



COULD STATE & LOCAL DI PROGRAMS SHED LIGHT ON TRENDS IN SSDI?

By Anek Belbase, Laura D. Quinby, and James Giles*

INTRODUCTION

According to the U.S. Social Security Administration, one out of every four young workers today will develop a work-limiting disability over the course of their career.¹ For those unable to continue in the labor force, programs like Social Security Disability Insurance (SSDI) serve as a much-needed economic safety net. Despite broad agreement on this need, policymakers continue to vigorously debate the best way to design a DI program to protect individuals and families from loss of income while incentivizing work among those who are still able.² This *brief* investigates whether researchers could turn to a unique population of workers – state and local government employees – to assess how DI program structure affects claiming and other outcomes.³

The discussion proceeds as follows. The first section introduces a unique database of state and local DI programs that was developed for this analysis and will be made publicly available on the Center's web-

site in the fall of 2020. The second section explores the state and local DI landscape, with an eye toward variation in program structure that could be used to study how design choices affect outcomes. The third section offers suggestive evidence that eligibility rules, benefit levels, and employee occupation could all affect the DI claiming rate. The final section concludes that state and local DI programs offer a fruitful avenue for research.

A NEW DATABASE OF STATE AND LOCAL DI PROGRAMS

Although a significant body of research on SSDI examines how program design, labor market conditions, and demographic trends affect claiming, analysts have been slow to ask similar questions about state and local programs. Consequently, while several

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large datasets track finances and benefits for public pension plans, no such information is publicly available for DI.⁴ Hence, the first step in this analysis is to create a comprehensive database of benefit provisions and claiming trends.

Most state and local DI programs are administered by retirement systems that also provide pension benefits. Thus, our sample of DI plans includes those associated with the 100 largest retirement systems in the *Public Plans Database* (PPD), as well as a few smaller systems. Two main types of variables were collected, those reflecting program design and those reflecting program outcomes (see Table 1).⁵

TABLE 1. KEY VARIABLES COLLECTED FOR STATE AND LOCAL DI PROGRAMS

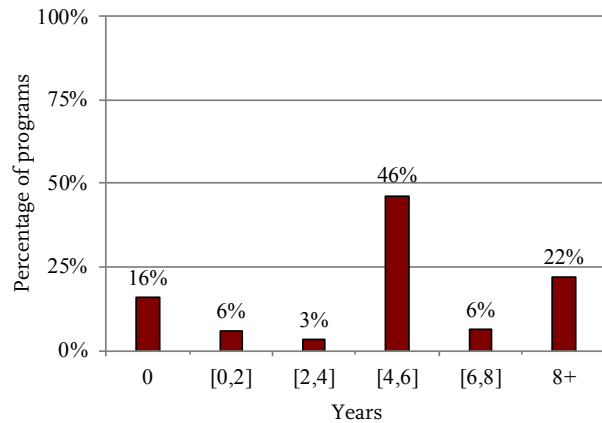
Program design (2020)			Program outcomes (2001-2018)
Who is covered	Type of disabilities covered	Level of benefits	Claiming
<ul style="list-style-type: none"> • Eligibility requirements • Vesting requirements 	<ul style="list-style-type: none"> • Degree of disability • Duration of disability 	<ul style="list-style-type: none"> • Benefit formula • Definition of service and final avg. salary 	<ul style="list-style-type: none"> • Number of current DI beneficiaries

Source: Authors' analysis.

OVERVIEW OF DI PROGRAMS

Government employers have two primary levers to influence DI outcomes: policies that regulate who can receive benefits and policies that regulate the generosity of benefits. One way to restrict who can receive benefits is to require a certain level of tenure before a worker is eligible. Vesting periods for the programs in our sample range from immediate vesting (16 percent of programs) to eight or more years of tenure (22 percent), with nearly half of programs requiring employees to complete four to six years of service (see Figure 1).

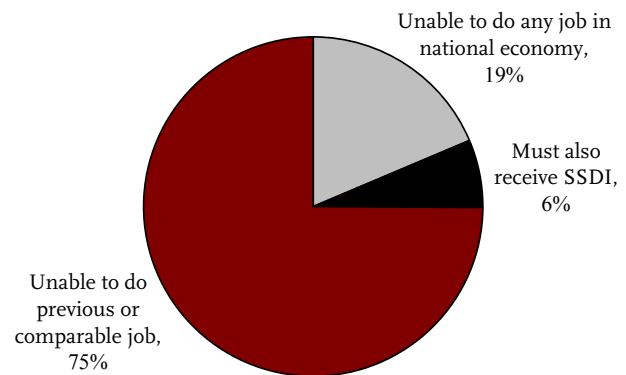
FIGURE 1. VESTING REQUIREMENTS FOR STATE AND LOCAL DI PROGRAMS, 2020



Source: Authors' calculations from the *Public Disability Insurance Programs Dataset* (2020 forthcoming).

Another way to restrict access is by establishing a high threshold on the severity of the disability. Whereas SSDI is quite strict in this regard – disqualifying applicants if they are able to perform *any* job in the national economy – 75 percent of state and local programs simply require that applicants be unable to perform their previous government job (see Figure 2). The other programs have requirements similar to SSDI, and 6 percent actually require that employees also receive SSDI benefits in order to qualify.

FIGURE 2. DISABILITY SCOPE REQUIREMENTS IN STATE AND LOCAL DI PROGRAMS, 2020



Source: Authors' calculations from the *Public Disability Insurance Programs Dataset* (2020 forthcoming).

A key step in determining who qualifies for benefits is a medical exam to certify the severity of the employee's disability. While most of the programs in the sample allow employees to go to their own doctor to be certified for DI, around one-quarter often rely on an independent medical evaluation conducted by a doctor chosen by program administrators. Of these latter programs, some require all DI applicants to receive the independent evaluation, while the others administer the independent evaluation on an ad-hoc basis. In addition, nearly half of all programs periodically re-evaluate the medical condition of existing beneficiaries (see Table 2).

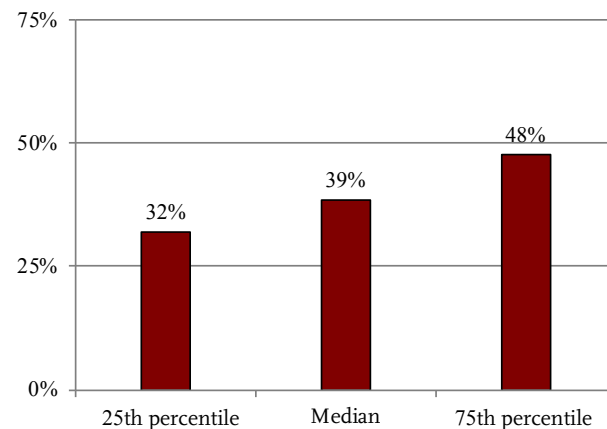
TABLE 2. MEDICAL EVALUATION REQUIREMENTS IN STATE AND LOCAL DI PROGRAMS, 2020

Requirement	Percentage of programs
Medical evaluation requirement	
Own doctor	77%
Independent evaluation always required	13
Independent evaluation required on an ad-hoc basis	10
Periodic re-evaluation	42

Source: Authors' calculations from the *Public Disability Insurance Programs Dataset* (2020 forthcoming).

While the structures described so far regulate who is eligible to receive DI, governments can also affect outcomes through the generosity of benefits. Government sponsors almost always calculate a recipient's benefit using a simple formula: $benefit = tenure * final\ average\ earnings * a\ multiplier$, but they have substantial leeway over the number of years used in the earnings average as well as the benefit multiplier. The benefit formulas for the different state and local programs can be used to calculate replacement rates – DI benefits relative to pre-disability earnings – for a hypothetical worker with 20 years of tenure in 2040.⁶ This calculation suggests that half of the programs provide replacement rates between 32 and 48 percent (see Figure 3).

FIGURE 3. DISTRIBUTION OF REPLACEMENT RATES IN STATE AND LOCAL DI PROGRAMS FOR A HYPOTHETICAL WORKER WITH 20 YEARS OF TENURE IN 2040



Source: Authors' estimates from the *Public Disability Insurance Programs Dataset* (2020 forthcoming).

DI CLAIMING PATTERNS

Having established that state and local DI programs vary considerably in their eligibility requirements and benefit generosity, the question becomes whether these design choices affect outcomes, such as claiming patterns. While a complete answer to this question is beyond the scope of this *brief*, we illustrate how the new dataset of DI programs can be linked to other datasets like the PPD to begin an investigation.

In 2017 – the most recent year with comprehensive data available – DI recipients in state and local programs comprised around 5 percent of all beneficiaries in their parent retirement systems.⁷ Nevertheless, this aggregate share masks substantial differences across state and local programs. For example, DI recipients in three programs represent over 10 percent of total beneficiaries in their parent retirement systems, whereas two programs report DI shares below 1 percent. Similarly, trends in the DI share between 2004 and 2017 range from a nearly 6-percentage-point drop to a 2-percentage-point increase.

To illustrate how program design might influence claiming, we run a simple linear regression of the form:

$$\text{Share of beneficiaries receiving DI} = f(\text{program structure, employee occupation})$$

where the dependent variable equals the share of all beneficiaries on DI in 2017, and the independent variables include the program structures governing benefit eligibility and generosity described earlier (see Appendix A for a detailed description). The regression also flags programs specific to public safety workers in order to test the intuition that hazardous-duty employees are more likely to use DI benefits.

Figure 4 displays the regression results, which show that the coefficients all have the expected sign and are generally statistically significant.⁸ As expected, programs with a strict work-ability requirement

have DI shares that are around 2 percentage points lower, on average, while those using independent medical evaluations (either automatic or discretionary) also have DI shares that are 3 and 4 percentage points lower, respectively. In the other direction, a 10-percentage-point increase in the replacement rate is associated with a modest increase in the DI share; and programs that only cover public safety workers have DI shares that are 4 percentage points higher on average. The only coefficient without a clear interpretation is the vesting period, which comes in positive but relatively small.⁹

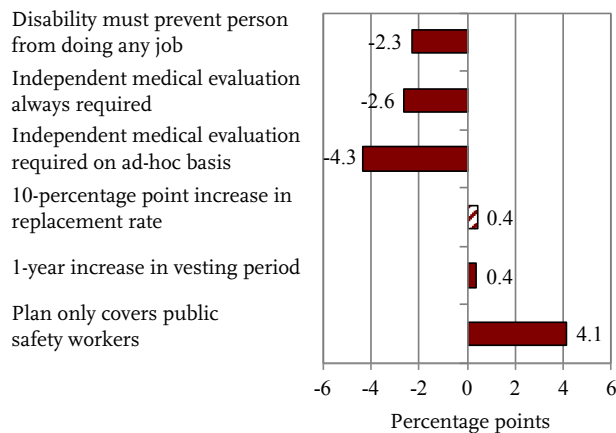
Although this simple regression undoubtedly paints an incomplete picture, it does suggest that the variation in program design captured by the new DI dataset affects substantive outcomes of interest to policymakers.

CONCLUSION

A rapid rise in SSDI caseloads between 2000 and 2010 has triggered interest in policies to keep prospective claimants in the labor force. Yet, the near-universal nature of SSDI makes it difficult for researchers to explore how the program's structure affects claiming. This *brief* investigates whether an examination of DI programs for state and local government employees could help fill the gap. A novel database of state and local DI programs – which will become publicly available on the Center's website in the fall of 2020 – shows that these programs vary widely in their eligibility criteria, administrative processes, and benefit levels. And a simple analysis linking multiple elements of program structure to DI claiming rates suggests a strong relationship.

However, much work remains to be done. In particular, a fruitful avenue for future research could be to link the new data on DI benefits to existing data on pension benefits to obtain a full picture of the incentives faced by state and local government employees. Consequently, this *brief* is intended to start a conversation, rather than settle the debate.

FIGURE 4. CORRELATION BETWEEN PROGRAM STRUCTURE AND THE PERCENTAGE OF BENEFICIARIES RECEIVING DI, 2017



Notes: Solid bars are statistically significant at the 5-percent level. The striped bar is significant at the 10-percent level. Source: Authors' estimates from the *Public Disability Insurance Programs Dataset* (2020 forthcoming).

ENDNOTES

- 1 U.S. Social Security Administration (2020).
- 2 While most researchers agree that SSDI benefits reduce the labor supply of beneficiaries, the program's near-universal nature makes it difficult to disentangle how changes to its structure have affected outcomes, such as claiming, independently of concurrent labor market conditions and demographic trends. For example, see Autor (2015); Autor and Duggan (2003); Autor, Mogstad, and Kostøl (2019); Duggan and Imberman (2009); French, and Song (2014); Liebman (2015); Maestas, Mullen, and Strand (2013); and Maestas, Mullen, and Strand (2015).
- 3 Approximately one-quarter of state and local workers are not covered by Social Security and will not be eligible for SSDI unless they have a sufficient work history in the private sector. This uncovered workforce instead has access to employer-sponsored DI programs from state and local governments that vary in generosity (Belbase and Quinby 2020). The remaining three-quarters of state and local workers are covered by SSDI, but also participate in employer-sponsored DI programs in addition to SSDI.
- 4 See, for example, the *Public Plans Database* maintained by the Center for Retirement Research at Boston College, or the Urban Institute's *State and Local Employee Pension Plan Database*. Several reports prior to 1980 examined the level of DI benefits provided to state and local workers (Bleakney 1972; Munnell and Connolly 1979; House of Representatives Committee on Education and Labor 1978; and Waldman 1967).
- 5 Like public pensions, state and local DI programs sometimes provide different levels of benefits depending on a worker's occupation and hire date. The variables related to program design reflect the variation in benefits across occupations, but the hire dates focus on workers hired in 2020. Since changes in claiming rates over time are likely to be of interest to researchers, the database includes the number of DI recipients in each program between 2001 and 2018. All told, the new database includes 263 DI programs administered by 108 retirement systems.
- 6 The hypothetical worker is assumed to experience 3.8-percent nominal wage growth in the years preceding the disability. This wage-growth assumption follows the long-run intermediate assumption of the 2019 *Social Security Trustees Report*.
- 7 Many studies of SSDI report the number of DI recipients relative to the national population, which includes past, current, and future workers as well as those who never enter the labor force. This analysis adopts a different denominator because no comparable population concept exists for state and local government employees (who are either past or current workers by definition).
- 8 A detailed regression table is presented in Appendix B. The regression focuses on 64 DI programs that have complete data and only one benefit design covering all employees. This last restriction ensures that the program design variables, which vary across occupations in some retirement systems, align with the data on DI claiming, which is only reported for the entire retirement system.
- 9 It is possible that long vesting requirements change the demographic composition of the vested workforce in a way that promotes DI use (for example, by tilting the population toward public safety workers who tend to have long careers in government).
- 10 As in Figure 3, this variable is calculated for a worker with 20 years of service who earns 3.8-percent nominal wage growth.

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APPENDIX

APPENDIX A: INDEPENDENT VARIABLES INCLUDED IN THE REGRESSION

- *Disability must prevent person from doing any job.* This binary variable equals one if employees must be unable to perform any job in the national economy, and zero otherwise. The hypothesis is that more restrictive programs will have fewer DI recipients.
- *Independent medical evaluation always required.* This binary variable equals one if the program requires all applicants to receive an independent medical evaluation, and zero otherwise. Requiring an independent exam may prevent some employees from receiving DI benefits.
- *Independent medical evaluation required on an ad-hoc basis.* Similarly, this binary variable equals one if the program can request an independent medical evaluation at the administrators' discretion.
- *Replacement rate.* Employees may be more likely to apply for DI benefits if the program replaces a higher share of their pre-disability income; the replacement rate variable ranges from 0 to 1.
- *Vesting period.* This variable reflects the number of years required to vest in the state or local DI program. The effect of the vesting period is unclear in advance since longer periods shrink DI rolls, but also reduce the number of pension recipients.
- *Plan only covers public safety workers.* Hazardous duty employees, such as police, are more likely to end up on DI.

APPENDIX B: REGRESSION RESULTS

TABLE B1. CORRELATION BETWEEN PROGRAM STRUCTURE AND THE PERCENTAGE OF BENEFICIARIES RECEIVING DI, 2017

Variables	(1) DI share 2017
Disability must prevent person from doing any job	-0.0229*** (0.0085)
Independent medical evaluation always required	-0.0260** (0.0105)
Independent medical evaluation required on an ad-hoc basis	-0.0431*** (0.0137)
Replacement rate	0.0417* (0.0230)
Vesting period	0.0039*** (0.0009)
Plan only covers public safety workers	0.0414** (0.0181)
Disability scope data missing	-0.0174* (0.0090)
Independent medical evaluation data missing	-0.0044 (0.0092)
Constant	0.0187 (0.0135)
Observations	64
R-squared	0.397

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05.

Source: Authors' estimates from the *Public Disability Insurance Programs Dataset* (2020 forthcoming).

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