

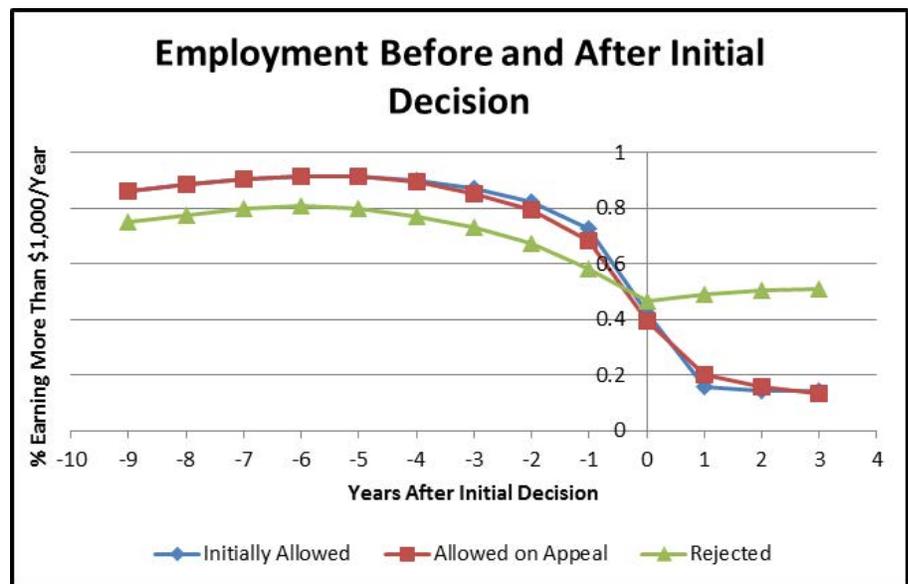
DOES DISABILITY INSURANCE RECEIPT DISCOURAGE WORK? USING EXAMINER ASSIGNMENT TO ESTIMATE CAUSAL EFFECTS OF SSDI RECEIPT

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Recent dramatic increases in applications for Social Security Disability Insurance (SSDI) have led many to question whether SSDI beneficiaries could actually work if they chose to do so. However, determining the impact of SSDI on the employment and earnings of beneficiaries has been difficult since by definition SSDI is awarded to individuals who are determined to be incapable of working. Previous attempts to estimate this effect have focused on comparing the labor supply of beneficiaries and denied applicants, but this approach likely provides only an upper bound since beneficiaries have more severe impairments on average than denied applicants.

We take advantage of a unique workload management database to match SSDI applicants to disability examiners, and use natural variation in examiners' allowance rates to estimate the labor supply effects of SSDI. Specifically, we assume that there exist examiner-specific thresholds for disability severity that determine whether an applicant is allowed into the program. All else equal, cases sent to low-threshold examiners are more likely to be allowed than others. This generates variation in allowance rates that is unrelated to unobserved health of the applicant. We exploit this variation to control for unobserved differences in health between denied and allowed applicants, and estimate counterfactual employment and earnings of SSDI beneficiaries if they had never participated in SSDI.



The main dataset we use is a workload management database called the Disability Operational Data Store (DIODS). The DIODS contains the universe of SSDI applications, and according to Social Security Online, is considered "the SSA definitive data store for disability claims for state agency workload management purposes." Because the DIODS is meant to track disability claims for workload management purposes, it contains alphanumeric codes that identify

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disability examiners uniquely within DDS. This allows us to construct a measure of each examiner's propensity to allow SSDI applicants. We use data on all initial medical determinations (that is, excluding technical denials) made in 2005 and 2006. Our final sample includes approximately 2.2 million applicants, divided approximately evenly between the two years.

Because the disability determination process allows for multiple levels of appeals, we employ an "intent to treat" framework and use the actual allowance outcome based on observed SSDI payments to beneficiaries from the Master Beneficiary Record. We link the applications data to administrative earnings records (SSA's Detailed Earnings Record) and examine labor supply outcomes up to four years from the date of the initial determination in order to account for low earnings of denied applicants due to the appeals process. We examine three outcomes: (1) employment (defined as earning more than \$1,000/year), (2) engaging in Substantial Gainful Activity (SGA) as defined by the SSDI program (earning more than \$12,000 year), and (3) annual earnings.

The figure above displays employment rates of applicants who were allowed in the initial determination, applicants who were initially denied but allowed on appeal and applicants who were ultimately denied. (Applicants are divided roughly evenly into these groups.) From the figure, we see that applicants allowed on appeal are very similar to applicants allowed in the initial determination in terms of their employment before the initial determination, with employment rates around 90 percent between three and five years before the initial decision. Both groups' labor supply drops significantly one year after the initial decision, and two years later the two groups are virtually indistinguishable, with employment rates around 14 percent between two and three years after the initial decision. By contrast, ultimately denied applicants have lower employment to begin with—between 73 percent and 80 percent three to five years before the initial determination—and significantly higher (albeit reduced) participation rates of around 50 percent after the initial determination. Consistent with the earlier evidence from Bound (1989), this suggests that employment rates among allowed applicants would be at most 35 percentage points higher in the absence of SSDI, assuming allowed applicants suffer more severe impairments (i.e., accompanying greater losses in earning power) than denied applicants. Controlling for differences in observable characteristics, such as prior labor market history, does little to reduce this gap.

In order for examiner allowance rates to be uncorrelated with DI receipt, applicants' assignment to DDS examiner must be uncorrelated with unobserved severity, controlling for observed characteristics. This amounts to an assumption of conditional random assignment to DDS examiner within DDS. That is, examiners may specialize in cases within a particular (observable) type, e.g., cases of alleged terminal illness or of a specific body system such as mental disorders), but within this type examiners do not divide their caseloads by low or high severity. We conducted interviews with DDS managers that confirmed that cases are assigned in this way (that is, rotationally, with only a few observable exceptions).

We find that adjusting for unobservable differences (e.g., in severity of the impairment(s)) between denied and allowed applicants has a large impact on the estimated labor supply effects of SSDI. Consistent with the idea that severity is positively correlated with DI receipt, our estimates are all statistically significantly and substantively smaller in magnitude than simple regression estimates. We find that, among the estimated 23 percent of applicants on the margin of program entry, employment would be on average 28 percentage points greater in the absence of SSDI benefit receipt. The applicant's likelihood of engaging in substantial gainful activity as defined by the SSDI program would be on average 19 percentage points higher, and he or she would earn on average \$3,781 more per year (including the zeros) in the absence of SSDI benefit receipt. More importantly, we find evidence that the disincentive effect of SSDI on employment varies across individuals with impairments of varying unobservable severity, ranging from no effect for those with more severe impairments to 50 percentage points for entrants with relatively less severe impairments.

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