Disability Insurance and the Dynamics of the Incentive-Insurance Tradeoff

By Luigi Pistaferri

Introduction

The Social Security Disability Insurance (DI) program in the United States is a large and rapidly growing social insurance program offering income replacement and health care benefits to people with work-limiting disabilities. In 2012, the cash benefits paid by the DI program were more than three times larger than those paid by Unemployment Insurance ($128 billion vs. $40 billion –– not including in-kind health care benefits provided by Medicare to DI beneficiaries). Moreover, between 1985 and 2007, the proportion of DI claimants in the United States has more than doubled (from about 1.8 percent to 4.4 percent of the working-age population).

The growth can be explained by the interaction of demand and supply effects. The rise in wage inequality in the United States, coupled with the progressivity of the formula used to compute DI payments, have implicitly increased replacement rates for people at the bottom of the wage distribution (a "demand" effect). In addition, starting in 1984, the entry criteria into the program were made more liberal (a "supply effect"). The key questions in thinking about the size and growth of the program are whether program claimants are genuinely unable to work, whether those in need are receiving insurance, and the value of the insurance provided in relation to the inefficiencies created by the program.

This brief summarizes the results of a study that evaluates the welfare consequences of reforming some key aspects of the DI program. Such reforms

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alter the dynamics of the trade-off between costs and insurance aspects of the program (Low and Pistaferri, 2013).

Literature

Economic research on the DI program has focused on three different areas: (1) estimates of the disincentive effects of the program; (2) estimates of the welfare benefits of the program; and (3) evaluations of the welfare consequences of reforming the program. Our study belongs to the third line of research.

A vast literature attempts to estimate the costs of the DI program in terms of inefficiency of the screening process and disincentive effects on labor supply decisions. Since disability status is considered private information, errors occur in the applicant screening process. Some studies[1] use samples of initial disability determinations and ask both admitted and rejected applicants to be examined by independent medical and social teams. Errors are estimated to be substantial (20 percent of those initially awarded benefits were found to be undeserving, and 50 percent of those denied were found to be truly disabled). Other studies use self-reported disability data and compare them with the

outcome of a DI application, and find similar screening errors.

A number of papers study labor supply effects. The incentive for non-disabled workers to apply for DI rather than to work has been addressed by estimating how many DI recipients would be in the labor force in the absence of the program. Initial studies used rejected DI applicants as a control group and found that only one-third to one-half of rejected applicants were working. This was taken as an upper bound of how many DI beneficiaries would be working in the absence of the program (because rejected applicants should be healthier than awarded applicants on average). More recent studies use exogenous variation in program payouts over time and across individuals and find that the combination of the demand and supply effects mentioned above lowered U.S. unemployment by 0.5 percent between 1984 and 2001.

While research on the welfare costs of the DI program is large, research on its welfare benefits is relatively small. Some papers try to quantify the amount of health risk faced by workers and then measure the value of insurance by looking at the decline in consumption that follows a poor health episode. All the studies assume that any decline in consumption in response

to uninsured health shocks is implicitly a measure of the welfare value of insurance. With health-dependent preferences, however, consumption may fall optimally even if health shocks are fully insured, for example because consumption needs are different when one is sick than they are when one is in good health.

Our Study: Details

In our study, we model three key aspects of the problem.

First, we assume that individuals face several sources of risk: persistent productivity shocks unrelated to health (such as a decline in the price or marketability of skills), a disability or work limitation shock that reduces the ability to work, and labor market frictions (such as the probability of losing one's job and/or inability to find a new one).

Second, we assume that health affects individual welfare. We allow for the possibility that people may value consumption differently depending on their current health status. For example, people may have greater consumption needs when they are disabled (such as for alternative transportation, domestic aid, etc.) than when they are healthy.

Finally, we model the decision to apply for and award DI benefits. The decision to apply for the program by those

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1 See Low and Pistaferri (2013) for a full list of references and for more details about the issues summarized in this brief.

not truly disabled (known in the economic literature as the "moral hazard" problem of DI) is spurred by situations in which they are stuck in permanently low-paying jobs because their skills have been made obsolete by, say, new technologies, or when they are unable to find jobs. The award decision of the government is made difficult by the inability to assess applicants' genuine health status without error. Hence, we assume that the DI program screens applicants with errors. Moreover, we assume that awardees are re-assessed at regular intervals following an award (these re-assessments, known as Continuing Disability Reviews, are performed periodically to check whether awardees are still disabled).

Our model uses self-reported disability status, employment and wage data from the Panel Study of Income Dynamics (PSID), and consumption data from the Consumer Expenditure Survey (CEX). We document several findings. First, we discover that there is higher disability risk among people with low skills. Partly, this reflects the fact that some low-skilled individuals work in occupations or industry where the risk of a disability is higher, but it may also depend on the fact that low-skilled workers tend to engage in activities that worsen overall health (smoking, bad eating habits, etc.), or on their lower investments in health capital (such as preventive health activities or physical exercise). The probability of a disability shock (and that of remaining disabled, if a disability does occur) is higher and increases more rapidly with age for the low skilled. Similarly the probability of recovery is lower for people with lower wages, and declines more rapidly over time for the low skilled.

The effect on productivity of a disability shock is substantial (productivity declines between 20 and 45 percent, depending on the degree of severity of the health shock). On the consumption side, we find that there are greater consumption needs when people become disabled. Finally, we estimate screening error rates that are similar to previous studies, but we find greater variability when those measures are looked at more carefully. For example, when we categorize disability status according to severity, we find that the awarding of benefits is negligible for people with no disabilities, while it may be substantial (around 15 percent) for people with moderate disabilities. On the other hand, we find that half of older workers and three-quarters of younger workers who are truly disabled are turned down on initial application. The average award rate among all applicants is 34 percent, but over a five-year horizon the appeal process almost doubles the probability of success. Finally, we find that the change in the number of DI applications in response to changes in payouts are high among the moderately disabled (a measure of the "moral hazard" problem), but very small among the severely disabled (who apply out of need, not in response to changes in economic incentives).

The Welfare Implications of Reforming the DI Program

Given the rapid growth of the DI program, there have been several discussions regarding its reform.

We analyze the impact on welfare and behavior of varying key policy parameters: (a) the amount of disability payments, (b) the stringency of the screening process, (c) the generosity of alternative social insurance programs, (d) and the re-assessment rate (Continuing Disability Reviews). The change in social welfare as the program's features change depend on two parameters: how much insurance the truly disabled workers receive, and how the costs of the program change as measured by the

tendency of non-disabled workers to apply for DI.[2]

In the first experiment, we consider the effects of changes in DI payouts, with changes ranging from a cut of 40 percent of its current value to an increase of 40 percent. Applications submitted by both people with only moderate disabilities and the truly disabled increase as the payout increases. However, the number of "false" applicants is much more responsive to changes in payouts than the number of truly disabled applicants. When payouts increase, there are more "bad apples" trying to get into the program than "good apples" being awarded benefits. This generates an overall welfare loss. However, the welfare losses as payouts increase are quantitatively small: a 10 percent increase in payouts implies a welfare loss equivalent to 0.12 percent of aggregate consumption. On the other hand, when payouts are decreased there are fewer false applications but those who are severely disabled and on DI are less well insured.

The larger number of false applications is associated with

2   We measure welfare as "consumption willingness to pay". If there is a welfare benefit from a given policy, it means that workers are willing to pay (in consumption terms) in order to be in the new policy scenario; if there is a welfare loss from a given policy, it means that workers need to be compensated (in consumption terms) in order to be in the new policy scenario.

lower labor force participation (as applicants need to be unemployed in order to apply) and, therefore, lower aggregate income. Also, wealth fall with increased payouts partly to reflect the fall in income, reducing savings needed to maintain a smooth consumption profile over the life course (which is something that risk-averse people value).

In the second experiment, we change the strictness of the screening process for DI. This is a "reform" that was tried in 1980 and led to sharp declines in the number of DI awards and significant removal of DI recipients. It was repealed in 1984, however, which resulted in more liberal admission criteria, favoring, in particular, applications by people with mental and musco-skeletal disabilities. The issue is whether the benefit of reducing the number of false applicants granted insurance outweighs the loss to truly disabled workers, who will similarly be rejected in larger numbers based on more stringent criteria.

We find that increasing the strictness of the screening process induces a welfare net loss. The key for understanding this result is the large rejection rate (75 percent) among younger severely-disabled workers. Younger severely-disabled individuals are particularly

ill-equipped to insure against disability risk because they have not had time to accumulate enough assets to self-insure. The results suggest that the benefit of reducing the stringency of the acceptance criteria to capture more of the truly needy outweighs the value of ejecting those who are undeserving.

The third policy we consider does not change any parameters of the DI program, but instead makes the food stamp program more generous. In our model, food stamps are a stand-in for all social insurance programs called upon when people find themselves in a low-income situation. DI interacts in important ways with other welfare programs. We show that an increase in the generosity of means-tested programs reduces DI application rates by non-disabled workers and increases insurance coverage among disabled workers. This positive combination is due to the fact that marginal undeserving applicants use the means-tested program as a substitute for DI: They switch to a program that offers financial benefits similar to DI but that has less uncertainty and hassle associated with it. Meanwhile, truly disabled workers use it as a complement to finance their consumption in case of DI rejection, and

they are of course those most likely to reapply if rejected. Increased food stamp generosity possibly serves individuals whose skills are made obsolete or redundant by technological shocks and who at the same time have some moderate to low disability (and so have some positive probability to enter the DI program given screening inefficiencies).

Finally, we consider changing the rate at which people are reassessed following entry into the program. An increase in the reassessment rate discourages false applications by those who are not severely disabled. Specifically, an increase in the average frequency with which people on DI get reassessed (from 2 percent per quarter to 8 percent per quarter), leads to a decline in the proportion of false applications from 54 to 30 percent, respectively. The threat of reassessment has a marked discouragement effect, and leads to a decline in the number of undeserving who receive insurance. However, this also results in reduced coverage for the severely disabled, as some also end up being removed from DI in error.

Despite this, increasing the reassessment rate increases welfare, albeit modestly (by about 0.043 percent of consumption in the baseline status-quo case). Increased

reassessment increases employment among the severely work limited, who are discouraged from applying or are removed from the DI rolls. Increased reassessment also leads to greater asset accumulation on average.

Conclusions

Our study looks at the welfare implications of reforming Social Security Disability Insurance using a rich model of individual behavior. We document large disability risk, especially among the low skilled, and hence higher demand for DI benefits. We also find large screening errors, which vary by the severity of applicants' disabilities. Finally, we find that since consumption needs increase when people become disabled, there is an additional welfare benefit from being insured.

Our counterfactual reform experiments show that it is welfare improving to reduce the generosity of the program in terms of wage replacement rates, and to increase it in terms of stringency of the screening process. We also find that making programs that interact with DI more generous pays off. It probably serves a need for long-term unemployment insurance, which in the United States is not available, particularly for low-wage individuals displaced

by skill-biased technological changes, who otherwise may turn to a program like DI.

In terms of future extensions to this work, two appear important. First, while we model health shocks as exogenous, in practice the probability of receiving a negative health shock is likely to be partly under individuals' control, through occupation choice and other decisions such as investments on their own health. These decisions will be affected by the characteristics of the disability insurance program. Finally, we have ignored the health insurance component of the program. This means we probably underestimate the insurance value provided by the program. One interesting, and less debated, aspect of Obamacare is that if people stay on DI primarily because of the value they attach to the health insurance component provided, then this "program lock" effect should disappear once the health care reform runs its full course.

References

Hamish Low and Luigi Pistaferri (2013), "Disability Insurance and the Dynamics of the Incentive-Insurance Tradeoff", unpublished manuscript available at *http://www.stanford.edu/~pista/LP_Dec2012.pdf*.

SIEPR *policy brief*

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A publication of the
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