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Disability Insurance Screening and Workers' Health and Labor Market Outcomes

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Alexander Ahammer and Analisa Packham

Disability insurance (DI) is a public expenditure (or social insurance) program designed to provide income to individuals who become incapable of working due to health conditions, often a workplace injury. Depending on the income replacement rate, DI can provide incentives against work and can effectively serve as a form of early retirement. Moreover, DI costs and caseloads have been increasing in recent years, leading governments to consider alternative payment schemes and/or additional restrictions.

Although more effective gatekeeping can lower DI rolls and reduce financial burdens, the costs to workers themselves may be large. For example, stricter DI screening rules would be harmful to workers if rejected applicants are forced to return to work but experience lifelong mental or physical health problems as a result. On the other hand, if more stringent criteria for claiming DI induces workers “on the margin” to continue working without suffering any negative health consequences, applicants who

are screened out of eligibility would continue to earn income.

To study these trade-offs of stricter DI screening directly, we use newly linked administrative data in Austria to evaluate whether changing age-based DI screening requirements for older workers affects their labor market outcomes, health, and well-being. While it is well documented that DI can affect employment, we know relatively little about how DI regulation affects health in the short or long run.

We provide three new findings: First, we show that looser screening regulations subsidize retirement by inducing injured workers to claim DI and permanently leave the labor force. Next, we show that individuals denied DI do not change their take-up of other types of safety net program participation, such as unemployment insurance and sick leave. Lastly, and most importantly, we show that being denied DI does not lead to measurable changes in mental or physical health. Specifically, screened-out workers are no more likely to use opioids or

antidepressant prescriptions, and they do not experience additional hospital stays or physician fees. These workers are also no more likely to experience a workplace reinjury. Governments looking to reduce DI financial burdens can thus consider tightening the screening for eligibility to curb costs without imposing significant physical or mental harm to marginal applicants.

Effects of Increased DI Screening on Labor Market Outcomes

Our goal is to measure how more-targeted DI programs affect worker employment and health outcomes. However, because DI is a program that individuals can opt into and is based on health assessments from a doctor, workers claiming DI and those unable to claim DI are likely different on many dimensions, like age or health status. Therefore, to get a sense of the causal effects of changes in DI screening, we use a natural experiment that allows us to define treatment and control cohorts to test the differences of increased DI screening.

To compare otherwise similar workers who face different levels of DI screening, we exploit changes in the Austrian Generous Screening Age (GSA) over time. For younger workers below the GSA, screening for DI is relatively strict, requiring a 50 percent reduced earnings capacity relative to any occupation the individual could pursue. At the GSA, the screening criteria are more relaxed, requiring a 50 percent reduced earnings capacity relative to the individual's last occupation. Until the end of 2012, the GSA was 57. However, in 2013, as part of the Stability Act, or *Stabilitätsgesetz*, Austria reformed these age-based screening requirements, slowly increasing the GSA from 57 to 60 over three years, making it more difficult for older workers to access DI benefits.

We focus on the subset of applicants at most immediate need of DI: acutely injured workers. We analyze effects

ARTICLE HIGHLIGHTS

- *As DI caseloads rise, one relevant policy question is whether more targeted screening can reduce costs without imposing substantial health consequences.*
- *We find that looser DI screening regulations lead acutely injured workers aged 55–62 to claim DI and permanently leave the labor force.*
- *In contrast, implementing more stringent DI application criteria does not significantly increase mental or physical health costs for screened out workers.*
- *More targeted DI programs can have large fiscal savings without harming workers.*

of the change in DI screening for male workers aged 55–62, comparing same-age workers who experienced a workplace accident between 2000 and 2017. Workplace accidents represent an unexpected acute health care shock to workers and result in DI claims approximately 20 percent of the time.

We separate workers into two groups: those subject to a “tight” (more restrictive) screening requirement after injury and those subject to relaxed screening, according to the GSA rule and the worker’s age at the time of the accident. We find that after a worker experiences an accident, DI claims increase in both groups. However, the increase in DI claims is markedly smaller for workers who qualify for stricter screening. In particular, we find that stricter DI application screening leads to a 7.8 percentage point decrease in DI take-up, on average. We show that this decrease is not due to workers waiting until they are older to claim DI or experiencing more accidents once they are past the GSA cutoff.

In Figure 1 we perform the same exercise for the probability of being employed. Prior to a workplace accident, the trends in employment for the workers subject to tight versus generous DI screening overlap. After the accident, workers in both groups are more likely to leave the labor market. However, the outflow is much weaker among those who are subject to stricter DI screening.

When we formally estimate the causal impact of tighter screening laws by comparing workers based on their screening level prior to and after the workplace accident, we find that stronger DI screening increases employment by 20.0 percentage points in the 12 quarters after a workplace accident—this corresponds in our sample to an additional 470 workers staying in the labor market who otherwise would have retired within three years. Notably, this is almost identical to the magnitude for the take-up in DI. This reduction in DI

participation does not simply spill over to other government programs; we find that workers subject to stricter DI screening are no more likely to claim unemployment insurance in the first two years after injury.

Additionally, we show that prior to a work accident, workers facing both tight and relaxed screening criteria have similar levels of daily wages (approximately 90 euros per day). However, our estimates indicate that workers facing stricter DI screening are not only more likely to reenter the workforce, but they also experience higher earnings trajectories and earn approximately 2,075 more euros per year, on average.

Effects of Increased DI Screening on Worker Health Outcomes

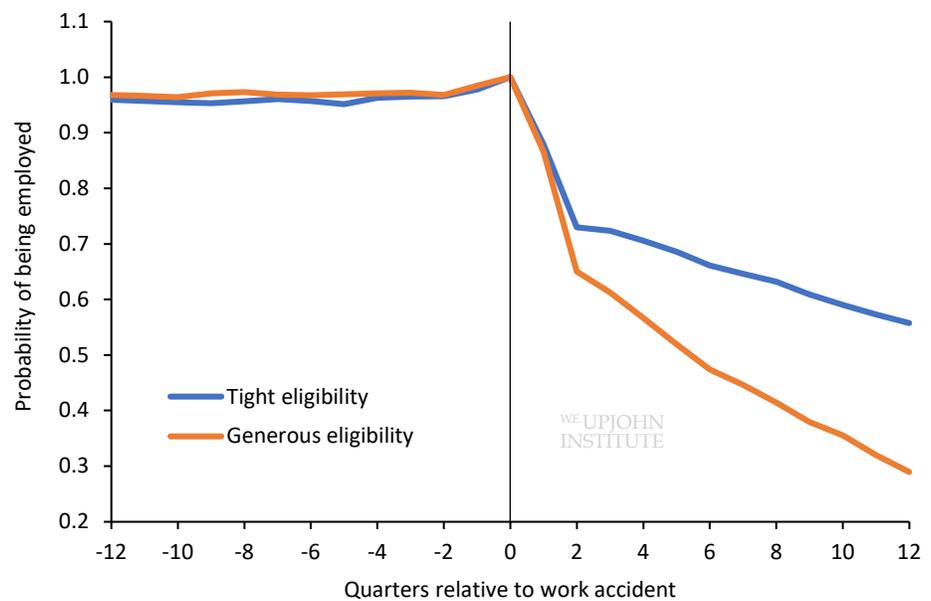
Next, we analyze the broader effects of increasing DI screening. Specifically,

we test whether screening out more workers affects short- or long-run physical and mental health outcomes. We find that the number of days spent

We find that stronger DI screening increases employment by 20.0 percentage points in the 12 quarters after a workplace accident—this corresponds in our sample to an additional 470 workers staying in the labor market who would have otherwise retired within three years.

in the hospital for workers facing tight screening and those facing generous screening almost perfectly overlap, both prior to and after a workplace accident. In the quarter of the accident, hospital days spike, suggesting that

Figure 1 Effects of Increased DI Screening on the Probability of Being Employed



NOTE: The sample includes all male workers that have a work accident aged 55–62 between 2000 and 2017, N = 6,394. The figure plots raw probabilities for each quarter relative to the work accident.

SOURCE: Individual-level data on workplace accidents is from the Austrian General Accident Insurance Fund. Data on DI enrollment and labor market participation and wages for Austrian workers is from the Austrian Social Security Database files.

Disability Insurance Screening and Workers' Health and Labor Market Outcomes

the accident leads to around a week-long hospital stay on average for both groups. After the accident, the trends converge again. (Formally, we find that

We find no differential effects on physician fees or reinjury, implying that screened out workers are no more likely to experience further negative health consequences when returning to work.

tighter DI screening leads to a small, economically insignificant 0.2 day increase in average hospital stays.)

Furthermore, to examine whether increased screening forces workers to return to work without a full recovery, we analyze two other measures of health care utilization: fees paid to physicians and reinjury. Figure 2 presents the trends in injury for

the two groups before and after a workplace accident and mirrors the trends for other health outcomes that we observe. We find no differential effects on physician fees or reinjury, implying that workers screened out of DI are no more likely to experience further negative physical health consequences when returning to work.

To test for effects on mental health, such as stress or depression, we analyze changes in prescription take-up for antidepressants and antedementia drugs. We find no statistically significant effects for either measure. These findings further reinforce the notion that, for marginal applicants, DI subsidizes retirement but yields little to no health benefits.

Measuring Welfare Effects

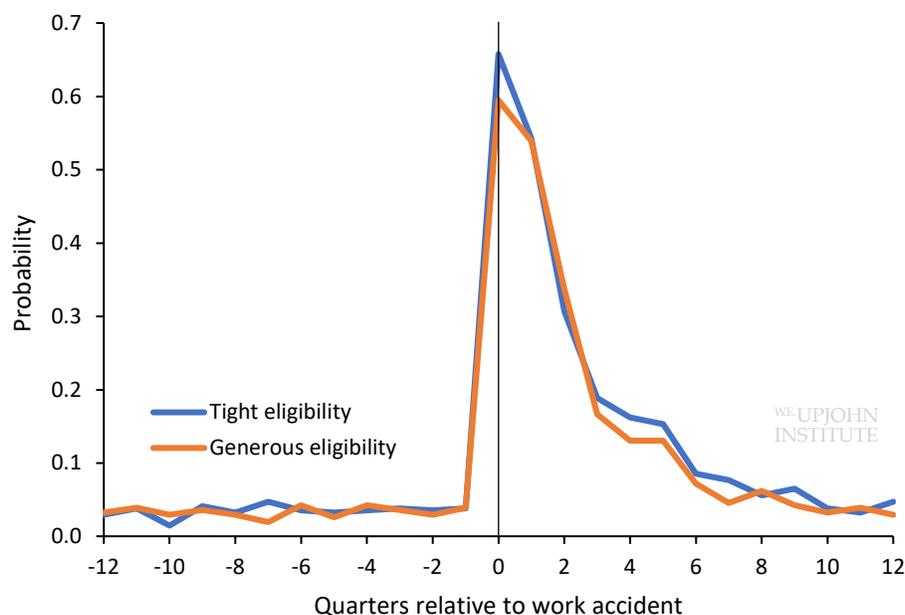
Taking the above findings into consideration, we ask whether the social benefits of the changes in DI

screening outweigh the costs. Consider what would happen if the stricter screening were not implemented, and more workers instead were able to claim DI. Using our estimates, we calculate the benefits of being subject to a less-strict eligibility criteria, including any gained income and health effects for the marginal workers. We then consider the direct government costs of looser DI screening, including forgone tax revenue.

We find that only 20 percent of male workers aged 55–62 injured on the job claim DI within three years of injury, corresponding to approximately 4,700 workers. To estimate direct impacts to worker well-being, we consider how DI take-up changes income. Because DI has, on average, a 70 percent replacement rate aggregating foregone income across these 4,700 workers implies that, in total, workers are willing to trade approximately nearly 1 million euros per year for reduced DI screening. Because the change in screening does not affect health outcomes or unemployment insurance receipt, workers do not directly benefit on these dimensions.

Next, we calculate the net DI cost per recipient for workers near the margin. Workers eligible for DI remain on the program as a form of retirement. We estimate that workers claiming DI after an on-the-job injury receive an average payment of nearly 17,000 euros annually. Therefore, the mechanical reduction in costs for increasing DI screening equals about 2.6 million euros per year (17,000 euros × 470 cases / three years). Furthermore, when workers receive DI and leave their job, the government loses tax revenue. Assuming the lowest marginal tax rate bracket in Austria of 20 percent, and the average wage in our sample of about 24,000 euros, we should expect that the government will give up an average of 750,000 euros each year in tax revenue from more generous DI screening.

Figure 2 Effects of Increased DI Screening on the Probability of Reinjury



NOTE: The sample includes all Upper Austrian male workers who have a work accident aged 55–62 between 2000 and 2017 (N = 645). The figure plots raw probabilities for each quarter relative to the work accident.

SOURCE: Individual-level data on workplace accidents is from the Austrian General Accident Insurance Fund. Data on DI enrollment and labor market participation and wages for Austrian workers is from the Austrian Social Security Database files.

Conclusion

We find that, in Austria, tightening the screening standards for DI provides fiscal benefits with minimal health and labor market consequences for the marginal worker. If such a policy were to be targeted to younger and/or healthier workers who would be expected to continue to work for many more years, welfare gains would be even larger. We note that the implicit price of providing DI benefits to applicants, in terms of impacts on the labor market, has been shown to be larger in Austria than in the United States. This is mostly due to the fact that DI in the United States is often seen as a program that can serve as a substitute to unemployment insurance or other non-health shocks. Therefore, our findings may be most relevant for countries with relatively large social safety nets. Nonetheless, the conclusions from our analysis are generally relevant for governments (like the United States) that still rely on age-based DI policies. Overall, these findings are especially relevant for governments looking to reduce the rising fiscal costs of disability payments without inducing lifelong health consequences for workers.

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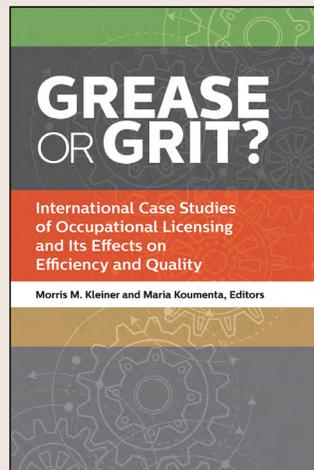
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