

Initial impacts of the Ticket to Work program on Social Security disability beneficiary service enrollment, earnings, and benefits

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Abstract. This paper presents estimates of Ticket to Work's (TTW) impacts on service enrollment, earnings, and benefit amounts during the first two years of program implementation in Phases 1 and 2 states. We estimated impacts using a longitudinal fixed effects model that tracked changes in outcomes of 4.7 million beneficiaries with disabilities covering the period from the year before the Phase 1 Ticket mailing in 2001 and continuing through the end of 2003. Our impact estimates indicate that TTW had a small impact on promoting service enrollment during the first year of TTW rollout. We find no compelling evidence that TTW affected beneficiary earnings and benefits during its first two years. Our impact findings for all outcomes are consistent with the expectation that changes in service enrollment would occur before changes in either earnings or benefit receipt. Additionally, the relatively small size of the service enrollment impacts is consistent with the low TTW participation rate, which was less than 1 percent during the first year of the rollout in Phase 1. Given the anticipated timing of impacts and the relatively small size of the service enrollment impacts, it is not surprising that we find no compelling evidence of subsequent impacts on earnings and benefit amounts at this early stage.

Keywords: Ticket to Work, Ticket to Work and the Work Incentives Improvement Act, disability and employment, Social Security disability benefits, evaluation, administrative data

1. Introduction

According to the final rules issued in the December 28, 2001 *Federal Register*, the Ticket to Work program “will enhance the range of choices available to Social Security disability and disabled or blind SSI beneficiaries when they are seeking employment services, VR services, and other support services to obtain, regain, or maintain self-supporting employment.”¹ The program is intended to significantly increase access to and

quality of rehabilitation and employment services available to disability beneficiaries by providing a Ticket to eligible Disability Insurance (DI) and Supplemental Security Income (SSI) disability beneficiaries that can be used to obtain VR and other employment services through employment networks (ENs). The underlying rationale for the program is that some beneficiaries currently lack the resources necessary to return to work at a level above the substantial gainful activity (SGA) level, either because they do not have easy access to such services, or because they and their providers lack the incentive to invest resources in return-to-work activities that will lead to program exit.

If the TTW is to achieve the objectives originally envisioned in the *Federal Register*, it must increase the enrollment of eligible beneficiaries in employment services, and/or change service delivery in a manner

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¹See 66 FR 249, 67370–67442. The final rules have been incorporated into the Code of Federal Regulations as 20 CFR Part 411.

that increases the likelihood of program exit. Such changes should subsequently translate into higher earnings and lower DI and SSI benefit amounts. Initial impacts should occur first on enrollment in services and the nature of service delivery, as beneficiaries assign their Ticket and/or become more aware of employment service options in their area. Any impacts on earnings and, especially, benefits are expected to take longer to emerge; earnings increases are not likely to occur for some time after Ticket assignment, and DI benefits will not be reduced until earnings have exceeded the SGA level for as long as 12 months.²

This paper includes estimates of TTW's impacts during the first two years of program implementation in Phases 1 and 2 states. The estimates address the Social Security Administration's (SSA) top evaluation priority – to assess whether TTW significantly reduces dependence on SSA benefits through increased earnings. They provide evidence of the TTW's initial impacts on beneficiary outcomes during the first two years of implementation. Because it may take some time for the full impacts of the TTW program to develop, these estimates must be viewed as initial impacts that may change in later years as the TTW program matures.

We present estimates for three outcomes that are related to SSA's top evaluation priority: service enrollment, earnings, and benefit amount outcomes. Our estimates for service enrollment capture the effects of the TTW program on beneficiary participation in state Vocational Rehabilitation agency (SVRA) or EN services. Our estimates for earnings and benefit amounts capture the effect the TTW program had on annual levels of earnings and SSA disability payments. If the TTW is to achieve its ultimate objectives, the impact on service enrollment and earnings must be positive, and the impacts on benefit amounts must be negative.

We estimate impacts using longitudinal administrative data on the characteristics and outcomes of 4.7 million beneficiaries with disabilities from the year before the Phase 1 Ticket mailing in 2001 through the end of 2003. The data were obtained from SSA and the Rehabilitation Services Administration (RSA), and include information on service enrollment, program benefits, and SSA-covered earnings.

²In 2002, the first year of the Ticket rollout, SGA was defined as earnings in excess of \$780 for non-blind beneficiaries; cost of living adjustments increase SGA to \$900 by 2007. DI beneficiaries who have not used any of their nine-month Trial Work Period can earn above SGA for each of those months, plus three additional grace period months, before they lose their benefits.

Consistent with the findings from the other papers in this volume, we find that the TTW program had very small effects on beneficiary outcomes. Our findings indicate that TTW had a small impact on promoting service enrollment during the first year of the rollout. Our upper-bound estimates indicate that TTW increased service enrollment by up to 0.4 percentage points. Using a more restrictive set of assumptions for service enrollment, we obtain a lower-bound estimate of 0.1 percentage points. We find no compelling evidence that TTW affected beneficiary earnings and benefits during the program's first two years. The latter finding is not surprising, given the anticipated timing of impacts and the relatively small size of the service enrollment impacts.

Section 1 describes our approach to estimating impacts. Section 2 summarizes the administrative data sources and the sample selection for the analysis. Section 3 describes the outcomes used in the impact analysis and Section 4 presents the econometric model for generating impacts. Sections 5 and 6 present a full summary of our results for the service enrollment, earnings, and benefit amount outcomes. Finally, Section 7 summarizes the major findings and presents our plans for examining TTW outcomes in future years. For a full description of the data sources and all methods considered in estimating impacts, see Thornton et al. [4].

2. Design background

Stapleton and Livermore [2] summarized a general approach to estimating impacts in their design report for the Ticket evaluation that we used as a framework for this paper. The proposed approaches exploited variation over time in the rollout ("pre-post") and across states ("contemporaneous comparisons") in the three phases of the TTW program's implementation. In the absence of random assignment, the major challenge in estimating impacts was choosing a credible comparison group. Their approach to estimating impacts requires the use of SSA and Rehabilitation Services Administration (RSA) administrative data. These data were the only viable option for estimating impacts, given the absence of pre-TTW survey data and the prohibitive costs of collecting enough survey data to identify meaningful contemporaneous differences in outcomes across states.

Of the approaches proposed in the Stapleton and Livermore [2] design report, we determined that the

Table 1
TTW implementation schedule through 2003

Year	Phase 1 States	Phase 2 States	Phase 3 States
2003	Year after Ticket mailing	Year of Ticket mailing	Prior to TTW rollout
2002	Year of Ticket mailing	Prior to TTW rollout	Prior to TTW rollout
2001	Prior to TTW rollout	Prior to TTW rollout	Prior to TTW rollout

strongest approach was to estimate impacts using a longitudinal fixed effects model (see, for instance [6]).³ We measure impacts as the differences in the values of the outcome measures for the treatment group (beneficiaries who were eligible for TTW and were living in states where TTW had already been rolled out) and the contemporaneous values for the comparison group (beneficiaries who were eligible for TTW but were living in states where the program had not yet been rolled out), after controlling for characteristics in the pre-rollout year. Our strategy allows each source of identification – cross-state, pre-post, and within-period cross-person – to play a role, where the relative influence of each is allowed to be determined by the data. Given the data and the nature of TTW’s implementation, this model maximizes opportunities to reduce bias from individual confounding factors, such as motivation and severity of impairment, as well as annual factors that might affect outcomes in all states.

The model uses administrative data for a 2001 cohort of beneficiaries who would have been eligible for TTW if Ticket had been fully implemented in that year. For this cohort, we tracked changes in outcomes through 2002 and 2003 and compared changes across the three phases of the rollout schedule (Table 1). As shown in Table 1, some states had implemented TTW (Phase 1 states in 2002 and 2003, and Phase 2 states in 2003), and some had not (Phase 2 states in 2002 and Phase 3 states in 2002 and 2003). The rollout was gradual within each phase group, so during the first rollout year for each phase the 2001 cohort’s beneficiaries residing in the phase’s states were only eligible for part of the year. We estimated TTW impacts for four core outcome measures – two service enrollment measures (SVRA and EN participation, and SVRA-only participation), annual earnings, and annual benefit amounts. The estimated coefficients from our model represent an impact per TTW eligible.

³We also considered other approaches for estimating impacts from the Stapleton and Livermore [2] report, including participant comparisons and alternative pre-post and contemporaneous comparison models that incorporated multiple cohorts of beneficiaries. See Thornton et al. [4] for a more detailed description of these approaches and their limitations relative to the model summarized in this paper.

3. Data

The SSA and RSA administrative data sources include the Ticket Research File (TRF), which contains SSA program administrative data on the full population of adult SSI and DI beneficiaries from 1996 forward; SSA’s Summary Earnings Records (SER), which contains annual earnings data; and the RSA-911 case service report, which contains data on closed SVRA cases. In accordance with the Internal Revenue Service/SSA data agreement, researchers at MPR and Cornell did not directly access earnings data with personal identifiers; instead, SSA staff conducted the analysis under the direction of the researchers. The TRF contains longitudinal data on approximately 16 million beneficiaries age 18 to 64 with disabilities who participated in the SSI or DI programs at any time from 1996 through 2003, including benefit data from 1994 forward. The SER provides person-level historical data on Social-Security-taxable earnings for each year from 1937 to the present. The RSA-911 file is updated annually by RSA to include each SVRA case that closed, as reported by state agencies, during the most recent federal fiscal year.

One important aspect of the file construction is that, at the time we conducted the analysis, service enrollment measures (from RSA data) were available through 2002 (the first rollout year for Phase 1 states), and earnings and benefit amounts (from IRS and SSA data) were available through 2003 (the second rollout year Phase 1 states and the first rollout year for Phase 2 states). The amount of information on service enrollment is limited because SVRAs do not normally report a case’s data to RSA until a case is closed. At the time of the analysis, we had SVRA data through calendar year 2004, which meant that we could confidently use this file to identify nearly all SVRA participants only through 2002.⁴ In contrast, SSA earnings and benefit data were available

⁴SVRAs, as well as ENs, report Ticket assignment directly to SSA, via the program manager, but SVRAs enroll many beneficiaries for service without obtaining Ticket assignments. SVRA enrollment data for all beneficiaries is critical to the analysis, because in the pre-Ticket period beneficiaries who enrolled for SVRA services did not assign Tickets.

Table 2
Summary of outcome measures for the impact analysis from SSA and RSA administrative data sources

Outcome Measure	Data Source	Definition
SVRA-only service enrollment	RSA-911	The beneficiary was an open SVRA case in at least one month of the year.
Total (SVRA and EN) service enrollment (upper bound)	RSA-911 and TRF	The beneficiary was an open SVRA case in at least one month of the year or had an actively assigned Ticket to an SVRA or EN sometime during the year in either the RSA-911 or TRF. Includes SVRA cases from the RSA-911 or TRF.
Total service enrollment (lower bound)	RSA-911 and TRF	The beneficiary was an open SVRA case in at least one month of the year according to the RSA-911 file only or had an actively assigned Ticket to an EN sometime during the year in the TRF. Includes SVRA cases from only the RSA-911.
Earnings	SER	Total Social Security earnings from employment over the year.
Benefit amount	TRF	The total combined DI and SSI benefit amount over the year.

through 2003, allowing us to estimate impacts for two years.

The analysis sample includes a 2001 cohort of beneficiaries with disabilities age 18 through 57 who would have been eligible for TTW when the program was rolled out in 2002. The only beneficiaries in this age group who were ineligible were: those designated as Medical Improvement Expected (MIE) who had been on the rolls for less than three years and had not yet had a continuing disability review; and former child SSI recipients awaiting adult redetermination. If a beneficiary was determined to be eligible in at least one month during a calendar year, that beneficiary was considered eligible for that year in the longitudinal file. We included an upper age restriction to ensure that all beneficiaries were under the age of 60 at the end of the two-year period for which we had data (that is, through 2004). Based on the findings from Stapleton et al. [2], which indicate participation declines substantially with age, the predicted TTW impacts on service enrollment, earnings, and benefit amounts should also decline with age. For those over age 57 in 2001, we assume that any impacts of TTW were far too small to be detected. We also excluded beneficiaries who moved from across a phase state (e.g., from a phase 1 state to a phase 2 state) during the time window of our sample because we used the phase residence to proxy for exposure to ticket.

Our choice to estimate impacts using a sample of all TTW eligibles is important for two reasons. First, it is not possible to determine which members of the comparison group would have participated in TTW had they received a Ticket during the same period. Second, TTW might have effects that extend beyond effects on those who assigned their Ticket. As documented in Stapleton et al. [2], a small share of eligible beneficiaries had participated in TTW by the end of the analysis period, December 2003 (1.0 percent in Phase 1 states and 0.5 percent in Phase 2 states). However, these par-

ticipation rates might understate program impacts for two reasons. First, TTW might have affected beneficiaries with disabilities regardless of whether they assigned a Ticket. For example, the process of rolling out TTW and training SSA staff might have led to general changes attitudes among SSA staff, providers, advocacy organizations, and others to more aggressively promote return-to-work activities (for example, encourage use of work incentives, refer beneficiaries for related work services) to all beneficiaries, including those who did not assign a Ticket.

We also excluded individuals who were new beneficiaries at the beginning of the TTW rollout by requiring that all beneficiaries in our sample have 12 full months of benefits in 2001. We excluded new beneficiaries because it is problematic to measure base-year earnings and benefit amounts for them. For example, it is likely that many new beneficiaries, especially DI beneficiaries, will have at least some reported annual earnings according to the SER, although we cannot determine what portion of these earnings came before or after benefit receipt. Because of this issue, new beneficiaries could have received substantial base-year earnings before enrolling in the program, which could introduce measurement error in our earnings impacts of TTW in later years. Additionally, we anticipate the impacts on new beneficiaries will differ from existing beneficiaries. For these reasons, we plan to estimate impacts on these populations separately in future analyses.

4. Outcome measures

We assessed the TTW's impact on annual measures of SVRA-only service enrollment, two measures of total (SVRA and EN) service enrollment, benefit amounts, and earnings (Table 2). The SVRA-only measure was of interest to assess whether the Ticket had

any impact in either inducing or crowding out SVRA enrollment by beneficiaries. This impact could be negative because some beneficiaries who, under TTW, only receive services from ENs after the rollout would have enrolled for services at an SVRA in the absence of TTW. It could be positive if TTW stimulated enrollment at SVRAs. In addition, the estimate of the impact on SVRA enrollment might have a downward bias if the TTW rollout increased the number of Phase 1 SVRA enrollees who were not included in the RSA data available for the analysis because their cases were still open.

The first total service enrollment measure (upper bound) captured SVRA and EN participation as measured in the RSA-911 and/or TRF data files. This measure included beneficiaries who had assigned their Ticket or had an open SVRA case sometime during the course of that calendar year. It addressed a limitation of the SVRA-only measure by capturing impacts on the private rehabilitation market through the inclusion of EN service enrollment information. In years before the TTW rollout in a phase group, a beneficiary was counted as enrolled for services in a calendar year only if the beneficiary had an open case at an SVRA in at least one month as measured in the RSA-911 data. In the first rollout year for Phase 1 (calendar 2002), a beneficiary was considered to be enrolled for services if, in at least one month, the beneficiary had an open SVRA case and/or has a Ticket assigned to an EN or SVRA as measured in the RSA-911 and/or TRF data files.

We refer to impact estimates using this first total service enrollment measure as an “upper bound” because we were concerned that it included an upward bias related to a change in the methods used to account for SVRA and, to a lesser extent, non-SVRA participants after the Ticket rollout. In 2002, Phase 1 beneficiaries enrolled for services under a Ticket assignment to an SVRA would be counted as enrolled in the TRF even if their SVRA case had not closed, whereas before the rollout, only closed cases are counted. Thus, this total service enrollment impact estimates might capture increases in measured enrollment that reflects only changes in measurement that coincided with the TTW rollout. It might also miss some beneficiaries who used non-SVRA rehabilitation service providers before the rollout in each phase. However, we believe the bias associated with non-SVRA participation is minimal based on a finding from our process analysis findings that the vast majority of ENs had not served beneficiaries prior to the TTW rollout, except possibly under contract to provide services to SVRA clients [5].

To address this potential upward bias, we created a second total service enrollment variable (lower bound) that measured SVRA participation using the SVRA-only measure and added in the proportion of Phase 1 beneficiaries who had assigned a Ticket to an EN during at least one month in 2002.⁵ We use this measure to generate a “lower bound” impact estimate because it assumed that, if anything, the SVRA-only estimates had a downward bias, and the non-SVRA providers rarely gave services to beneficiaries except under contract to SVRAs. Our qualitative findings from the first Ticket evaluation report suggest that this assumption is reasonable [5].

The benefit amount was measured from the TRF and modified for the purposes of estimating impacts. We generated the benefit amount as the sum of the federal SSI amount paid and the DI benefit amount due in a year from the TRF and adjusted these values to reflect January 2004 real dollars (see [4] for more details). We then modified the adjusted benefit amount measure so that its values in 2002 and 2003 were fixed at 2001 levels unless the beneficiary was employed at some time during the analysis period. The modification was necessary because benefit amounts can vary for several administrative reasons (for example, overpayments or changes in state supplement payment rules for SSI) that are unrelated to TTW but could influence the impact estimates (see [4] for more details).

Finally, the earnings were based completely on information from the SER and included the amount of earnings from Social Security-covered employment received during a year. As with the benefit amount measure, we adjusted earnings to reflect January 2004 real dollars.

5. Econometric model

Our approach to estimating impacts was to compare changes in outcomes for beneficiaries across the different phases of the rollout schedule during TTW’s initial two years, 2002 and 2003. Impact estimates within this approach are measured as the differences in the values of the outcome measures for the treatment group (beneficiaries who were eligible for TTW and were living in states where TTW had already been rolled out) and the contemporaneous values for the compar-

⁵Unlike the upper bound measure, the lower bound measure did not include open SVRA participants measured in the TRF file in any month of 2002.

ison group (beneficiaries who were eligible for TTW but were living in states where the program had not yet been rolled out), after controlling for characteristics (including earnings and benefits) in the pre-rollout year. To isolate TTW impacts from other possible influences on eligible beneficiaries, we used the following longitudinal fixed effects model to net out the differences in individual or contextual characteristics between the treatment and comparison groups:

$$Y_{icsy} = a_i + b_s + c_y + \delta X_{cy} + \lambda_1 T1_{sy} + \lambda_2 T2_{sy} + \varepsilon_{icsy}$$

where:

Y_{icsy} = outcome for individual i in county c in state s during year y (service enrollment; benefit receipt and amount; and employment and earnings)

a_i = individual fixed effect for individual i

b_s = state fixed effect for state s

c_y = time fixed effect for year y

X_{cy} = unemployment rates in county c in year y

$T1_{sy}$ = mailing year treatment indicator in state s in year y

$T2_{sy}$ = year after mailing treatment indicator in state s in year y (earnings and benefit amount equations only)

ε_{icsy} = unobserved disturbance term for individual i in county c in state s in year y

The key coefficients of interest in the model are λ_1 and λ_2 , which represent impacts in the year of the Ticket mailing and in the year after the Ticket mailing, respectively. The service enrollment equation includes an impact only in the year of the Ticket mailing (that is, λ_1) because as noted above, RSA administrative data on SVRA enrollment in calendar year 2003 were incomplete when the analysis was conducted. The earnings and benefit amount equations include data for the full rollout that can be used to estimate impacts in the year of the Ticket mailing and in the year after the Ticket mailing (that is, λ_1 and λ_2).

We present impact estimates for each of our outcomes and use projections to translate these estimates to effects on all beneficiaries eligible for Ticket after the rollout's completion. Our impact estimates provide information on the change in each outcome since the TTW was rolled in Phase 1 states and our projections predict effects for all states, assuming the experiences of the Phases 2 and 3 states per beneficiary are the same as for Phase 1 states.

To account for differences in anticipated impacts in outcomes across subgroups, we stratified the sample by nine age-program groups based on age and program title; the age categories are 18–39, 40–49, and 50–57,

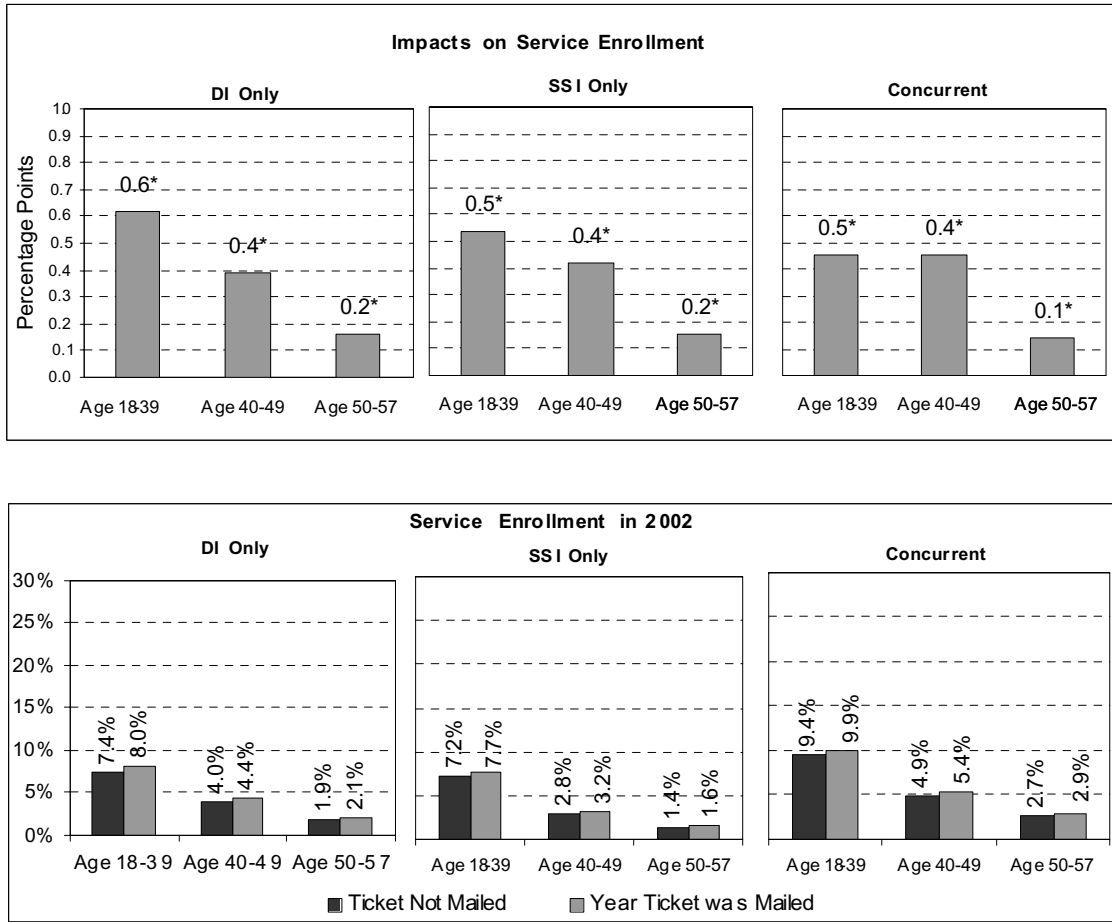
and the program title groups, which are mutually exclusive, are DI-only, SSI-only, and concurrent (DI and SSI) beneficiaries. As noted, we expect impacts to be larger among younger beneficiaries because they have higher employment rates relative to older beneficiaries, as well as higher Ticket assignment rates. Impacts could vary by program title because work incentives and participation rates differ across the SSI and DI programs (Titles XVI and II), though other differences, including age, education, work experience, and income, make it difficult to predict whether impacts should be larger for one program group or another. The sample size for each of the nine age-program groups is very large, ranging from a minimum of 193,000 (concurrent beneficiaries age 50 to 57) to 1.1 million (DI-only beneficiaries age 50 to 57). The total sample size is 4.7 million beneficiaries.

We assessed the credibility of the estimates by checking their consistency with our expectations about impacts for the nine age-program groups and with other descriptive analyses on overall TTW participation rates (see [4]). The aggregated estimates provide a general summary of findings relative to the full caseload, and the age-program estimates provide detailed information on subgroups of policy interest. We expected the estimated impacts to be small relative to the overall caseload, relatively larger for younger beneficiaries, and close to zero for older beneficiaries. Moreover, because of the direct relationship between TTW and service enrollment, we expected to find the stronger impacts on service enrollment than on earnings and benefits.

We tested the robustness of our findings by using specification tests suggested by Heckman and Hotz [1]. Specifically, we applied our econometric model to earlier cohorts of beneficiaries for periods when TTW was not available. If our specification is correct, the coefficients of our treatment indicator should be insignificantly different from zero during the periods before rollout given that the TTW program was not available. We present findings for two pre-TTW cohorts (1998 and 1999 cohorts) for which we have data on all outcomes. In each case, the model was estimated over a three-year period that starts with the cohort year and ends before the Ticket rollout began.

6. Impacts on service enrollment

The impacts on service enrollment apply to the beneficiaries enrolled in services during the first year of



Source: Tabulations of econometric estimates based on linked TRF and RSA-911 longitudinal data files.

Notes: The absolute impact estimates in the top chart are regression coefficients from separate econometric analyses for each age-program group. The relative impacts in the bottom chart represent the regression-adjusted means of service enrollment for the treatment and comparison cases in the year of the Ticket mailing (2002). Sample sizes for the age-program groups range from 193,000 to 1.1 million. For a summary of all coefficient estimates, see Thornton et al. (2007).

*Estimate is statistically significant at the .01 level.

Fig. 1. Upper-bound impact estimates on total service enrollment for ticket-eligible beneficiaries age 18 to 57, by age and program group.

TTW rollout in Phase 1 who were age 18–57 in 2002 and had been on SSA disability benefits for at least one year. We discuss the estimates for the SVRA-only service enrollment measure, which are not statistically significant. We then present estimates for the two upper and lower bound total service enrollment measures where we find statistically significant impacts. We present projections of impacts on the number of Phase 1 beneficiaries enrolled for services and the number of beneficiaries in the entire country during the first roll-

out year in their state, assuming impacts are the same across all three phases.

6.1. Estimates of impacts of TTW on SVRA-only service enrollment

Our impact findings for the SVRA-only service enrollment measure indicate that the TTW did not have major impacts on the number of people being served by SVRAs. Our estimates are close to zero for all

Table 3

Summary of upper-bound impact estimates on total service enrollment for ticket-eligible beneficiaries age 18 to 57, and implications for the full caseload of beneficiaries age 18 to 57

Outcome Measure	Upper-bound Impact	Group Mean		Percent Impact	Implied Impact on Service Enrollment	
		Comparison	Treatment		Phase 1	National
Service Enrollment	0.4	4.2	4.6	9.5	4,675	16,743

Source: Results are based on estimates from the linked TRF and RSA-911 longitudinal data files.

Notes: The impact (column 1) is the weighted average of all the age-program group impacts. Results for enrollment in services pertain to the year when Tickets were mailed. The weight for an age-program group is its proportion of the nationwide caseload of ongoing beneficiaries with disabilities age 18–57. The mean outcome value for the comparison group (column 2) is the weighted average over all age-program groups of the regression-adjusted mean of each outcome. The mean outcome value for the treatment group (column 3) is the weighted average over all age-program groups of the regression-adjusted mean of each outcome. The impact relative to the comparison group (column 4) is the impact (column 1) divided by mean of the comparison group (column 2). The implication for the Phase 1 states only (Column 5) is the weighted average individual-level impact (column 1) multiplied by beneficiary population in those states (1.3 million beneficiaries). The projection for the national caseload (column 6) is the weighted average individual-level estimates (column 1) multiplied by the 4.7 million beneficiaries with disabilities. For a summary of all coefficient estimates, see Thornton et al. [4].

age-program groups. A full summary of the coefficient estimates is available in Thornton et al. [4].

6.2. Upper-bound estimates of impacts on total service enrollment for the caseload

Figure 1 shows upper-bound impact estimates from the total enrollment model. The top chart in the figure summarizes TTW impact estimates, and the bottom chart summarizes the mean values of service enrollment for the treatment and comparison groups. The treatment-comparison difference in mean values in the bottom chart is the impact estimate shown in the top chart.⁶ Presenting the estimates in these two ways highlights both their absolute and relative size.

The impacts of TTW on total service enrollment is positive in all age-program groups and generally larger among younger beneficiaries. As shown in the top chart, the impact estimates for beneficiaries age 18 to 39 imply an increase in total enrollment from 0.5 percentage points (SSI and concurrent beneficiaries) to 0.6 percentage points (DI-only beneficiaries) during the initial rollout year, 2002. In contrast, the estimated impacts for the two older groups are smaller, ranging from 0.1 percentage points (age 50 to 57 concurrent beneficiaries) to 0.4 percentage points (age 40 to 49 SSI-only recipients and age 40 to 49 concurrent beneficiaries). The larger impacts for younger beneficiaries are consistent with higher TTW participation rates for this population. In general, the differences in impacts on service enrollment across program categories within each age group are small.

The magnitude of the impacts ranges from 0.1 to 0.6 percentage points, indicating a small increase in overall SVRA and EN service enrollment in each of the age-program groups. The largest point estimate is for DI-only beneficiaries age 18 to 39, and the smallest is for concurrent beneficiaries age 50 to 57. The largest estimated relative impact (i.e., percent increase in enrollment) is a 10 percent increase for concurrent beneficiaries age 40 to 49 (from 4.9 to 5.4 percent).

6.3. Upper-bound projections of impacts on the number of beneficiaries enrolled in services

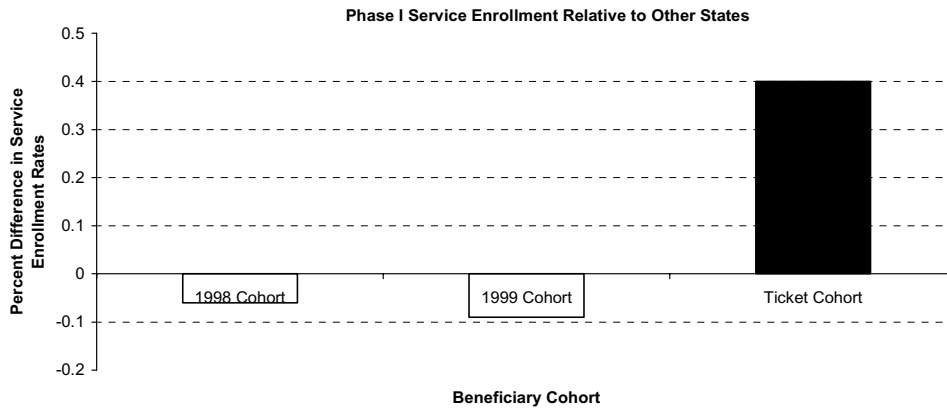
Table 3 summarizes the upper-bound estimates for total enrollment and shows the estimated impacts on the number of enrollees in Phase 1 states and projected enrollment for the entire country in the first rollout year. The 0.4 percentage point increase in service enrollment represents a 9.5 percent increase in overall service enrollment (from 4.2 to 4.6 percent). This impact translates to an increase of 4,675 beneficiaries in Phase 1 states during the first rollout year and a projected increase of 16,743 across all three phases in their respective rollout years.

The small impacts in the nine age-program groups and the projections of small overall effects across the entire caseload are consistent with what, in theory, we might expect. The results for the age-program groups and the overall caseload are consistent with expectations, as the larger impacts are generally concentrated among younger beneficiaries in all program groups, while the reverse is true for older beneficiaries.

6.4. Specification tests for the upper-bound estimates

Applying our model to earlier cohorts further bolsters our confidence in the SVRA and EN service en-

⁶These charts present regression-adjusted means for the year before and after Tickets were mailed. The difference in regression-adjusted means for treatment and comparison beneficiaries is the impact estimate.



Source: Tabulations of econometric estimates based on linked TRF and RSA-911 longitudinal data files.

Notes: The difference in service enrollment in Phase 1 states relative to other states represents a weighted average from all of the age-program group estimates. Results for enrollment in services pertain to the year when Tickets were mailed. For a summary of all coefficient estimates, see Thornton et al. (2007).

Fig. 2. Sensitivity tests of total service enrollment impact models applied to pre-ticket cohorts.

rollment estimates. As shown in Fig. 2, the results from our econometric models imply that service enrollment trends in Phase 1 states are very similar to trends in other states prior to TTW, holding other factors constant. In fact, the estimates for the 1998 and 1999 cohorts imply that, before the Phase 1 rollout started, enrollment rates in Phase 1 states were declining slightly relative to rates in the comparison states, holding other factors constant. As detailed in Thornton et al. [4], the estimates from the pre-rollout period for each age-program subgroup were also very small and often statistically insignificant. In contrast, the impact estimate for service enrollment in 2002 implies a 0.4 percentage point increase in enrollment in Phase 1 states relative to comparison states. Hence, these specification tests indicate that trends in service enrollment only changed across states appreciably after rollout, which is consistent with interpretation of the estimates based on the 2001 cohort as impacts.

6.5. Lower-bound estimates for impacts on SVRA-only service enrollment and total service enrollment

The estimates based on the SVRA-only enrollment measure serve as the lower-bound estimates for impacts on SVRA enrollment. The estimates for each age-program group are very small and, with one exception, not statistically significant [see Thornton et al. [4] for more details]. The only statistically significant point estimate is less than 0.1 percentage points, for SSI-only

beneficiaries age 40 to 49. Hence, we conclude that the lower-bound estimate for the impact of TTW on SVRA-only service enrollment is essentially zero.

We generated the lower-bound estimate of TTW's impact on total service enrollment under the assumption that the only increases in enrollment were through ENs. According to Stapleton et al. [3], just under 0.1 percent of Phase 1 Ticket-eligible beneficiaries had Tickets assigned to an EN rather than an SVRA during at least one month of 2002. Hence, a reasonable lower-bound estimate for the service enrollment impacts based only on ENs is 0.1 percentage points.

Table 4 summarizes our lower-bound estimates of the impacts of TTW based on the assumption that the only impacts on service enrollment are through impacts in enrollments at ENs. The 0.1 percentage point increase in service enrollment represents a 2.4 percent increase in overall service enrollment (from 4.2 to 4.3 percent). This impact translates to an increase in service enrollment of 1,169 beneficiaries in Phase 1 states during the first rollout year. Based on this estimate, we project an increase in service enrollment of 4,186 across all three phases in their first rollout year.

6.6. Summary of service enrollment impact estimates

We conclude that the TTW did not have a negative impact on SVRA service enrollment, and that our estimates for total service enrollment are between 0.1 and 0.4 percentage points. While we cannot estimate impacts precisely, our findings from the models above

Table 4

Summary of lower-bound impact estimates on total service enrollment for ticket-eligible beneficiaries age 18 to 57 based on alternative service-enrollment measures, and implications for the full caseload of beneficiaries age 18 to 57

Outcome Measure	Lower-bound Impact	Group Mean		Percent Impact	Implied Impact on Service Enrollment	
		Comparison	Treatment		Phase 1	National
Service Enrollment	0.1	4.2	4.3	2.4	1,169	4,186

Source: Results are based on calculated impacts using alternative service enrollment estimates and assumptions for use of private rehabilitation services described in Section E.4.

Notes: The impact (column 1) is the weighted average of all the age-program group impacts. Results for enrollment in services pertain to the year when Tickets were mailed. The weight for an age-program group is its proportion of the nationwide caseload of ongoing beneficiaries with disabilities age 18–57. The mean outcome value for the comparison group (column 2) is the weighted average over all age-program groups of the regression-adjusted mean of each outcome. The mean outcome value for the treatment group (column 3) is the weighted average over all age-program groups of the regression-adjusted mean of each outcome. The impact relative to the comparison group (column 4) is the impact (column 1) divided by mean of the comparison group (column 2). The implication for the Phase 1 states only (Column 5) is the weighted average individual-level impact (column 1) multiplied by beneficiary population in those states (1.3 million beneficiaries). The projection for the national caseload (column 6) is the weighted average individual-level estimates (column 1) multiplied by the 4.7 million beneficiaries with disabilities.

underscore that TTW probably increased overall beneficiary enrollment in employment support services by a relatively small amount in relation to the overall caseload. We will further assess the size of these impacts in future reports as more data becomes available for later years.

7. Impacts on earnings and benefits

To estimate TTW’s impacts on annual earnings and benefit amounts during each of the first two years of the rollout, we used the same model used to estimate impacts on service enrollment. We expected impacts on earnings and benefits to be minimal during the first rollout year, when participants are presumably receiving services, but thought that they might be large enough to detect in the second year.

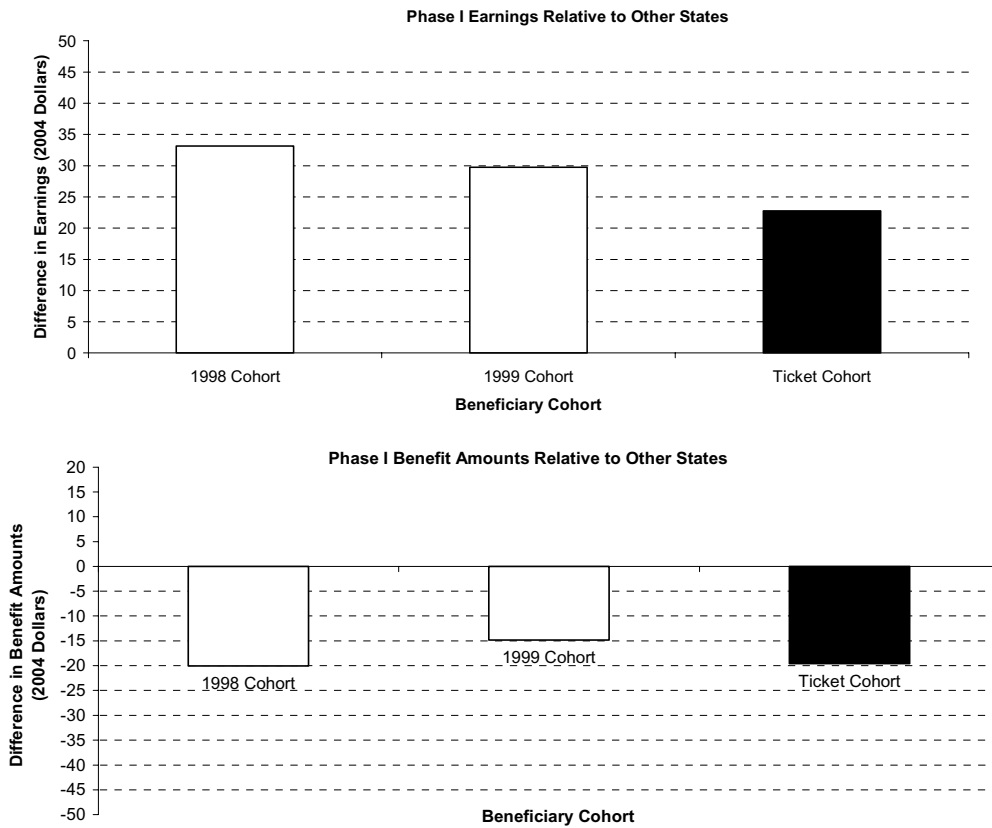
Our estimates for the earnings and benefit amounts outcomes indicate that the impacts were too small to differentiate from historical trends. When we applied our model to the 1998 and 1999 cohorts, we found that earnings were higher (\$33 in the 1998 cohort and \$29 in the 1999 cohort) and benefit amounts were lower (–\$20 in 1998 cohort and –\$15 in 1999 cohort) in Phase 1 states relative to other states (Fig. 3). While we found that Phase 1 state beneficiaries had higher earnings levels (\$23) and lower benefit amounts (–\$20) in the year after Ticket mailing, we are skeptical that these differences represent true impacts because they are not different from the historical pattern. Instead, the estimates based on earlier cohorts indicate the presence of a persistently positive trend in earnings levels and a negative trend in benefit amounts in Phase 1 states relative to Phases 2 and 3 states before the rollout.

The differential trends in earnings and benefit amounts in the pre-TTW period across states were like-

ly related to state differences the economic and policy conditions. In general, Phase 1 states appeared more conducive to implementing the TTW program as beneficiaries in these states were more likely to be receptive to return-to-work activities based on their relatively higher earnings trajectories that resulted in lower benefit amounts. The findings also indicate that the differences in state environments had a larger effect on earnings and benefit amounts than they did on service enrollment. One possible explanation for differential impact on outcomes is that the role of the economy and policy environment has a stronger effect on the relative trends in earnings and benefit amounts than it does on the relative trends in service enrollment, which is plausible given the more direct effects associated with changes in economic conditions and earnings.

8. Conclusions

Our impact estimates indicate that TTW had a small impact on promoting service enrollment during the first year of the program’s rollout. Our upper-bound estimates indicate that TTW increased service enrollment by up to 0.4 percentage points, which represents an increase of 4,675 beneficiaries receiving services in Phase 1 states, but our lower-bound impact estimate is only one quarter as large. Under the assumption that impacts would be the same in Phases 2 and 3 states, we project an increase in service enrollment of 16,743 under the upper-bound estimate, but just 4,186 under the lower-bound estimate. Based on continued growth in Ticket participation rates after year one, impacts for the second year were likely larger, but they cannot be estimated until more SVRA closure data become available.



Source: Tabulations of econometric estimates based on linked TRF and SER longitudinal data files for earnings and TRF files for benefit amounts.

Notes: The difference in earnings and benefit amounts in Phase 1 states relative to other states represents a weighted average from all of the age-program group estimates. Results for earnings and benefit amounts pertain to the year after the Tickets were mailed (coefficient on λ_2). The coefficients on λ_1 , the year of Ticket mailing, are generally close to zero for both earnings and benefit amounts across cohorts. Full sets of coefficient estimates and sample sizes for the age-program groups are available in Thornton et al. (2007).

Fig. 3. Sensitivity tests of earnings and benefit impact models applied to pre-ticket cohorts.

We find no compelling evidence of TTW affecting beneficiary earnings and benefits during its first two years. If TTW had any success in increasing beneficiary earnings or reducing benefit receipt, those effects were masked by the underlying variation in beneficiary outcomes across states and over time. Our results show that persistent differences existed in Phase 1 state trends in earnings and benefit amounts relative to Phases 2 and 3 states prior to the Ticket rollout. This finding indicates that the environment that influenced earnings and benefit amounts in Phase 1 states differed from other states and is consistent with SSA's selection of Phase 1 states based on their readiness for TTW rollout. However, we do not find the same difference across states in service enrollment trends, which is an important factor

in our ability to estimate service enrollment impacts. We speculate that this is because service enrollment is less sensitive than earnings and benefits to state policy and economic changes.

Our impact findings for all outcomes are consistent with the expectation that changes in service enrollment would occur before changes in either earnings or benefit payments. Additionally, the relatively small size of the service enrollment impact (0.1 to 0.4 percentage points) is consistent with the low Ticket participation rate, which was less than 1 percent during the first year of the rollout in Phase 1.

As noted in the introduction, changes in the way that employment services are delivered, not just the number of beneficiaries obtaining services, could also affect

earnings and benefit payments. We do not have quantitative measures of the nature of services delivered, so we can not produce impact estimates for that outcome. As indicated by Stapleton et al. [2], however, there is no quantitative or qualitative evidence of a substantial change in the way that services are delivered. A very large majority of Ticket assignments are to SVRAs under the traditional payment system, and the SVRA leaders interviewed for the evaluation indicate that Ticket has had a negligible impact on SVRA delivery of employment services. This suggests that the lower bound estimate of impacts on service enrollments, which reflects the number of assignments made to ENs, is more relevant to the potential impacts on earnings and benefit receipt than the upper bound estimate.

In future analysis, we plan to track service enrollment, earnings, and benefits at the national and state level as well as other outcomes that are likely to be sensitive to TTW, such as the number of beneficiaries who leave cash benefits due to work and participation in SSA work incentive programs, including the SSI Section 1619 program, the SSDI trial work period, and the DI extended period eligibility. These trends will provide descriptive information that policymakers can use to assess the extent to which these outcomes are moving in the direction that TTW, as well as many other initiatives, is designed to promote. Of particular interest will be the question of whether there has been an increase in the number of people who leave the rolls because of work that corresponds to TTW's objectives of doubling that number. For example, if TTW meets its objectives, we might expect to find that the number

of people who leave the rolls because of work in the future years increases from 0.5 to 1.0 percent. The decision to track outcomes instead of estimating impacts acknowledges the fact that although we cannot distinguish between the impact of TTW and the confounding effects of other factors, the evaluation findings can still inform policymakers and others with a stake in the system about the extent to which these outcomes are moving in the desired direction.

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