

Rising Disability Rolls: Causes, Effects, and Possible Cures

BY BURCU EYIGUNGOR

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ocial Security disability insurance began in 1956 as a means of insuring a portion of the earned income of U.S. workers over age 50 against the risk of disability. In 1960, when coverage was extended to all workers, less than half a million workers were collecting benefits, and by 2012 this number had increased to 8.8 million people — an increase from 0.3 percent to 3.6 percent of the population. Over this period, there have been a number of changes: Initially, the law insured only against permanent disabilities, but in 1965 the definition of disability was expanded to cover impairments expected to last at least one year. In 1973, beneficiaries disabled for two years became eligible for health insurance through Medicare. Of particular interest from the standpoint of this article is that in the past three decades, disability rolls have been growing fast, costing the system more in benefit payouts as well as in forgone tax revenue as more working-age Americans leave gainful employment.

I will examine trends in disability insurance recipient numbers, which have been growing for all age groups, and the possible reasons behind the increase. As I will show, although disability insurance provides much-needed aid to those who can no longer work, how the program is administered can affect people's decisions to remain employed or to leave or rejoin the labor force. I investigate these effects by summarizing a number of studies that assess the impact of the availability of disability insurance on labor force participation rates. Finally, I will look at reforms that have been undertaken to encourage more D.I. recipients to re-

turn to the labor market and whether these reforms have been effective.

COSTLY TRENDS

I will focus on men and their usage of the disability insurance program, as women's usage has been affected by their low labor force participation in earlier decades, which affects their eligibility. Figure 1 shows the behavior over time of the ratio of disabled male workers receiving D.I. benefits relative to the 25- to 64-year-old male population.¹ In 1967, the ratio of disabled workers was 2.1 percent, and in 2012 the ratio had become 5.8 percent. The increase did not proceed smoothly dur-

ing this period. The rapid, unexpected increase in D.I. enrollment after the program's inception in 1957 led to a funding crisis by the end of the 1970s. In response, in 1980, new federal legislation increased the number of reviews of beneficiaries to determine continued eligibility and also made it more difficult for applicants to qualify for benefits. These actions led to a decline in enrollment but also generated a public backlash. Congress responded with legislation in 1984 that relaxed the eligibility criteria to include hard-to-verify ailments such as depression and back pain. Since 1989, the ratio of D.I. recipients has risen steadily.

Providing disability insurance is costly along two dimensions for the Social Security Administration budget. The obvious cost is the direct outlay of benefits. The second is the forgone taxes that would have been collected if these individuals were instead working. For that reason, the ratio of disability insurance recipients relative to the total number of working people is the right measure to evaluate the cost and sustainability of this program. Figure 1 also presents the ratio of disabled male workers relative to employed men age 25 to 64. This ratio went up from 3.6 percent in 1989 to 7.4 percent in 2012.

When the ratio of beneficiaries relative to working people is high, the tax rates to fund the program will have to be higher, too, and higher taxes themselves create a disincentive to



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¹ Because the number of D.I. benefit recipients below age 25 is very small, I calculated the proportion relative to 25- to 64-year-old males.

work. (See *Snapshot: U.S. Social Security Disability Insurance* on page 11.)

Two questions that arise are whether D.I. benefits affect all age groups in a similar way and whether the increase in the ratios that we have

seen might be explained by demographic shifts in the population. Figure 2 shows how the ratio of disabled workers has evolved for different age groups. Not surprisingly, we see that older age groups utilize D.I. benefits

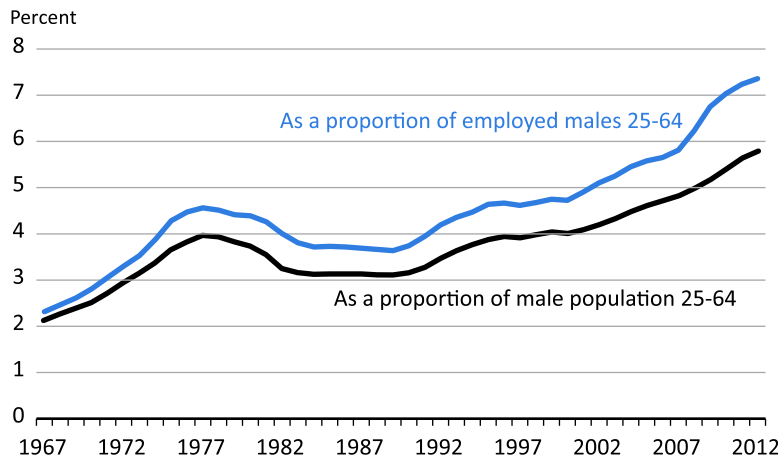
in much higher proportions. Only 1.8 percent of 30 to 39 year olds were on disability in 2011, while that number was 16.8 percent for 60 to 64 year olds. It is also true that the ratio has gone up for all age groups since 2000. Figure 3 shows the percentage point increase in the ratio of recipients for different age groups since 2000. The percentage point increase has been strongest for older age groups: For 55 to 59 year olds, the ratio has gone up 1.8 percentage points since 2000. By holding the ratio of beneficiaries in each age group at its level in 2000, we can look at how the ratio of beneficiaries among 30 to 64 year olds would have evolved if only demographic changes are taken into account. Figure 4 shows that the share of beneficiaries would have gone up 0.8 percentage point if there had been no increase in utilization rates within age groups, while in reality this ratio has gone up by 1.9 percentage points. This evidence shows that the increase in D.I. rolls is coming not only from the aging of the population. Indeed, more of the increase is coming from higher utilization rates occurring within the same age groups.

The upward trend in D.I. utilization rates is all the more puzzling given the longstanding trend in the labor market away from physically demanding work.² Absent other factors, this shift should have reduced the incidence of disabling medical conditions and lowered the relative size of the disability insurance program.³ In the next section, I will look at the possible causes cited for the increase in D.I. rolls.

² Steuerle, Spiro, and Johnson find that from 1950 to 1996, the share of U.S. workers in physically demanding jobs — defined as requiring the frequent lifting or carrying of objects weighing more than 25 pounds — declined from about 20 percent to about 8 percent. Johnson, Mermin, and Resseger find that from 1971 to 2006, the share of U.S. jobs involving any general physical demands declined from about 57 percent to 46 percent.

FIGURE 1

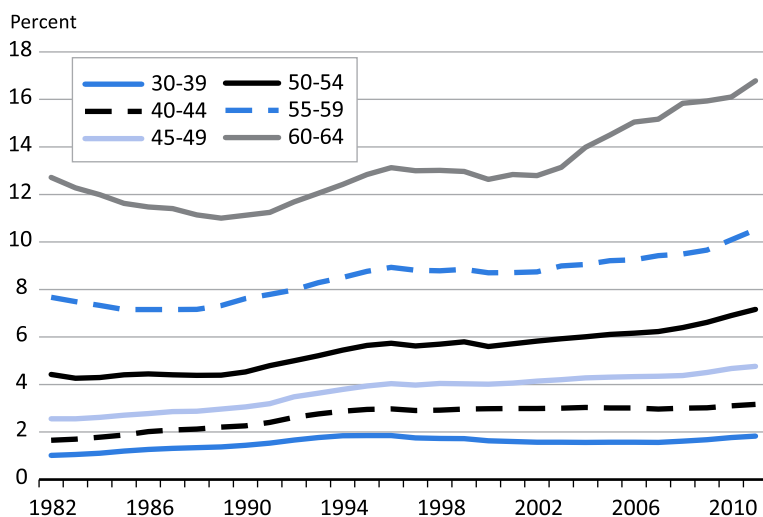
Rolls Rising as a Proportion of Work Force



Source: Social Security Administration via Haver Analytics.

FIGURE 2

**Older Workers More Likely to Go on Disability
Proportion of male workers on disability by age group.**



Source: Social Security Administration via Haver Analytics.

POSSIBLE REASONS FOR THE INCREASE

As I have mentioned, one widely cited reason behind the increase in the rolls is that Congress liberalized the screening process, which has put more weight on hard-to-verify ailments such as backaches, headaches, and depression. In addition, because these conditions often appear in young people as well and tend not to be fatal, D.I. recipients with such diagnoses tend to collect benefits for relatively long periods. As a result, the ratio of beneficiaries who leave the disability rolls has decreased in the past few decades. Figure 5 shows that the exit rate has gone down from 20 percent in 1960 to 8 percent in 2011.⁴

Another commonly cited reason, documented in depth by David Autor and Mark Duggan, is the increase in the replacement rate — the ratio of D.I. benefits relative to the market wage — for low-wage workers. As I will explain in depth below, this increase is not a result of a change in the rules for disability insurance, but rather a result of greater income inequality in the U.S. combined with how D.I. benefits are determined.

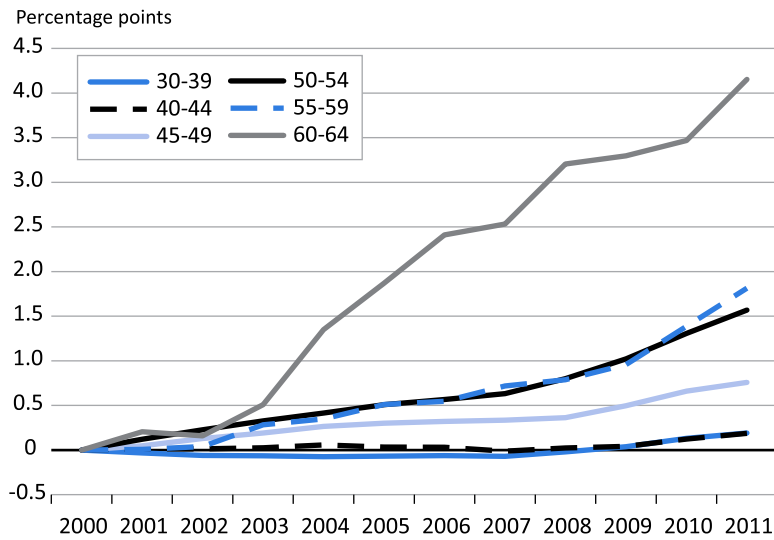
To qualify, an applicant must have worked in at least five of the previous 10 years at jobs covered by Social Security, cannot be engaged in a substantial gainful activity (equivalent in 2012 to earning \$1,010 or more a month for a nonblind person), and must be un-

able to work due to a significant illness or impairment expected to last at least a year or to result in death within a year. Once a recipient hits retirement

age, disability benefits are automatically converted to retirement benefits. To determine the dollar amount of D.I. benefits, a worker's average

FIGURE 3

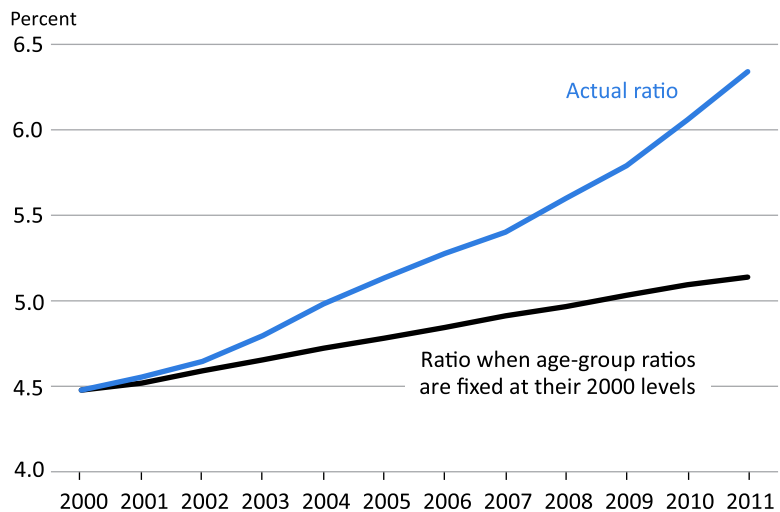
Increase Greatest for Older Workers
Percentage point increase in the proportion of male workers on disability since 2000.



Source: Social Security Administration via Haver Analytics.

FIGURE 4

Increase in Rolls Not Only Due to Aging Population
Proportion of male workers on disability age 30-64.



Source: Social Security Administration via Haver Analytics.

³ One might ask how much sedentary lifestyles are contributing to the increase in disability rolls. Autor and Duggan document that most of the increase in rolls has been due to mental disorders and musculoskeletal disorders (for example, back pain) and that the increase in rolls due to heart disease or endocrine system disorders (for example, diabetes) does not constitute a big portion of the total increase.

⁴ The exit rate measures the percentage of disability recipients whose enrollment ends in a particular year. Enrollment might end because the recipient dies, switches to Social Security retirement benefits, or no longer meets the medical criteria.

indexed monthly earnings (AIME) are calculated. For the average earnings, a worker's past wages are indexed up to the present using an "inflator" equal to the mean rate of wage growth in the economy. Once the average indexed earnings of the worker are calculated, benefits are determined according to a progressive replacement schedule. For example, in 2012, the replacement rate for the first \$767 of AIME was 90 percent, for the next \$3,857 it was 32 percent, and above that it was 15 percent. The brackets that determine replacement rates grow at the average rate of wage growth in the economy.

Increased wage inequality in the past few decades implies that low-wage workers' earnings increased more slowly than mean earnings, and so the brackets (which grow at the mean rate of wage growth) have grown faster than low-wage workers' earnings. This implies that a bigger portion of the AIME of a low-wage earner will be in the lower brackets, and the worker will have a higher overall replacement rate. In addition, the fact that the AIME is calculated by inflating past earnings at the mean rate of wage growth in the economy implies that, for a worker whose wages grow more slowly than the mean rate, the replacement rate relative to his current wage will be higher.

For example, consider the average earnings of a worker calculated over two years. The worker earned \$20,000 in each of the past two years. If in the last year mean wages grew 10 percent economywide, the inflated value of \$20,000 earned by the worker last year would be \$22,000 ($= \$20,000 + (\$20,000 \times 110\%)$) today, and the average earnings of the worker will be calculated as \$21,000 ($= (20,000 + 22,000) \times 0.5$). The replacement rate is calculated using average earnings of \$21,000, which will give a higher replacement rate relative to the current potential earnings of the worker, which is \$20,000.

Snapshot: U.S. Social Security Disability Insurance

Workers employed full time for at least five of the previous 10 years in a qualified job who have been unable to work for five months because of an illness or infirmity expected to last a year or more may be eligible to collect disability insurance benefits. Recipients receive a portion of their former earnings and are subject to periodic reevaluations.

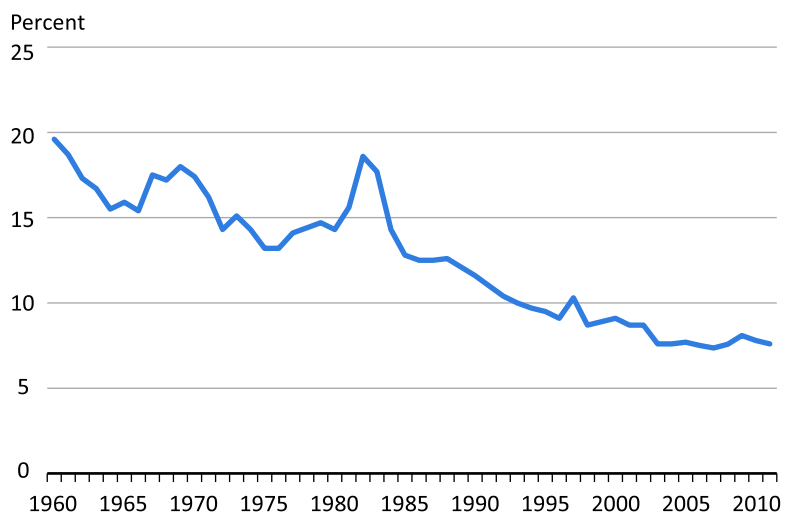
The program is funded through a portion of the Social Security taxes paid by covered employees and employers. The disability portion of the tax was equal to 0.5 percent of wages when the program was established in 1957 and is now 1.8 percent. Revenue goes into the Disability Insurance Trust Fund, controlled by the Social Security Administration. Funds not immediately paid out are invested in interest-bearing federal securities, as required by law. By 2016, the trust fund is projected to be able to pay only 80 percent of benefits.

Number of workers receiving benefits:	8.8 million
Average age of recipients:	53
Average monthly benefit:	\$1,130
Total 2012 disability payout:	\$137 billion

Sources: Congressional Budget Office, Social Security Administration. Data are 2012 estimates for male and female workers (excluding spouses and dependents) collecting disability benefits. www.ssa.gov/policy/docs/statcomps/supplement/2013/5d.html#table5.d4
www.ssa.gov/policy/docs/chartbooks/fast_facts/2013/fast_facts13.html

FIGURE 5

Fewer Recipients Dropping Off Rolls Ratio of disabled workers leaving rolls in a given year.



Source: Social Security Administration via Haver Analytics.

A third factor behind high replacement rates is that, since 1973, disability beneficiaries have been eligible for Medicare after being enrolled in the program for two years. Given that most low-wage workers have limited or no medical coverage through their employers, and also given the rising cost of health care, the value of Medicare benefits under the disability insurance program for these workers has been going up.

Autor and Duggan take all these factors into account and estimate male workers' replacement rates depending on their earnings percentiles, which are replicated here in Table 1. The replacement rate for male workers age 50 to 61 earning wages in the lowest 10th percentile has gone up from 68 percent in 1984 to 86 percent in 2002. For a worker in the same age group and in the 50th earnings percentile, this ratio has gone up from 34 percent to 46 percent. The increase in the replacement rate has been highest for low-wage workers, and it is approaching the full replacement rate for the 10th percentile worker. High replacement rates combined with lax eligibility criteria create disincentives to work; it is possible that this could lead some able workers to claim disability benefits.

MEASURING DISINCENTIVES TO WORK

In the same period that disability insurance rolls have been growing, the labor force participation rate for men has been going down. For example, in 1960, when D.I. benefits were extended to workers younger than 50, the proportion of disabled male workers relative to the male population age 25 to 64 was 0.9 percent. By 1977, this rate had risen 3 percentage points to 4 percent. Over the same period, the labor force participation rate for this group fell nearly 5 percentage points, from 95.2 percent to 90.4 percent. A cursory first look at the data seems to

imply a relationship between the labor force participation rate and the D.I. program, but let us examine this relationship in more detail.

Initial studies on the subject found that disability benefits had a large impact on labor force participation rates. Donald Parsons used regression analysis to come to that conclusion. He found that high replacement rates — the ratio of potential benefit levels to wages — predicted lower labor force participation rates. This effect was so strong that increasing replacement rates could explain the entire decline in the labor force participation rate for men from 1948 to 1976.⁵

These studies were later criticized because they did not take into account that, because of the progressivity of the disability insurance schedule, a high replacement rate for a worker would mean that the worker was getting low

wages, and low wages in themselves might drive the worker out of the labor force. In addition, less motivated (or possibly less healthy) workers tend to earn lower wages, and an unmotivated worker would be more inclined to leave the labor force even if disability insurance did not exist, while these regressions were attributing this to the disability insurance program.

In his seminal work, John Bound proposed a different way to estimate the impact of D.I. policies on people's decision to work. He looked at labor force participation among people who had applied for disability insurance and got rejected to get an upper bound of how many people whose claims were accepted would have worked if

⁵ Other studies that used similar regression analysis came to similar conclusions. See Parsons (1980b, 1982) and Frederic Slade (1984).

TABLE 1

Replacement Rates Rose the Most for Low-Wage Workers Estimated D.I. wage replacement rates for men.

	Replacement rates		Including benefits, Medicare	
	1984	2002	1984	2002
Income percentile	Age 30-39			
10th	48.4%	59.4%	60.6%	85.7%
50th	36.2	41.9	35.4	44.4
90th	24.1	26.1	22.5	24.7
	Age 40-49			
10th	51.1	55.1	62.7	76.9
50th	33.5	43.3	32.7	44.4
90th	19.4	24.8	18.4	23.3
	Age 50-61			
10th	55.2	64.0	67.8	86.0
50th	34.7	45.9	34.1	46.4
90th	19.0	23.7	18.2	22.4

Source: Autor and Duggan's calculations from the Current Population Survey March Annual Demographic Supplement, 1964-2002.

they were not collecting D.I. benefits. He found that people who applied and got rejected were quite different from the general population. According to various estimates, no more than 33 percent of rejected applicants were working 18 months after having been denied benefits, while 3 percent of the beneficiaries were working, which implies that receiving benefits led to a reduction in the employment rate of applicants by at most 30 percentage points. The assumption here is that rejected applicants are healthier and more capable of work than those who were accepted. Thus, their labor force participation rate should provide an upper bound for what could be expected of beneficiaries.

Parsons points out that this approach might be underestimating the labor force participation disincentives of D.I. benefits.⁶ People who have been rejected usually apply again or appeal, risking letting their skills get rusty because they are unemployed during the application process. In addition, some people who intend to exit the labor force anyway might be filing false claims.

For example, take the case of a healthy person who applies for benefits fully intending to leave the labor force regardless and an unhealthy applicant who is nevertheless motivated to work. Presumably, the healthy person's claim is denied and the unhealthy person's is accepted. But would the unhealthy person work if he could not get disability benefits? The healthy person who applied for benefits had no intention of working but wanted to try his luck at getting benefits before leaving the labor force. By contrast, the truly disabled person is motivated to work and would possibly keep working if D.I. benefits did not exist. If we thought his labor force participation decision

absent disability insurance would be similar to that of the healthy person who was rejected for benefits, we would be underestimating D.I. beneficiaries' motivation to work. And if we assume that accepted applicants have no more inclination to work than rejected applicants, we would be underestimating the disincentive to work that D.I. benefits create for some people. Bound responds that workers whose D.I. claims

Different reforms have been proposed to increase labor force participation without hurting the truly disabled.

are accepted are in general in much worse health than those who are rejected, and this effect should dominate the unobserved motivation element.⁷

Another question that arises is that, as discussed in the previous section, the disability insurance program has changed substantially in the decades since Bound's study, which was done in the 1970s. Given that the screening process is more liberal now, one would expect applicants to be healthier overall and to be more likely to participate in the labor force if their applications are rejected. Susan Chen and Wilbert van der Klaauw found that what Bound found to be true for the 1970s was still true for the 1990s. For males over age 45 applying for D.I. benefits, the labor force participation rate would have been only 23 to 40 percentage points higher were it not for the availability of the program. This finding is paradoxical if we believe that workers applying for D.I. benefits in the 1990s were generally healthier than applicants in the 1970s. Their finding seems to imply that more men were choosing to exit the labor force regardless of the availability of D.I.

benefits. This choice might be due to increased income inequality, which has made not working more attractive.

Thus, while progress has been made in understanding the relationship between disability insurance and the declining labor force participation of men, how much of that decline is caused by disability insurance is still an open question that researchers are trying to answer.

ATTEMPTS AT REFORM

The aim of disability insurance is to insure workers' labor income against disabling medical conditions but at the same time not give those capable of holding a job a disincentive to work. Different reforms have been proposed to increase labor force participation without hurting the truly disabled. One solution is to shrink the size of the disability insurance program by making the screening process more stringent. The drawback is that more stringent screening would undoubtedly exclude more genuinely disabled people from receiving disability benefits or lead to more delays and therefore more suffering while the disabled are trying to get their benefits.

Most of the reforms that have been undertaken entail a form of financial incentive such that workers are allowed to keep a portion of their disability benefits even when they return to the labor force, usually for some finite amount of time. The U.S. program, known as the "\$1 for \$2 offset," reduced workers' benefits by \$1 for every \$2 they earned above a threshold of substantial gainful activity. In Britain, recipients who return to work are allowed to keep approximately 50 percent of their benefits for

⁶ See Parsons' comments in the *American Economic Review*.

⁷ See Bound's 1991 response in the *American Economic Review*.

up to 12 months. The aim of these programs is to increase the employment rate among disability insurance beneficiaries or even encourage some to exit the disability rolls permanently. The concern is that allowing people to keep some portion of their benefits even if they are employed might motivate more workers to apply for disability benefits in the first place, so the overall impact of these policies and which effect might dominate are empirical questions.

In 1999, the Social Security Administration was mandated by federal law to conduct a controlled trial to estimate the extent to which the “\$1 for \$2 offset” policy encouraged workers to apply for disability benefits and induced beneficiaries to rejoin the labor force. In the trial, some randomly selected workers would be able to benefit from the policy and the rest would not. But the trial was never implemented due to its costs.⁸ Luckily, a subsequent study in Norway highlights the effectiveness of such a policy in inducing workers to participate in the labor force again. In 2005, Norway implemented a similar policy in which workers collecting disability payments were able to keep the equivalent of 40 cents out of every dollar they earned over the substantial gainful activity threshold. To prevent this policy from inducing

⁸ Benitez-Silva, Buchinsky, and Rust summarize why the trial was never undertaken.


more workers to apply for benefits, the policy was applied only retroactively. That is, only workers who had gone on disability before 2004 were eligible. This exclusion provided a “natural experiment” that allowed economists Andreas Ravndal Kostøl and Magne Mogstad to compare the effect of the policy on the behavior of workers who went on D.I. just before and after this cutoff. These two groups of workers are presumably very similar to each other, other than their eligibility status.

They found that the labor force participation rate was 8 percent among eligible workers ages 18 to 49 but only 3 percent among ineligible workers in the same age group. Just as Bound had found for U.S. workers, they found that the labor force participation rate of Norwegians whose applications were rejected was 30 percent. In addition, they find that while younger groups (ages 18 to 49) are more responsive to this policy, older groups close to retirement (ages 50 to 61) have hardly responded to this policy at all. The strongest response was among males with high school educations and more labor market experience. Overall, the policy reduced the cost of Norway’s disability insurance program by decreasing spending on benefits for workers who participated in the labor force and increasing tax revenue by increasing the number of taxpaying workers. Obviously, this study does not answer the question of whether

applications for D.I. benefits would go up if the opportunity to work while collecting benefits were to also become available for new beneficiaries, as is the case in the U.S.

Autor and Duggan point out that one reason many people stay on the disability rolls is that, even if some people in ill health are able to work, the Medicare coverage that disability insurance provides is very valuable to them. The Affordable Care Act might decrease the value of disability insurance to these people, as they would get health-care coverage regardless of their labor force participation.

CONCLUSION

The proportion of U.S. workers in all age groups going on Social Security disability in the past three decades has been growing rapidly. Studies estimate that if there were no public disability insurance, the labor force participation rate of beneficiaries might be 30 percentage points higher. But eliminating disability insurance is not a realistic remedy. Certain financial incentives implemented to induce disability recipients to go back to work seem to increase their labor force participation rate by only about 5 percentage points, and these financial incentives might have the unintended effect of encouraging more workers to apply for benefits. 

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