The work disincentive effects of the disability insurance program in the 1990s

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Abstract

In this paper we evaluate the work disincentive effects of the disability insurance (DI) program during the 1990s using comparison group and regression-discontinuity methods. The latter approach exploits a particular feature of the DI eligibility determination process to estimate the program's impact on labor supply for an important subset of DI applicants. Using merged survey-administrative data, we find that during the 1990s the labor force participation rate of DI beneficiaries would have been at most 20 percentage points higher had none received benefits. In addition, we find even smaller labor supply responses for the subset of 'marginal' applicants whose disability determination is based on vocational factors.
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1. Introduction

With labor force participation (LFP) rates of older males falling throughout the last three decades, researchers have sought to explain this phenomenon by examining the interaction between a number of different social insurance programs and LFP (Leonard, 1986; Burtless, 1999; Bound and Burkhauser, 1999). Among these, the disability insurance (DI) program has been identified as being one of the primary potential reasons for the non-participation of prime aged males in the labor force. As its eligibility criteria imply a very high tax rate on earnings, the DI program has long been criticized for its apparent work disincentives.

Despite an extensive body of research on this issue, there is little consensus among economists on the magnitude of its work disincentives and on the role attributed to the DI program in explaining the large decline in the LFP rate of older men. A better understanding of the incentive effects of the DI program is not only needed to explain DI's contribution to the changing employment rates of older men and women but also to improve our ability to predict, explain, and manage the increasing costs of DI programs, which is of great concern to decision makers, and will be essential for evaluating potential changes to the disability program.

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Participation in the DI program is the outcome of an individual's decision to apply for disability benefits combined with an eligibility determination decision. To the extent that incentives to apply vary across individuals and that eligibility criteria depend on various individual characteristics, disability benefit receipt cannot be treated as an exogenous explanatory variable in a LFP equation. With generous income replacement ratios, particularly for low earners, there is an economic incentive for the disabled previously capable of work to stop working and for people who are not truly disabled but receive a high disutility from working to take advantage of the program (for example, by misreporting their health status). Similarly, medical and vocational criteria used to determine eligibility for disability benefits result in large differences in characteristics between those receiving and not receiving DI benefits. Because some of these characteristics are likely to be unobserved by the econometrician, this implies that DI receipt should be treated as endogenous in an econometric analysis of its effect on labor supply.

A popular way to deal with this problem has been to model LFP (or non-participation) as a function of the ratio of potential benefit levels to wages, known as the replacement rate. Most of the earlier empirical studies conducted in this area analyzed the impact of the DI program this way using cross-sectional data and traditional econometric regression models. In these models, non-participation is modeled as a function of the replacement rate and demographic and health characteristics such as age, education, and health status. In the best-known work of this type, Parsons (1980) estimated a non-LFP elasticity for prime aged men (45–59) of 0.63, while Slade (1984) found an elasticity of 0.81.

Two problems arise in such an analysis. First, by grouping both wages and benefit levels into the replacement ratio, the separate impacts of wages versus benefit levels on non-LFP are confounded. Second, the actual benefit amounts participants receive depend on past earnings, and therefore on past work decisions, generating an additional direct source of endogeneity in the amount of benefits received.

In an attempt to address this endogeneity problem Haveman and Wolfe (1984a, b) replaced the actual replacement rate with a predicted value obtained from a first stage regression of the replacement rate on a set of exogenous variables. In contrast to the earlier studies, they found much lower elasticity estimates of between 0 and 0.03. To identify the replacement rate effect (or the separate wage and disability benefit effects) some exogenous variables that determine wages or (and) disability benefits must be excluded from the LFP equation. However, without a convincing justification for their exclusion restrictions it is not clear how credible their estimates are.

While these earlier cross-sectional studies based on US data either ignored the potential endogeneity of the replacement rate or relied on arbitrary exclusion restrictions for identification, three recent studies explore alternative identification approaches for dealing with the endogeneity of disability benefit receipt. Gruber (2000) exploits an exogenous policy change conducted in Canada in 1987 where the benefit levels of the rest of the country were adjusted upwards to meet those of Quebec province. Using data covering the 1985–1989 period, he estimates the elasticity of labor force non-participation with respect to DI benefit levels to be between 0.28 and 0.36. The identification approach and the credibility of his estimate depend on the validity of the assumption that any changes in the relative labor market conditions in Quebec as compared to the rest of the country during this period were uncorrelated with the differential change in DI benefits.

Autor and Duggan (2003) also use differential time variation in average benefits across geographical regions to identify the impact of DI on the LFP of low skilled workers. Using state level data from the CPS and the Social Security Administration (SSA), they exploit variation in the replacement rate due to differences across states and over time in the wage distribution, to identify the effect for low-income workers. They maintain that the widening dispersion of earnings in the US, combined with the progressivity of the disability benefits formula and the fact that DI benefits are set nationally and do not adjust for variation in regional wage levels, provide an exogenous measure of program generosity independent of a workers underlying taste for work. They conclude that the disability system provided many low-skilled workers with a viable alternative to unemployment. They estimate that the overall unemployment rate in 1998 would have been one half a percentage point higher in the absence of the DI program. Unfortunately, their reported estimates do not allow calculation of an elasticity that can be compared to those in other studies. The identification strategy relies on the absence of other differences across states in both the changes in labor market conditions over time as well as the impact of such changes on labor supply, which seems problematic since variation in the wage distribution over time across states can itself be expected to directly affect labor supply.