The Labor Supply Effects of Disability Insurance Work Disincentives

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Extensive research effort has been devoted to understanding the labor supply effects of social insurance programs. The Social Security Disability Insurance (DI) program has attracted the attention of policymakers and researchers alike, as it has grown dramatically since inception, and features a particularly strong work disincentive: an implicit 100,000 percent marginal tax rate on earnings above a threshold deemed to represent "substantial gainful activity" (SGA) ($940/month in 2008). Indeed, the decline in male labor force participation has been attributed at least in part to DI in several studies. Over the last two decades, the DI caseload has shifted from one characterized by individuals with circulatory, neoplasms and infectious diseases to one dominated by individuals with mental and musculoskeletal impairment. This compositional shift has renewed interest in program disincentives and has raised the possibility that some form of work might be possible for some DI recipients. Nevertheless, the causal effect of DI on labor supply is difficult to estimate since all U.S. workers face the same benefit schedule. As a result, observed variation in benefits is due mainly to past earnings, which may be correlated with unobserved health status or tastes for work. Lacking either exogenous variation in program generosity or a means of controlling for unobserved heterogeneity, only a handful of studies have succeeded in obtaining credible estimates of the effect of DI on labor supply, and even these have come to different conclusions about the magnitude of the work disincentive effects of DI.

We take a new look at this question by exploiting a little-studied interaction between DI and the Social Security retirement program, and a recent policy change that changed the nature of the program interaction. Specifically, DI benefits are payable to eligible individuals until they reach their full retirement age, at which point DI benefits automatically convert to retired worker benefits under the Old-Age and Survivors Insurance (OASI) program. While the terms governing the benefit amount change, the benefit amount itself remains unchanged. Thus, since they are no longer subject to the strict DI work rules, the implicit tax on earnings is abruptly relaxed at exactly full retirement age. Moreover, the extent to which the implicit tax is relaxed has varied over time owing to the year 2000 elimination of the Social Security earnings test after the full retirement age. Prior to 2000, DI participants attaining full retirement age faced a reduction in the implicit marginal tax rate from approximately 100,000 percent to 50 percent (on an even higher exempt amount), the implicit tax rate imposed by the OASI earnings test at full retirement age. In 2000, the earnings test at the full retirement age was eliminated, and thus DI participants attaining full retirement age in 2000 or later experienced complete elimination of the implicit tax at full retirement age. If the work disincentive is binding on DI participants, then we would expect to observe an increase in labor supply at full retirement age.

The following figure presents striking descriptive evidence of such an effect: the labor force participation rate of individuals who are on DI at ages 63-64 declines steeply prior to the FRA (as they enter DI) then rises sharply after the FRA after they age out of the program. The rise in labor force participation persists through at least age 70. In contrast, the labor force participation rate of those who are not on DI at ages 63-64 declines with age.

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**Age Profile in Labor Force Participation
by DI Status at Age 63-64**
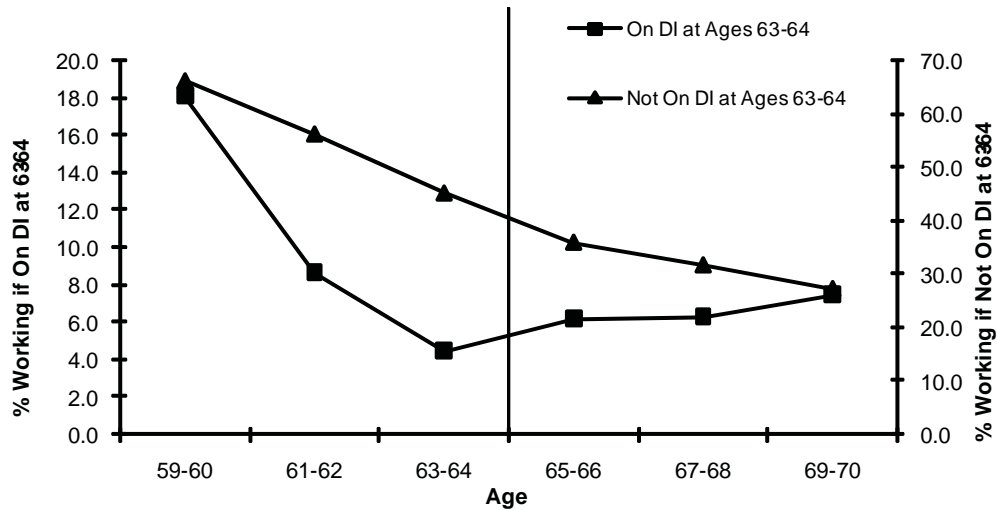
We use a quasi-experimental research design to estimate the labor supply disincentive effect of DI. Specifically, using the Health and Retirement Study (1992-2006) we contrast the within-individual change in labor supply at full retirement age for DI beneficiaries versus non-beneficiaries. Besides using within-individual changes to difference out unobserved heterogeneity, we make use of the longitudinal aspect of the HRS to control for contemporaneous changes in other factors such as non-labor income, wealth, health, and health insurance coverage. The natural experiment we examine offers direct insight into the potential effects of a current policy proposal termed the "$1 for $2 benefit offset," which would reduce the current 100,000 percent implicit marginal tax rate to 50 percent. Our approach likely identifies a lower bound on the potential work capacity of DI beneficiaries. By examining changes in labor force participation as the oldest DI beneficiaries age out of the program, we examine a subpopulation of DI beneficiaries who are perhaps least likely to exhibit a labor supply response to changes in work incentives. Indeed, the dominant trend in labor supply at full retirement age is downward. Any increase in labor force participation among this group serves as strong evidence of the existence of residual work capacity among DI recipients. Its magnitude is an indicator of the minimum work capacity of DI beneficiaries because the disabled elderly are likely to be in worse health than the younger disabled and employment opportunities for even the non-disabled elderly are limited. Our adjusted difference-in-difference estimates imply a modest 10.4 percentage point rise in labor force participation at full retirement age among former DI participants relative to non-DI participants. There is some evidence that the labor supply response was stronger after elimination of the Social Security earnings test, suggesting a dose-response relationship between the size of the work disincentive and labor supply. Combining our estimates with the best recent upper bound estimate in the literature of 20 percentage points suggests that the DI program causes a modest 10-20 percentage point reduction in labor force participation among beneficiaries.