



# The impact of stricter criteria for disability insurance on labor force participation<sup>☆</sup>

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## ABSTRACT

This paper studies the effect of a large-scale policy change in the Austrian disability insurance program, which tightened eligibility criteria for men above a certain age. Using administrative data on the universe of Austrian private-sector employees, the results of difference-in-difference regressions suggest a substantial and statistically significant decline in disability enrollment of 6 to 7.4 percentage points and an increase in employment of 1.6 to 3.4 percentage points. The policy change had important spillover effects into the unemployment and sickness insurance program. Specifically, the share of individuals receiving unemployment benefits increased by 3.5 to 3.9 percentage points, and the share receiving sickness insurance benefits, by roughly 0.7 percentage points.

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## 1. Introduction

The disability insurance (DI) program is the largest social insurance program in most industrialized countries. In OECD countries, total expenditures on disability benefits account for approximately 2.5% of GDP on average (OECD, 2009). The DI program is designed to provide income replacement in the case of a permanent loss of earnings capacity due to poor or deteriorating health, but there are concerns that DI distorts work incentives and is used as a gateway to early retirement. Understanding the incentive effects of the DI program is an important factor in assessing the value of the insurance provided and evaluating the costs and benefits of policy measures that try to reduce disincentives to work.

There is a substantial U.S.-based literature on the work disincentives of the DI program.<sup>1</sup> Behavioral responses to changes in disability insurance have been difficult to estimate, however, because all workers face identical program rules, which make suitable counterfactuals difficult to find. This paper adds to the literature by exploiting a policy change in the Austrian DI program that tightened DI eligibility criteria for older workers close to retirement age. Since the change in law affected only a subset of workers, the impact of stricter eligibility criteria for DI benefits can be estimated using a difference-in-difference estimation strategy.

The first objective of this paper is to determine how stricter eligibility criteria for DI benefits affect employment and enrollment in the DI program. A second key question is whether tighter eligibility rules lead to enrollment increases in other programs.<sup>2</sup> These spillover effects should be taken into account in designing effective DI policies. The positive employment effect of more rigorous eligibility criteria may be small, to the extent that individuals can claim unemployment insurance (UI) or sickness insurance (SI) benefits instead.

Since the early 1980s the fraction of the working-age population receiving DI benefits in Austria has remained relatively constant at 8%, which is approximately twice as high as in the U.S. The high rate of

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<sup>1</sup> For an excellent overview of the literature see Bound and Burkhauser (1999) and Autor and Duggan (2006).

<sup>2</sup> Spillover effects between government programs have been examined in other contexts by Garrett and Glied (2000), Schmidt and Sevak (2004), Bound et al. (2004), and Duggan et al. (2007).

disability receipt in Austria is due mainly to a relaxation in DI eligibility criteria starting at age 55. Below that age threshold, an individual is generally considered disabled if a medically determinable impairment reduces the ability to work by more than 50% relative to a healthy person with comparable education in any type of work in the economy. Above the age threshold of 55 the same individual qualifies for disability benefits if the ability to work is reduced by more than 50% relative to a healthy person with comparable education in a similar occupation. As older workers are compared only to the set of workers in their occupation, disability enrollment accelerates dramatically beginning at age 55.

In an effort to improve the fiscal health of the public pension system, on September 1, 1996, the Austrian government implemented the Structural Adjustment Act, which restricts eligibility for early retirement benefits and introduces a bonus/malus system to penalize early retirement and encourage continued labor force participation. The most important change of all, however, was an increase in the age at which conditions for DI benefits are relaxed, from 55 to 57. Because DI enrollment has been particularly high among older men, this increase took effect only for men. Eligibility conditions for women were left unchanged.

Using administrative data from all private sector workers in Austria, the empirical analysis suggests that enrollment in the disability insurance program responded significantly to the tightening in eligibility criteria. The change in law was followed by a lasting decrease of 6 to 7.4 percentage points in the share of disability recipients among 55–56 year old men. The drop in disability enrollment was accompanied by a substantial increase in employment of 1.6 to 3.4 percentage points after the change in law went into effect. On the other hand, the estimates also show that the policy change led to an increase in unemployed status of 3.5 to 3.9 percentage points and to an increase in sickness insurance receipt of 0.7 percentage points.

The magnitude of any work disincentives created by the disability insurance program depends on the accessibility and generosity of DI benefits. Earlier studies in the literature relied on cross-sectional variation in potential DI benefits relative to previous earnings to estimate the elasticity of labor force participation with respect to benefit generosity (see, e.g., Parsons, 1980). Because the potential DI replacement rate decreases with respect to past earnings, the finding that workers with higher potential DI replacement rates are more likely to seek benefits may simply reflect differences in underlying tastes for work. More recent studies have therefore tried to estimate the behavioral impact of DI benefits using other methodologies. Bound (1989) uses the labor supply behavior of rejected applicants as an upper-bound estimate of the work capacity of DI beneficiaries. His primary finding is that at most one third of DI recipients would have worked had they not received DI benefits. Chen and van der Klaauw (2008) confirm this estimate using more recent data. Exploiting regional variations in DI benefits across Canadian provinces, Gruber (2000) estimates an elasticity of labor force non-participation with respect to DI benefits of 0.28 to 0.36. In this study the level of benefits remains largely constant over the sample period; what changes is the access to disability benefits.

Because disability status can only be observed imperfectly, determining whether program claimants are truly disabled is difficult. Under stricter screening of applicants and tighter eligibility rules, seeking DI benefits is a less attractive option. The effect of screening stringency on labor force participation has been estimated for the U.S. by Gruber and Kubik (1997) and Autor and Duggan (2003). Using variations in denial rates across states as a proxy for screening stringency, Gruber and Kubik (1997) find that stricter screening leads to a significant reduction in labor force non-participation among older men. Autor and Duggan (2003) use the liberalization of the disability determination process in 1984 and an unforeseen increase in the earnings replacement rate to explore the impact of the supply of disability benefits on the labor force participation of low-skilled workers. They estimate that the sum of these

forces doubles the propensity of high school dropouts to leave the labor force. More recently, De Jong et al. (2011) use a controlled experiment in which some regional DI offices in the Netherlands were instructed to screen applicants more intensively. They find a significant reduction in DI applications in the regions with more intensified screening. Unlike this paper, they find that long-term absenteeism due to sickness decreases with intensified screening. This result is driven by the fact that long-term absenteeism due to sickness is a precondition for DI benefits. Therefore, in the Dutch system as opposed to the Austrian one, the SI program acts as a complement to the DI program rather than as a substitute.

There have been two recent papers estimating the labor supply impact of changes in eligibility criteria for DI benefits. Chen and van der Klaauw (2008) focus on a subset of DI applicants in the U.S. whose disability determination is based on the applicant's age and conclude that the DI program has only a modest impact on labor force participation. This paper estimates a much larger labor supply response, which may reflect differences in the profile of the marginal enrollee in the U.S. as opposed to Austria, and builds on their work by providing evidence that stricter access to DI benefits increases enrollment in other social insurance programs. Furthermore, because the policy change studied in this paper tightens eligibility criteria for all applicants in a certain age group, the empirical analysis is not restricted to applicants only.

Karlström et al. (2008) examine a policy change in Sweden that tightened DI eligibility rules for older workers. As the new eligibility rules were announced 2 years prior to their implementation, there was a large anticipation effect, which causes an upward bias in the estimates. To address this issue, they exclude all observations between the time the policy was announced and the time it was implemented. Because the policy change studied here was announced only a few months before it was implemented, the anticipation effect was small. Unlike this investigation, Karlström et al. (2008) find that stricter eligibility criteria led to only a small decline in DI enrollment and had no effect on employment. Again this difference could be attributed to differences in the profile of the marginal DI applicant in Sweden as opposed to Austria. In particular, because the reform studied by Karlström et al. (2008) applied only to workers 60 and over, affected individuals were older and potentially less healthy on average.

This paper proceeds as follows. Section 2 describes Austria's social insurance programs and the 1996 reform in the DI program. Section 3 summarizes the data and presents descriptive statistics. Section 4 outlines the empirical strategy. Section 5 presents the results. Section 6 draws conclusions.

## 2. Background

### 2.1. Social insurance programs in Austria

There are three main social insurance programs in Austria that provide income replacement in the case of a separation from the labor market for economic or health reasons: disability insurance (DI), sickness insurance (SI), and unemployment insurance (UI). Austria's DI program covers all active labor market participants, although different rules apply for the self-employed and civil servants. Once benefits are awarded, DI beneficiaries receive monthly payments until their return to work, medical recovery or death. DI claimants may continue work provided that their earnings fall below a certain threshold (360 Euros per month in 2010). About 15% of DI recipients continue to work. Because criteria for disability classification are relaxed for the elderly, the DI program has played an important role in early retirement. Because men first become eligible for old-age pensions at age 60 as opposed to 55 for women, disability enrollment is disproportionately high among older men. In 2008 61% of new male DI recipients and 31% of new female DI recipients were older than 55.

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