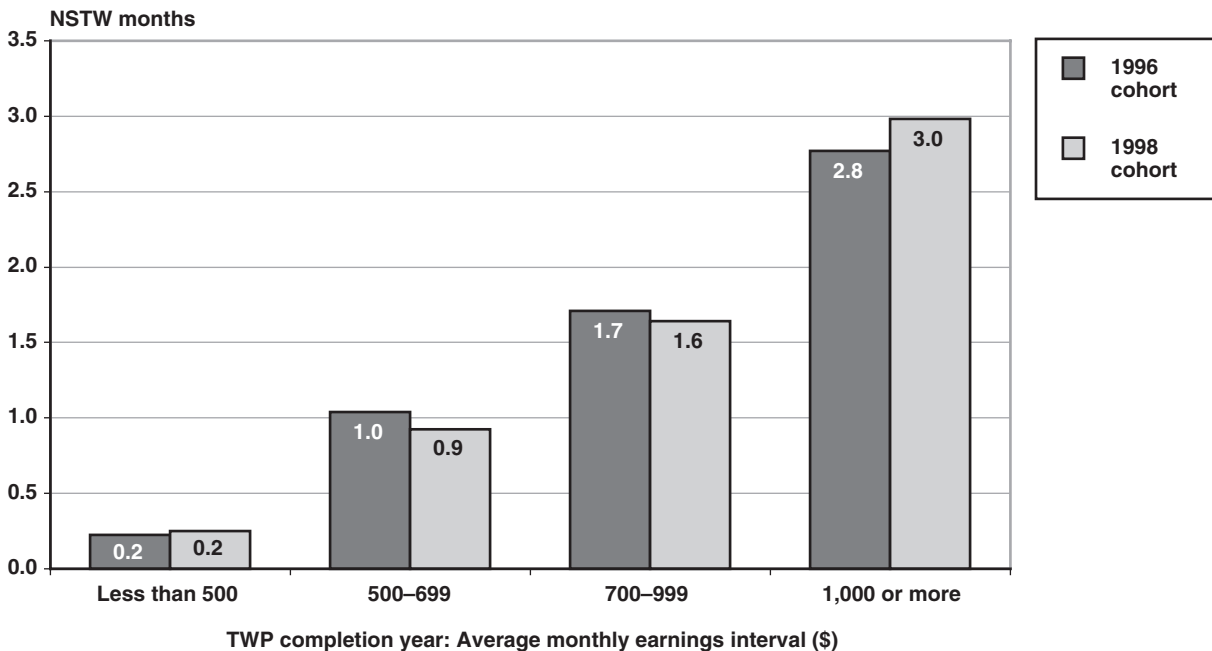
SOURCE: SSA's 2007 TRF data merged with MEF data.

indicator for the 1998 cohort; X_i is a column vector of control baseline characteristics; α, β, δ, γ, and π are parameters (π is a column vector), and ε_{it} is an independent disturbance.

Three definitions are used for Y_{it}: (1) an indicator for one of five average monthly earnings categories[5] ($0–$199; $200–$499; $500–$699; $700–$999; and $1,000 or more); (2) the dollar value of average monthly earnings; and (3) the number of NSTW months. The coefficient of interest is γ, the DD estimate of the difference between the mean change for the 1998 cohort from the TWP year to the second post-TWP year and the corresponding mean change for the 1996 cohort, adjusted for differences in baseline characteristics, X_i. The baseline characteristics include individual characteristics as of the year of TWP completion, plus a set of indicator variables for the calendar month of TWP completion. As detailed in Table 2, individual characteristics include age, sex, race, educational attainment, and primary disabling condition (as determined by SSA).[6] We estimated each model by using ordinary least squares and corrected the standard errors for heteroskedasticity.[7]

The model was estimated for each dependent variable (Y_{it}) using the full samples for the 1996 and 1998 TWP cohorts. For the five categorical average monthly earnings variables, theory predicts positive impacts on the percentage with earnings in the $500–$699 category (that is, between the old and new SGA) and negative impacts on the percentages in all other categories. The theoretical prediction for the impact on average monthly earnings is ambiguous in sign because of countervailing predictions for those with high and low counterfactual earnings. The theoretical prediction for the impact on the number of NSTW months is negative.

In addition to the full-sample models, we estimated models for average monthly earnings and NSTW months using each of four subsamples, defined by their average monthly TWP-year earnings ($0–$499; $500–$699; $700–$999; and $1,000 or more) because of the expectation that the impact of the SGA increase on those outcomes would vary by earnings level. Those models assume that TWP-year earnings are a predictor of the level of earnings in the second post-TWP year; that is, all else being equal, TWP-year earnings and post-TWP earnings are positively correlated. We expect the SGA earnings-level increase to have the largest positive impact on the mean earnings of beneficiaries with average monthly TWP-year earnings in the $0–$499 range and the largest negative impact on those with average monthly TWP-year earnings in the $1,000 or more range. We expect the SGA earnings-level increase to have negative impacts on the number of NSTW months for all earnings categories, but especially for those with average monthly TWP-year earnings of $500 or more.

We present the estimates from each of those models, as well as one that aggregates across the models using weights for the percentage of the 1998 cohort in each of the TWP-year earnings categories. The weighted total estimate differs from the total estimate based on the full-sample regression because the percentage of the 1996 cohort in each TWP-year earnings category differs from the corresponding percentage for the 1998 cohort. Thus, the weighted total estimate is an estimate of the total impact after controlling for the change in the TWP-year earnings distribution from the 1996 cohort to the 1998 cohort.

All of the impact estimates reported are for the second year after TWP completion. In each case, we present unadjusted means or percentages for each cohort in the TWP year and the second post-TWP year, plus the regression-adjusted DD estimates and their t-statistics. Unadjusted DD estimates (not reported) can be calculated from the reported means. They differ from the regression-adjusted estimates in only minor ways (never more than in the second significant digit), implying that differences in the observable characteristics of the 1996 and 1998 cohorts did not substantially affect differences in their mean outcomes.

A Test for the Effects of Confounding Factors

The DD methodology would fail if confounding factors (that is, factors other than the SGA earnings-level increase) affected changes in outcomes from the TWP year to the second post-TWP year for the 1998 cohort relative to the corresponding changes for the 1996 cohort. Wage growth driven by external market forces is possibly an important example. If, however, the effect of wage growth on earnings from the TWP year to the second post-TWP year is comparable across the entire earnings range, and especially the range around the old and new SGA levels, the DD estimator will successfully control for it.

To test whether the DD estimator might produce spurious results because of wage growth or other potentially confounding factors, we compared changes in the annual earnings distribution from the TWP completion year with the year after TWP completion for the 1996 and 1997 cohorts. Neither of those cohorts

experienced an increase in the SGA earnings level from the TWP year to the next year. Thus, we used the DD methodology to test whether "no change in the SGA earnings level" for the 1997 cohort had an impact on the earnings in the year after TWP completion; the finding of a statistically significant effect would imply that our estimation strategy is flawed.

The results are summarized in Table 3. The point estimates for effect of *no change in the SGA earnings level* on the percentage with earnings in each earnings interval in the year after TWP completion are small, not statistically significant, and unrelated to the level of earnings. The point estimate for the interval from $200–$499 is largest in magnitude (-0.2), but has a t-statistic of just -0.6. The point estimate in the critical range between the old and new SGA levels is 0.00 and has a t-statistic that is less than 0.01. This test of the DD estimator increases our confidence that the estimator applied to outcomes for the 1996 and 1998 cohorts in the TWP completion year and the second year after TWP completion adequately controls for the effect of wage growth and other potentially confounding factors.

Explicit Adjustment for Exogenous Wage Growth

An alternative way to address the possibly confounding effects of exogenous wage growth is to explicitly adjust earnings by an index of wage growth. The AWI is the obvious choice, although we note that Autor and Duggan (2006) reported that wage growth in the types of relatively low-wage jobs that most incoming DI beneficiaries have had was lower than the average wage growth during the period under study.

To test this approach, we applied the DD estimator to AWI-adjusted earnings for the 1996 and 1997

cohorts and repeated the test for the effect of *no change in the SGA earnings level*. The AWI-adjusted estimator failed that test. Specifically, we found a negative, marginally significant "impact" on the percentage with AWI earnings between $200 and $499. This strongly suggests that the application of the DD estimator to AWI-adjusted earnings for the 1996 and 1998 cohorts would lead to a negatively biased estimate of the impact of the SGA earnings-level increase on the percentage of the 1998 cohort with earnings in the same interval during the second year after TWP completion. Hence, we only report findings for the DD estimators applied to nominal earnings.[8]

Results

The estimated impact of the $200 SGA increase on the distribution of earnings for the 1998 cohort in the second post-TWP year is strongly consistent with theoretical predictions (Table 4). The DD estimates for the percentage with monthly earnings within intervals indicate that, as expected, the SGA-level increase raised the percentage with earnings between $500 and $700 (that is, between the old and new SGA), by an amount that is very statistically significant: 2.2 percentage points (95 percent confidence interval: 1.7 to 2.7). Those additional 2.2 percentage points came partly from beneficiaries who would otherwise have had earnings below $500 (an estimated 1.0 percentage points) and partly from those who would have had earnings above $700 (an estimated 1.2 percentage points). The estimated 1.0 percentage point decline in beneficiaries who would otherwise have had earnings above $1,000 is especially notable and statistically significant. It strongly suggests that the SGA increase induced some beneficiaries to keep their earnings low enough to retain their benefits. Estimates for the other

Table 3.
DD estimates for the impact of "no change in the SGA earnings level" from the TWP completion year to the first post-TWP year for the 1996 and 1997 TWP completer cohorts

| Average monthly earnings ($) | Percentage of cohort with earnings in category | | | | DD estimate for the impact of the SGA earnings-level increase | | | |
| | Year of TWP completion | | First post-TWP year | | Point estimate | t-statistic | 95 percent confidence interval | |
	1996	1997	1996	1997				
0–199	17.43	16.22	30.37	29.39	0.22	-0.62	0.21	0.23
200–499	36.58	35.74	26.89	25.80	-0.24	-0.64	-0.25	-0.23
500–699	12.38	12.46	9.18	9.27	0.00	<0.01	-0.01	0.01
700–999	10.74	10.86	8.02	8.20	0.07	0.30	0.07	0.07
1,000 or more	22.87	24.72	25.53	27.33	-0.05	-0.15	-0.06	-0.04

SOURCE: SSA's 2007 TRF data merged with MEF data.

NOTE: DD estimates are regression-adjusted to control for differences in the 1996 and 1997 cohorts.

intervals are not statistically significant at the 5 percent level, although the point estimates are all of the expected sign. Further, by construction, the sum of the four point estimates for the two lowest and two highest intervals is equal to the negative of the estimate for the middle interval, and is statistically significant.

Turning to the results for the impact on mean earnings in the second year after TWP completion, we find a small and statistically insignificant positive effect of less than $4 per month (Table 5). This unweighted total estimate reflects the effects of any changes in the distribution of TWP-year earnings from 1996 through 1998, which could not be caused by the SGA increase, and may also mask predicted

countervailing impacts on the earnings of those with high and low TWP-year earnings. We also show a weighted total estimate, based on DD estimates, for the four TWP-year earnings intervals, weighted by the percent of the 1998 cohort in that interval. The weighted total estimate is somewhat larger, but still small—$10 per month—and still not statistically significant. But there are statistically significant, although small, positive impacts for the 50 percent of beneficiaries with TWP-year earnings below $500. The estimated effect in that range is about $16 per month (95 percent confidence interval: $5 to $27), or 6.3 percent of average monthly earnings in that range. Point estimates for the other intervals are not statisti-

Table 4.
DD estimates for the impact of the 1999 SGA earnings-level increase on average monthly earnings from the TWP completion year to the second post-TWP year for the 1996 and 1998 completer cohorts

Average monthly earnings ($)	Percentage of cohort with earnings in category				DD estimate for the impact of the SGA earnings-level increase			
	Year of TWP completion		Second post-TWP year		Point estimate	t-statistic	95 percent confidence interval	
	1996	1998	1996	1998				
0–199	17.43	16.23	30.37	35.0	-0.54	-1.52	-1.24	0.16
200–499	36.58	34.02	26.89	19.32	-0.48	-1.31	-1.19	0.23
500–699	12.38	12.16	9.18	9.79	2.20	8.64	1.71	2.69
700–999	10.74	11.13	8.02	7.13	-0.22	-0.92	-0.69	0.25
1,000 or more	22.87	26.46	25.53	28.8	-0.96	-2.73	-1.65	-0.27

SOURCE: SSA's 2007 TRF data merged with MEF data.

NOTE: DD estimates are regression-adjusted to control for differences in the 1996 and 1998 cohorts.

Table 5.
DD estimates for the impact of the 1999 SGA earnings-level increase on mean monthly earnings from the TWP completion year to the second post-TWP year, by earnings interval in the TWP completion year, for the 1996 and 1998 TWP completer cohorts

Average monthly earnings in the TWP year ($)	Percentage of cohort in category		Change in mean monthly earnings of cohort ($)		DD estimate for the impact of the SGA earnings-level increase				Percentage estimate
	1996	1998	1996	1998	Point estimate	t-statistic	95 percent confidence interval		
Total	100.0	100.0	44.04	47.92	3.89	0.33	-18.96	26.74	0.5
Weighted total	100.0	100.0	37.70	47.84	10.14	0.96	-8.94	29.22	1.3
Less than 500	54.01	50.25	98.61	114.60	15.99	2.97	5.46	26.52	6.3
500–699	12.38	12.16	29.28	46.54	17.25	1.46	-5.84	40.35	2.9
700–999	10.74	11.13	36.29	54.78	18.49	1.07	-15.41	52.39	2.2
1,000 or more	22.87	26.46	-73.23	-80.92	-7.69	-0.19	-85.61	70.22	-0.3

SOURCE: SSA's 2007 TRF data merged with MEF data.

NOTES: The change in monthly earnings is calculated from the TWP completion year to 2 years later. DD estimates are regression-adjusted to control for differences in the 1996 and 1998 cohorts. Within each group, the percentage estimate is the DD estimate divided by the mean earnings in the second post-TWP year (2000) of the 1998 TWP completers, net of the DD estimate for the group.

cally significant, reflecting high standard errors and wide confidence intervals within those intervals.

Consistent with expectations, the results show a significant negative effect of the SGA earnings-level increase on the number of NSTW months during the second year after TWP completion (Table 6). The weighted total DD estimate shows a statistically significant but small mean negative impact of 0.24 months (95 percent confidence interval: -0.30 to -0.18), or 6.4 percent of the average number of months spent off the rolls for work by the 1998 cohort in the second year after TWP completion. The weighted total estimate was more than twice as large as the unweighted estimate, reflecting variation in the magnitude of the effect within TWP-year earnings intervals and differences between the TWP-year earnings distributions for the 1996 and 1998 cohorts. As expected, the point estimate is largest for beneficiaries with TWP-year earnings in the range between the old and new SGA levels: -0.6 months, or 17.1 percent of the months in which their counterparts in the 1998 TWP cohort were off the rolls in the second year after TWP completion. The point estimate for those with earnings under $500 in the TWP year is negative and half as large, but statistically significant and almost as large in percentage terms (16.2 percent). The estimate for the interval from $700 to $999 is also negative and statistically significant, but smaller still, and the estimate for the highest earnings interval is very close to zero and insignificant.

Conclusion and Discussion

For a number of reasons described earlier, we limit our analysis to examining the impact of the increase in the SGA level on earnings and number of NSTW months for the 1998 TWP completer cohort in the second year after TWP completion. Using our preferred estimates (based on nominal earnings), we find statistically significant impacts that are consistent with theoretical predictions: a decrease in the percentage with earnings below the old SGA level, a decrease in the percentage with earnings above the new level, and an increase in the percentage with earnings between the old and new levels.

We did not find statistically significant positive effects on mean monthly earnings, but the estimate for all beneficiaries disguises a small ($16 per month) statistically significant positive effect on mean monthly earnings for those with TWP-year earnings below $500. Point estimates for other TWP-year earnings categories are not statistically significant, reflecting high standard errors within each category. We find statistically significant negative effects on NSTW months; our preferred estimate is an average reduction of one-quarter of a month, or 6.4 percent of our estimated number of NSTW months in the absence of the SGA earnings-level increase (that is, the estimated counterfactual). Effects are especially large for those with earnings between $500 and $699 in the TWP completion year: six-tenths of a month, or over 17 percent of the estimated counterfactual.

Table 6.
DD estimates for the impact of the 1999 SGA earnings-level increase on the number of NSTW months from the TWP completion year to the second post-TWP year, by earnings interval in the TWP completion year, for the 1996 and 1998 TWP completer cohorts

Average monthly earnings in the TWP year ($)	Percentage of cohort in category		Change in mean number of NSTW months of cohort		DD estimate for the impact of the SGA earnings-level increase				
	1996	1998	1996	1998	Point estimate	t-statistic	95 percent confidence interval		Percentage estimate
Total	100.0	100.0	2.62	2.49	-0.13	-4.15	-0.19	-0.07	-3.5
Weighted total	100.0	100.0	2.73	2.49	-0.24	-8.42	-0.30	-0.18	-6.4
Less than 500	54.01	50.25	1.58	1.28	-0.29	-9.44	-0.36	-0.23	-16.2
500–699	12.38	12.16	2.79	2.16	-0.63	-7.36	-0.80	-0.46	-17.1
700–999	10.74	11.13	3.59	3.36	-0.22	-2.18	-0.43	-0.02	-4.3
1,000 or more	22.87	26.46	4.53	4.56	0.03	0.38	-0.11	0.16	0.4

SOURCE: SSA's 2007 TRF data merged with MEF data.

NOTES: The change in the NSTW months is calculated from the TWP completion year to 2 years later. DD estimates are regression-adjusted to control for differences in the 1996 and 1998 cohorts. Within each group, the percentage estimate is the DD estimate divided by the mean NSTW months in the second post-TWP year (2000) of the 1998 TWP completers, net of the DD estimate for the group.

Overall, the estimates provide strong evidence of parking, as we have defined it—intentional restraint of earnings to maintain DI benefits. The effect is stronger than that found in other studies, but the magnitude of the parking identified is not very large relative to the number of beneficiaries in the 1998 TWP cohort. We infer that between 1.2 and 2.2 percent of those beneficiaries—774 to 1,418—parked their earnings in the $500–$699 interval during the second year after TWP completion (that is, in 2000). Both bounds include the estimated 1.2 percent of beneficiaries who were induced to reduce their earnings from more than $700 to less than $700. The upper bound assumes that the estimated 1.0 percent induced to increase their earnings above $500 by the SGA-level increase were still restraining their earnings because of the now higher SGA amount, while the lower bound assumes that none of them were doing so (that is, that they would not have increased their earnings further even if the SGA amount was increased further).

Note that the percentage of beneficiaries in the 1998 cohort with earnings in the $500–$699 range during their second year after TWP completion is considerably larger than the maximum point estimate for parkers: 9.8 percent versus 2.2 percent (Table 4). We do not count 7.6 percent of those beneficiaries as parkers, even under the maximum estimate, because we do not have evidence suggesting that they adjusted their earnings to keep the level below the new SGA earnings level. It might seem odd that some individuals would choose to have earnings in this range if it meant complete loss of benefits prior to the SGA earnings-level change. Several possible explanations other than simply choosing to have lower income follow: an expectation of earnings growth; high variability in earnings over the year so benefits are suspended in some months, but not others; impairment-related work expenses that are used as offsets to earnings; and less knowledge of the rules. With respect to the last explanation, some beneficiaries who engage in SGA later find that their benefits have been suspended or terminated retroactively and could also be asked to reimburse SSA for overpayments. Perhaps they would have restrained their earnings had they understood the relationship between SGA and benefits, but the analysis does not provide evidence on this point.

To be consistent with our conceptual definition of parking, we count as parkers only those in the 1998 cohort who were induced by the SGA-level increase to earn in the range between the old and new SGA levels 2 years after completing their TWP. The total

number of beneficiaries who parked below the SGA level in that same year, 2000, was almost certainly much larger, however, because presumably many beneficiaries from other TWP completer cohorts were also parked.

The impact estimates can be used to make back-of-the-envelope inferences about the number of parkers in the average month of any year after 1999, provided that (1) an estimate of the number of beneficiaries who were off the rolls for work in the average month of that year is available, (2) the impact of the 1999 SGA earnings-level increase had the same percentage impact on months with benefits suspended for work for all beneficiaries in the later years, and (3) the ratio of the upper bound number of parkers to the lower bound for the later year is the same as the ratio among the 1998 TWP cohort in 2000. Schimmel and Stapleton (2011) found that approximately 200,000 DI beneficiaries were off the rolls because of work in the average month for each year from 2002 through 2006. Based on their estimates and the estimated impacts of the 1999 SGA earnings-level increase on months with benefits suspended for work, we arrive at a range of 14,000 to 25,000 parkers in the typical month over this 4-year period.[9] That range is equivalent to 0.2 to 0.3 percent of the average number of beneficiaries on the rolls in December of those years. Although this number is small relative to the total number of beneficiaries, it is large relative to the percentage whose benefits are suspended because of work in a typical month (about 0.5 percent) or who are terminated in a typical year (also about 0.5 percent).[10]

There are numerous reasons why the number of parkers might be larger than our estimates indicate, even by our definition. One is the strength of the economy. Presumably, the number of parkers during the early part of the 2002–2006 period was reduced by the weak economy. Hence, in a stronger economy, the number of parkers might be larger than those estimates suggest. Another reason is that the 1998 cohort might not have had sufficient time to fully adjust to the higher SGA earnings level by 2000. A third reason is that the impact of the SGA earnings-level increase might have been larger for those who had completed the first 36 months following their TWP completion than for those in the second year following TWP completion (that is, the period we focus on). Because the benefits of such beneficiaries are terminated if they engage in SGA, not just suspended, and because during this period it is was much harder to return to DI after termination for work than after suspension

for work, their incentive to avoid engaging in SGA is stronger than the corresponding incentive for those who have not completed the 36-month EPE.[11]

A final reason that the number of parkers might be larger than our estimate is related to induced entry. Some workers with disabilities who have entered the DI program since the SGA earnings-level increase might not have entered if the SGA amount had remained the same. It is the opportunity to park at a level of earnings between the old and new SGA that induced such workers to enter DI, so it seems quite likely that many would.

We do not know if the increase in the SGA earnings level induced any workers to enter the DI program. Given the length and uncertain outcome of the DI application process, we would not expect workers to be induced to leave their jobs and apply for benefits because of the increase in the SGA earnings level. Workers who have lost their jobs for other reasons (for example, during a recession) might, however, find application for DI a more attractive alternative because of the SGA increase, and some might successfully apply. "Reduced exit" might be a much a more important phenomenon than reduced entry. That is, workers who have lost their jobs for other reasons and would have entered the DI program even in the absence of the SGA increase are now less likely to leave the rolls for work than they were before the increase.

It should also be noted that the increase in the level of SGA earnings might have increased the extent to which beneficiary earnings are reported to SSA (via the Internal Revenue Service). Some beneficiaries who earned above the old SGA level prior to 1999 might have failed to report at least some of their earnings to avoid benefit loss, but revealed more of their earnings after the SGA increase. To the extent that such reporting changes occurred, some beneficiaries we have counted as parkers under the new SGA earnings level are beneficiaries who were hiding at least some of their earnings under the old SGA level, and the impact on mean actual earnings is even smaller than the impact on mean reported earnings.

SSA's use of the AWI to adjust the SGA earnings level since 2000 might have increased or reduced the number of parkers. If AWI growth has been more rapid than wage growth in the jobs that beneficiaries typically obtain, it would seem quite likely to have further reduced the number of beneficiaries who have their benefits suspended, and eventually terminated, for work. That does not imply that the percentage of beneficiaries who are parked is increasing, however,

because some who might have restricted their earnings had the SGA level grown more slowly since 2000 might not do so under the current SGA level. Note that, by our definition, parking could be eliminated by increasing the SGA earnings level to a sufficiently large amount.

Our findings imply that policy reforms designed to increase work incentives for DI beneficiaries capable of SGA could potentially increase the earnings of the small share of beneficiaries who are parked, but might also reduce the earnings of the even smaller share who leave the rolls because of work under current law. SSA's test of the $1-for-$2 benefit offset for earnings above the SGA level might show increases in earnings for beneficiaries who are parked under current law, but declines for those who would have left the rolls for work.

Notes

[1] Individuals who qualify based on their own earnings record must have worked in a Social Security–covered position for 5 of the past 10 years.

[2] The TRF was created by Mathematica Policy Research under contract with SSA and is housed on SSA's mainframe. SSA grants access to researchers to use the data on a case-by-case basis.

[3] To identify blind individuals, we used a variable in the administrative records indicating the date a person was determined to be blind by SSA for purposes of determining SGA. It is possible that some of those classified as nonblind for our analysis were blind but had not been determined to be blind for SGA purposes. SSA does not determine the blind status of a beneficiary unless there is an administrative reason to do so. Determination of the SGA amount provides a reason for those who work, so our expectation is that there are few blind beneficiaries among the nonblind TWP completers.

We considered using contemporaneous blind TWP completer cohorts as comparison groups for the TWP completer cohorts, but comparisons of earnings for the blind and nonblind cohorts prior to the increase in the nonblind SGA earnings level demonstrated that blind cohorts were an inadequate comparison group. We also found substantive differences in the demographic characteristics of the blind and nonblind cohorts.

[4] Approximately 8 percent of each TWP cohort did not have earnings in the TWP completion year, likely a data anomaly or earnings reporting error. Approximately 15 percent did not have earnings in the year after TWP completion and 22 percent did not have earnings in the second year after TWP completion. This pattern was nearly identical in the 1997 and 1998 cohorts.

[5] We initially consider earnings in these five categories when exploring changes in the distribution of earnings across the cohorts. When we consider changes in mean earnings and NSTW months, we collapse the lowest earnings into a single category, from $0 to $499.

[6] The age variable is the actual age in the identified year. All other variables are categorical.

[7] Regression results corresponding to Tables 4–6 are available in the online version of this article (Appendix Tables A-1 through A-3).

[8] Analogous AWI-adjusted results to those contained in this article are available in the online version of the article (Appendix Tables A-4 through A-6).

[9] The lower bound is obtained by assuming that beneficiaries were parked only in the months represented by this impact and that the same percentage reduction applied to all beneficiaries off the rolls for work after TWP completion in other years. If N is the number of beneficiaries off the rolls in the typical month of year t, then we estimate the lower bound for the number of parkers is $P_L = 0.064N / (1.0 − 0.064) = 0.068N$ and the upper bound is $P^U = 2.2P_L / 1.2 = 1.83P_L = 0.125N$.

[10] In December 2006, the benefits of 33,613 disabled-worker beneficiaries were suspended because of work, representing 0.49 percent of all beneficiaries on the rolls in that month. During that entire year, 36,242 beneficiaries had their benefits terminated because of work, or 0.53 percent of the number of beneficiaries in December (SSA 2008).

[11] More recently, SSA has implemented an expedited reinstatement process for those whose benefits have been terminated for work.

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