An Analysis of Private Long-Term Disability Insurance Access, Cost, and Policy Options Using the National Compensation Survey

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February 17, 2016

Acknowledgements

The authors appreciate the assistance of Kenneth Jackson for excellent programming support, and Winthrop Cashdollar and David Stapleton for helpful discussions. Funding for this study was made possible by the Employment Policy and Measurement Rehabilitation Research and Training Center, which is funded by the Administration for Community Living (ACL), National Institute for Disability, Independent Living, and Rehabilitation Research (NIDILRR), under cooperative agreement with the University of New Hampshire (H133B100030). The contents do not necessarily represent the policy of NIDILRR and are not endorsed by the federal government (Edgar, 75.620 (b)). The authors are solely responsible for any errors or omissions.

ABSTRACT:

Policymakers are increasingly interested in expanding private long-term disability insurance (LTDI) options to increase access to work and income supports and reduce dependency on Social Security Disability Insurance (SSDI). We use data from the National Compensation Survey to examine current LTDI use and the potential effects of these proposals on access and employer costs. Currently, one-third of employers provide access to LTDI, implying that proposals to expand LTDI could affect a large number of employers. Relative to those without LTDI access, workers with access were more likely to work full time, have higher wage jobs, work in larger establishments, and work in industries and regions with lower disability rates. These differences are important because proposals aimed at expanding access would chiefly affect workers without current LTDI access, whereas proposals seeking to modify existing provisions and incentives of LTDI plans would disproportionately affect workers who currently have LTDI plans. The average cost for employers to provide LTDI to most types of workers who currently have access is typically 0.3 to 0.6 percent of their total wages, which is similar in magnitude to the disability insurance component of the Social Security payroll tax. There was a slight increase in LTDI access rates over the past decade (2003 through 2013), although it is unlikely that LTDI will become available for the majority of workers through employer plans in the absence of any policy change.

INTRODUCTION

There is an increasing interest among policymakers in expanding the use of private long-term disability insurance (LTDI) plans, which are employer-provided insurance plans to protect workers from income loss in the event of disability onset. In 2014, approximately one-third of workers had access to LTDI coverage, with higher rates of access being more heavily concentrated within certain occupations, higher-wage jobs, and larger establishments.[1] Historical data show similar patterns in access going back to the 1990s.[2] Some policy proposals are designed to expand LTDI access, thereby creating more options for workers to obtain valuable income and cash support in the event of disability. Other proposals aim to modify existing provisions and incentives of LTDI plans to provide return-to-work services and thereby reduce reliance on Social Security Disability Insurance (SSDI) and other public benefits. However, all of these proposals could create new cost and administrative burdens on affected employers and employees. Additionally, the effects of expanding LTDI access on public supports, especially SSDI, are not well understood.

This paper summarizes existing policy proposals to expand LTDI and uses data from the restricted-use version of the National Compensation Survey (NCS) to provide context on the types of employers and employees who might be affected by these proposals. The Bureau of Labor Statistics (BLS) uses the NCS to provide regular updates of LTDI access and costs as part of its annual NCS Employee Benefits and Employer Costs for Employee Compensation publications.[3] We used the restricted NCS to analyze who might be affected by proposals to alter LTDI. Specifically, we used descriptive and multivariate methods to illustrate current differences in LTDI access and cost by worker characteristics. We also tracked general trends in

LTDI access and plan characteristics over a 10-year period to identify trends that might be suggestive of what the near future holds in the absence of any policy changes.

We found that those with current LTDI access are more likely to work full time, be employed by large establishments, have relatively high wages, and work in industries and regions with a relatively low percentage of workers with disabilities. This implies that proposals to expand LTDI are likely to disproportionately affect certain subgroups of workers. The average employer cost of providing LTDI to most types of workers ranges from 0.3 to 0.6 percent of wages, which is similar in magnitude to the employer share of the current SSDI payroll tax of 0.9 percent.[4] The multivariate analysis confirmed that each of these descriptive relationships exists even after controlling for other observable worker and establishment characteristics. Finally, although we found that access rates have been slightly increasing over time, we conclude that it is unlikely that LTDI will become available for the majority of workers in the absence of a policy change.

OVERVIEW OF LTDI PLANS

LTDI is an optional employer-offered benefit that provides insurance to workers who experience disability onset, where disability is defined as being unable to do one's own occupation or an occupation that is similar in terms of training, education, and experience.[5] The provisions of LTDI vary from plan to plan and are determined by the contract between the employer and the insurer. The premiums can be paid using pretax or after-tax dollars, which affects whether any LTDI benefits paid out are taxable. LTDI benefits are typically 50 to 60 percent of the employee's most recent earnings and begin three months or six months after disability onset.[6] In most cases, LTDI benefits are coordinated to begin after the company's short-term disability plan benefits are exhausted.[7] As Babbel and Meyer outlined, an important

feature of LTDI plans is the offer of rehabilitation benefits, accommodation supports, and work incentives.[8] The medical care associated with these return-to-work efforts is not typically covered by LTDI plans, although most workers with access to LTDI also have access to employer-sponsored health insurance.[9]

INTERACTIONS BETWEEN LTDI AND PUBLIC DISABILITY PROGRAMS

Another option for workers who experience disability onset is to apply for benefits through SSDI.[10] SSDI is a social insurance program administered by the Social Security Administration (SSA) that provides cash benefits to workers with disabilities and their dependents if they meet certain work and disability criteria. There is potentially strong overlap between LTDI and SSDI; data provided by a major provider of private disability insurance show that 41 percent of the workers enrolled in their LTDI plans from 2000 to 2006 simultaneously received SSDI, and data from the 2006 National Beneficiary Survey matched to SSA administrative data show that 6.6 percent of SSDI-only beneficiaries also received LTDI.[11]

Despite targeting similar populations, SSDI has stricter disability eligibility requirements and different rules for wage replacement that might affect an individual's decisions regarding the value of LTDI. To qualify for SSDI, a worker must be unable to engage in "any substantial gainful work which exists in the national economy." The level of the SSDI benefit depends on the worker's average indexed monthly earnings (AIME) during all prior years of work.[12] In contrast, LTDI plans have relatively minimal work experience requirements, often covering workers within a year or less of starting a job, and benefits are calculated using the worker's most recent earnings under the current employer.[13]

The replacement rate between the two programs can differ as well. For example, the SSDI wage replacement rate for the lowest AIME is 90 percent of AIME, which means workers with relatively low monthly income ($1,500 or less) would receive larger benefits through SSDI than through an LTDI policy with 60 percent replacement if the wage base were the same, and the difference would be smaller or larger if the LTDI wage base is higher or lower.[14] Another incentive for workers to enroll in SSDI is that it includes eligibility for Medicare, which LTDI does not typically provide. Employer-based health insurance coverage can continue for a limited period if the worker pays the necessary premiums.[15]

In cases where there is an overlap in LTDI and SSDI eligibility, there is a strong incentive for LTDI insurers to shift their costs to SSDI. Most LTDI contracts deduct other benefits received (including SSDI) from the LTDI benefit amount, dollar for dollar. Because this offset greatly reduces the cost to the private insurer, private insurers have a strong incentive to encourage LTDI beneficiaries to apply for SSDI, and might even require that they do so.[16] SSDI implicitly provides a subsidy for LTDI in the sense that the insurers would have to charge a much higher premium to offer the same LTDI replacement rate in the absence of SSDI; in other words, the existence of SSDI allows LTDI carriers to offer higher replacement rates for any given premium than they could in the absence of SSDI. This subsidy likely has a positive impact on SSDI claiming, given the recent evidence that higher LTDI replacement rates increase the rate of LTDI accessions that ultimately lead to an SSDI award.[17]

POLICY PROPOSALS

There has been increasing policy interest in expanding LTDI access and addressing potential adverse incentives to move cases from LTDI to SSDI.[18] The general rationale for expanding access to LTDI is that it provides a strong avenue for early intervention supports that

might facilitate return to work and reduce dependency on SSDI. Proponents also argue there is strong potential for expanding LTDI, given that only approximately one-third of employers offer this coverage. For those who already have access, there are potential options to increase LTDI incentives to provide return-to-work supports. In this section, we describe general approaches to expand access or modify LTDI incentives and provide some specific examples of existing proposals.

Autor and Duggan propose a mandate for employers to provide a private disability insurance plan to increase access to private disability insurance supports and reduce insurer incentives to shift LTDI participants to SSDI.[19] Under the proposed plan, insurers would pay disability benefits for 24 months before most workers could transition to SSDI. The plan would include vocational rehabilitation services, workplace accommodations mandated by the Americans with Disabilities Act, and a partial wage replacement for workers for a minimum of 90 days and a maximum of 2.25 years after the onset of disability. Workers with the most severe disabilities would transition to SSDI immediately, as would those who are still unable to have substantial gainful employment after 2.25 years. Premiums would be experience rated (with limitations on cost sharing) to provide employers with financial incentives to reduce private disability insurance claims and accommodate the worker's needs.

There are also non-mandated options to increase LTDI enrollment and participation, which focus on increasing employer and employee knowledge of LTDI's benefits or modifying LTDI plan enrollment processes to increase employee participation. For example, Babbel and Meyer propose the enactment of federal legislation and accompanying regulations to encourage (but not mandate) automatic enrollment into LTDI plans under employer-sponsored income protection plans.[20]

A final option, which has not been formally proposed, is to apply some modified provisions of Autor and Duggan's proposal to existing LTDI plans. For example, policy makers could require that LTDI policies cover workers through the SSDI waiting period, which would increase the number of months insurers would pay disability benefits before workers could transition to SSDI. This change would encourage insurance companies to provide return-to-work services and workplace accommodations for workers with disabilities instead of waiting for them to become eligible for SSDI. To offset the costs of this new requirement, employers could receive a reduction in their payroll tax. A limitation is that such provisions would result in a substantial increase in premiums or a reduction in LTDI replacement rates. However, to offset these effects, the government could offer an explicit subsidy to compensate: a reduction in SSDI payroll tax to employers who purchase LTDI coverage, provided that the LTDI replacement rate is below a specified value (for example, 60 percent).

DATA AND METHODOLOGY

In this section, we describe the NCS data and how we used them to address some potential implications of the aforementioned policy proposals. We address three key questions through our empirical analyses: (1) Who is most likely to be affected by these proposals?, (2) What is the expected cost to employers of expanding LTDI access through these proposals?, and (3) What trends in access and plan characteristics do we expect to see in the absence of a policy change?

DATA

The NCS data contain quarterly information on average wages and employer expenditures on fringe benefits[21] for a selection of occupations within a random sample of establishments across the country. Because the unit of observation for the survey is the

occupation within the establishment, this information is collected as the average for all workers in the occupation and establishment without retaining any information on any individual worker. Starting in 2003, the NCS data began to include yearly information on whether workers in the occupation have access to an LTDI plan, the percentage of workers in the occupation who participate in such a plan (the participation rate), and the percentage of workers in the occupation with access to LTDI who participate in the plan (the take-up rate). The BLS currently uses these data to produce its annual NCS Employee Benefits and Employer Costs for Employee Compensation publications, which include aggregate estimates of LTDI access, participation rates, take-up rates, and employer cost by employee and employer characteristics. The NCS does not collect information on the amount of the employee contribution for LTDI, although it does record whether an employee contribution is required. We follow the BLS's approach in presenting descriptive characteristics by using sampling weights to make the estimates representative of workers in private industry in the United States.

In the first column of table 1, we present a replication of LTDI access and take-up rate findings from select tables in the BLS publication using raw data from the 2013 NCS. Replicating the BLS estimates is important because later we will be providing a more in-depth analysis of some of LTDI's key features not available in the annual publication. The overall LTDI access rate (the percentage of workers in private establishments whose employer offers LTDI) was 33.1 percent in 2013, and the overall take-up rate for LTDI plans was 95.6 percent. As shown in table A1a, access rates are highest for workers who are full time; high wage; in large establishments; and in management, professional, and related occupations. There is not much variation in the characteristics of LTDI plans; they tend not to require an employee contribution toward the premiums, pay a fixed percent of annual earnings in the case of

disability, and have a maximum benefit amount. However, there is likely to be variation in the generosity of the benefit amount.

ANALYSIS OF LTDI ACCESS AND COSTS IN 2013

We used descriptive and multivariate analyses to examine how access rates and costs varied by worker characteristics in 2013. We present the same worker characteristics listed in BLS publications, which are occupation, full-time or part-time status, union status, average wages, industry, establishment size, and region. However, we also added an imputed disability rate estimate to our tables. The objective of this imputation is to assess whether there is a relationship between LTDI access, take-up, and coverage and our best estimate of the disability rate for occupations in the NCS sample. To impute the disability rate, we used data from the Current Population Survey on the number of workers in each industry, region, and year who reported a work limitation or responded to having a physical, mental, or emotional condition on the six-question sequence that BLS uses to obtain official disability statistics.[22] We merged the disability rates by industry, region, and year onto the NCS data to impute disability status.

Our descriptive analysis begins by comparing worker characteristics for those with and without access to LTDI (table 2). This comparison provides insight into who will be affected both by proposals designed to increase access for those who do not have coverage and those that aim to modify the provisions and incentives of existing LTDI plans that are currently offered. We then present average employer cost of LTDI (both as a dollar amount and as a percentage of wages) for workers who have LTDI access, by worker characteristics (table 3).[23] For both access and costs, we present a multivariate analysis that examines how LTDI access and employer cost are correlated with worker characteristics from the NCS (table 4). Using this analysis, we can isolate the relationship between each characteristic and these outcomes of interest while controlling for other factors. We do not include imputed disability rates as an independent

variable because it was developed based on other variables included in our model. The estimated coefficients should be interpreted as associations, not causal relationships, because it is possible that unobserved characteristics included in the error term are correlated with both the included variables and each of the access and cost variables.

TIME TRENDS

We present data on trends over time to assess whether our findings from 2013 represent substantial deviations from previous periods, especially changes over the business cycle. This analysis is useful in considering how LTDI access and plan characteristics might change in the future without some change in policy. The first data collection the NCS conducted after the U.S. financial crisis took place in March 2008; as a result, we present access rates in 2003, 2008, and 2013 to compare LTDI access before, during, and after a recessionary period, respectively (table 5). We also exploit the panel structure of the NCS data by calculating the percentage of establishments that either added or dropped LTDI coverage from 2012 to 2013 (table 6).

Finally, we examine plan characteristics and take-up rates in 2003, 2008, and 2013 to assess whether plan changes were related to changes in access rates over time (table 7).

RESULTS

LTDI ACCESS

Compared to workers who do not have access to LTDI, those who do have access tend to have higher wages, work in larger establishments, and work in industries and regions that have a lower disability rate (table 2). Relative to those without access, those with access are more likely to be in the highest wage quartile (43.9 versus 12.8 percent), work for establishments with more than 500 employees (34.4 versus 11.5 percent), and be in the lowest quartile for imputed disability rate (35.8 versus 19.5 percent). Workers with LTDI are also more likely to come from different occupation groups in comparison to those without LTDI and are more likely to work full time (96.4 percent versus 63.5 percent), which is likely due to employers not wanting to spend the fixed cost of benefits for less than full-time work. They differ in occupational status, with more workers with LTDI in management and professional occupations and fewer in service

occupations than those without LTDI access; this might be related to the finding that workers with LTDI are less likely to hold part-time positions, given that jobs for service occupations are more likely to be part-time.

There are no statistically significant differences in the percentage of workers who are unionized and very few differences in the regions where they live. We explore whether there is regional variation in access rates by worker characteristics in the appendix, given that regional variation in disability rates is well documented. As shown in table A1a, the access rates by worker characteristics demonstrate similar patterns in each region, with only a few outliers; for example, only 4.5 percent of service workers in the East South Central region have access to LTDI compared to 14.2 percent of service workers in the Middle Atlantic. These findings are generally consistent with those of Autor, Duggan, and Gruber, who, using data from a major provider of private disability insurance in the United States, examined characteristics of workers covered by LTDI.[24]

The differences in characteristics between those with and without LTDI access have important implications for proposals that seek to expand access, as well as those that seek to modify the existing provisions and incentives of LTDI plans. Proposals that seek to expand LTDI access would disproportionately affect workers with limited LTDI access, such as those who have lower wages, work in smaller establishments, and are in industries and regions with a high disability rate. In contrast, proposals that modify existing provisions and incentives of LTDI plans would disproportionately affect workers who are currently most likely to have LTDI coverage, including those with high wages, in larger establishments, and in industries and regions with a low disability rate.

LTDI COST

The average hourly employer cost of LTDI (for those who have access) is $0.13, which is 0.47 percent of the average hourly wage of those with access (table 3). The hourly employer cost is relatively much higher for workers who are part time ($0.18, more than 1 percent of wages), which is not surprising given that part-time workers have lower overall wages than full-time workers. Other workers who have high LTDI costs (from $0.19 to $0.29 per hour, which is 0.7 to 0.85 percent of wages) are those who are unionized; in production, transportation, and material moving occupations; or in the trade, transportation, and utilities industries. Finally, employer LTDI costs increase as wages go up and establishment size increases. For example, employers of workers in the highest wage quartile spend approximately $0.20 per hour on LTDI, whereas employers of workers in the lowest wage quartile spend only $0.05.

There is little variation across wage quartiles when the cost of LTDI is presented as a percentage of wages; the cost for the lowest three wage quartiles is 0.47 to 0.53 percent, whereas the cost for the highest quartile is 0.44 percent. This likely reflects the proportionality of benefits to wages. Overall, LTDI costs as a percentage of wages tend to range from 0.3 to 0.6 percent for most worker groups, with a few positive outliers for part-time and unionized workers, as well as those in certain occupations and industries.

REGRESSION ANALYSIS OF LTDI ACCESS AND COST

Our regression findings reinforce the descriptive findings that workers are more likely to have access to LTDI if they have higher wages and work in large establishments (table 4). Specifically, holding all else constant, being in the highest wage and establishment size category increases the probability of access by 28 and 24 percentage points (respectively) compared to being in the corresponding lowest category. Perhaps not surprisingly, being a part-time worker reduces the probability of having access to LTDI by 26 percentage points compared to full-time

workers, and workers in service occupations are less likely than those in any other occupation to have access to LTDI. Finally, unionized workers are 4 percentage points less likely to have LTDI access than nonunionized workers.

The cost regressions show that the employer hourly cost of LTDI is higher for workers who are unionized, in the highest wage quartile, and in large establishments, even after controlling for other worker characteristics. Employers who offer LTDI to their workers spend $0.13 more per hour on LTDI (or approximately 14 percent) if the workers are unionized; this might explain why unionized workers are less likely to have this coverage. Furthermore, LTDI for workers in the highest wage quartile costs $0.17 more per hour (or approximately 12 percent) than for those in the lowest wage quartile, which, as noted previously, is likely because LTDI benefit amounts increase with wages. A similar explanation might apply to workers in large establishments, whose LTDI cost is $0.04 more per hour (or 8 percent) than the cost for workers in small establishments.

The regression results for all outcomes reinforce the descriptive findings that LTDI tends to be highly concentrated within groups with specific characteristics. Thus, even after controlling for correlations between these characteristics, substantial relationship between these outcomes and observed worker characteristics remain.

LTDI ACCESS RATES AND PLAN CHARACTERISTICS OVER TIME

There is a positive trend in LTDI access over the observed period, increasing by 11 percent (3.4 percentage points) from 2003 to 2013 (table 5). LTDI access among those employed increased during the period after the recession, growing from 31.5 to 33.1 percent from 2008 to 2013. These changes reflect changes in the composition of jobs over this period as well as any decisions by employers to add or drop coverage. Access rates increased from 2003 to 2013 across most worker subgroups, with some exceptions, such as in the services sector. Of particular

note was the growth of LTDI in the mining (from 28.5 to 57.1 percent) and information industries (from 43 to 65 percent). Nonetheless, the majority of employers do not offer LTDI, particularly in lower-wage occupations, part-time jobs, the service sector, the construction industry, and the leisure and hospitality industry. This indicates that in the absence of a policy initiative, LTDI access might continue to grow at modest rates, but growth in the service sector and for low-wage workers is likely to remain low unless stronger incentives are offered to employers to provide such coverage and employees to accept this coverage.

To assess whether the observed trends represent change in employer decisions to offer coverage versus change in the composition of jobs, we looked at the extent to which there were changes within establishments in access to LTDI from 2012 to 2013 (table 6). Very few establishments added or dropped access over this time period; only 0.5 percent of workers who had data in both 2012 and 2013 gained access to LTDI coverage, and only 0.6 percent lost access. Most workers' LTDI status did not change; 32 percent had access in both years, and 67 percent did not have access in either year. Overall, it seems that despite the increase in LTDI access rates over time, there is no evidence of a major shift in the composition of workers who appear to be accessing LTDI plans.

Table 7 shows that the characteristics of LTDI plans have been changing slightly from 2003 to 2013. Changes in characteristics from 2008 to 2013 are very small. Changes from 2003 to 2008 are substantially larger, but these changes might reflect the large reduction in missing information. For instance, the percentage of workers with benefits specified as a fixed percentage of annual earnings increased from 72.9 percent in 2003 to 90.6 percent in 2008 (17.7 percentage points), but was accompanied by a decline in missing data from 19.7 percent in 2003 to 1.3 percent in 2008 (18.4 percentage points). LTDI take-up rates have remained very high (above 95 percent) over this time period, even as access rates increased (table 7). However,

when we examined take-up rates separately for plans that do and do not require an employee premium contribution, we found that plans that require an employee contribution have an average take-up rate that is significantly lower than those that do not require employee contributions (77 percent versus 98 percent in 2013). This suggests that proposals that aim to increase enrollment in LTDI plans, such as those discussed by Babbel and Meyer, have the most potential to increase take-up rates for the minority of workers with LTDI access who are required to make an employee contribution; there is no room for growth among others.

CONCLUSIONS

The findings in this paper provide a starting point for some important issues to consider when discussing proposals that aim to expand the role of LTDI as an income and work support. Workers who had access to LTDI in 2013 tend to be full time, have higher-wage jobs, work in larger establishments, and have lower imputed disability rates than those without access to coverage. The cost for employers that provided LTDI to workers is, on average, $0.13 per hour, and typically ranges from 0.3 to 0.6 percent of wages for most types of workers; part-time and unionized workers tend to be on the more expensive end of the spectrum. The regression results follow the same patterns as the descriptive statistics. Finally, we found an 11 percent increase in LTDI access rates from 2003 through 2013—an increase that might be more due to changes in the composition of workers and their employers than to decisions by employers to add coverage. Two-thirds of workers remain without access to LTDI as of 2013.

These findings indicate that any type of proposal to expand access, particularly a mandated option, could potentially disproportionately affect workers who have lower wages, work in small establishments, and have higher imputed disability rates, given that these individuals are least likely to have coverage currently. Conversely, proposals that modify

existing provisions or incentives of LTDI plans will primarily affect individuals who currently have access, such as higher-wage workers and those who work in large establishments. Research has shown that these workers are much likely to exit the labor force and apply for SSDI benefits than low-wage workers and those in small establishments, which suggests these proposals are unlikely to have a large impact on SSDI applications.[25] Voluntary options to expand access would have to provide substantial incentives for both employers and employees to be interested in increasing access, particularly given that, for low-wage workers, SSDI provides a relatively large wage replacement compared to LTDI. Based on LTDI costs for workers who currently have access, the cost to employers of providing this coverage to most types of workers could range anywhere from 0.3 to 0.6 percent of wages, with a few positive outliers; however, this could be an underestimate, given that workers who currently do not have access to LTDI might be more expensive to cover.

It is important to note that there are other trade-offs not covered in our analyses that policymakers should consider for these plans. For example, options to increase access will increase employer costs and could affect hiring decisions if employers perceive that certain groups, such as those with existing disabilities, increase their potential premiums.[26] Additionally, there might be low demand for LTDI plans among some employees, particularly those who currently receive high wage replacements under SSDI (for example, low-wage workers). Finally, there could be additional administrative challenges in balancing options to coordinate between LTDI and SSDI. Consequently, policymakers interested in testing policy options that expand LTDI coverage should also consider the potential burden on public programs, especially SSDI.

Notes

[1] Bureau of Labor Statistics, "National Compensation Survey: Employee benefits in the United States, March 2014," http://www.bls.gov/ncs/ebs/benefits/2014/ebbl0055.pdf; Kristen Monaco, "Disability insurance plans: Trends in employee access and employer costs," *Beyond the Numbers: Pay and Benefits*, vol. 4, no. 4, February 2015, http://www.bls.gov/opub/btn/volume-4/disability-insurance-plans.htm.

[2] Helen Levy, "Employer-sponsored disability insurance: Where are the gaps in coverage?" NBER Working Paper 10382, March 2004.

[3] Bureau of Labor Statistics, "Employer costs for employee compensation historical listing, March 2004 – September 2014," http://www.bls.gov/ncs/ect/sp/ececqrtn.pdf

[4] Social Security Administration, "How is Social Security financed?" http://www.ssa.gov/news/press/factsheets/HowAreSocialSecurity.htm.

[5] For a description of LTDI, see David Babbel and Mark Meyer, "The fiscal benefits of private disability income protection coverage to the SSDI program: Current situation and a proposal for expansion" (Washington, DC: Charles River Associates, 2015), http://www.ahip.org/Paper/SSDI-Solutions8-4-2015/.

[6] In 2013, 64 percent of private industry workers covered by group disability contracts had benefits equal to 60 percent of predisability annual earnings (See Babbel and Meyer, "Fiscal benefits of private disability income protection coverage").

[7] As described by America's Health Insurance Plans, short term disability insurance (STDI) provides coverage in the case of more temporary conditions, such as pregnancies, strains, or sprains, and covers a period that is usually no longer than six months. Many individuals who draw on STDI return to work even before the benefits are exhausted. See America's Health Insurance Plans (AHIP), "An employer's guide to disability income insurance" (Washington, DC: America's Health Insurance Plans, 2007), http://www.ahip.org/EmployersGuidetoDisabilityIncome/.

[8] Babbel and Meyer, "Fiscal benefits of private disability income protection coverage."

[9] Monaco, "Disability insurance plans."

[10] Workers who experience disability onset on the job can also apply for benefits through workers' compensation. We focus our discussion in the paper on LTDI and SSDI interactions, given the policy interest in this overlap described in later sections.

[11] David Autor, Mark Duggan, and Jonathan Gruber, "Moral hazard and claims deterrence in private disability insurance," *American Economic Journal: Applied Economics*, vol. 6, no. 4, pp. 110–141; Gina Livermore, Debra Wright, Allison Roche, and Eric Grau, "Work activity and use of employment supports under the original Ticket to Work Regulations: 2006 National Beneficiary Survey: Methodology and descriptive statistics." Washington, DC: Mathematica Policy Research, October 2009.

[12] Social Security Administration, "Disability benefits," http://www.ssa.gov/pubs/EN-05-10029.pdf.

[13] AHIP, "Employer's guide to disability income insurance."

[14] Autor, Duggan, and Gruber, "Moral hazard and claims deterrence."

[15] Under the Family and Medical Leave Act, employees must be given up to 12 weeks of unpaid leave, during which time they are still eligible for their employer-sponsored health benefits. After 12 weeks, the employer has the right to terminate the employee. The typical options for terminated employees whose benefits have been discontinued are to purchase coverage through the Consolidated Omnibus Budget Reconciliation Act (COBRA) or individual private health insurance. If the employee is able to retire while receiving LTDI, they also might be eligible for private retiree benefits.

[16] World Institute on Disability, "Short-term and long-term disability insurance: The details" (Berkeley, CA: World Institute on Disability, 2015), http://mn.db101.org/mn/programs/income_support/std_ltd/program2c.htm.

[17] Autor, Duggan, and Gruber. "Moral hazard and claims deterrence."

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[18] Bipartisan Policy Center, "Improve the SSDI program and adding the impending trust fund depletion: Consensus recommendations of BPC's Disability Insurance Working Group" (Washington, DC: Bipartisan Policy Center, 2015), http://bipartisanpolicy.org/wp-content/uploads/2015/08/BPC-Economy-SSDI-Program.pdf.

[19] See David Autor and Mark Duggan, "Supporting work: A proposal for modernizing the U.S. disability insurance system" (Washington, DC: Center for American Progress and The Hamilton Project, 2010).

[20] Babbel and Meyer, "Fiscal benefits of private disability income protection coverage."

[21] The NCS collects information on employer spending on the following categories of benefits: premium pay for overtime, vacations, holidays, sick leave, other leave, shift differentials, non-production bonuses, severance pay, supplemental unemployment benefits, life insurance, health insurance, short-term disability insurance, defined benefit, defined contribution, Social Security, Medicare, federal unemployment insurance, state unemployment insurance, workers' compensation, and long-term disability.

[22] Bureau of Labor Statistics, "Frequently asked questions about disability data," http://www.bls.gov/cps/cpsdisability_faq.htm.

[23] The annual NCS publication also provides employer cost estimates, but they include all workers in their calculations (treating those who do not have access as having zero cost) and present LTDI costs as a percentage of total compensation (not wages). We choose to present estimates only for workers with access because these are the actual LTDI costs to employers, which is useful information for employers who do not currently have these plans. Similarly, we present costs relative to wages rather than total compensation (wage plus fringe benefits) because wages is an easier concept to communicate to a broad policy audience.

[24] Autor, Duggan, and Gruber, "Moral hazard and claims deterrence."

[25] David C. Stapleton, David R. Mann, and Jae Song, "Firm-level early intervention incentives: Which recent employers of disability program entrants would pay more?" Mathematica Working Paper 2015-01, March 2015.

[26] Ibid.

Table 1. LTDI access rate and plan characteristics in 2013

Variable	All Workers	Workers with access to an LTDI plan	Workers with LTDI coverage
Access rate	33.1		
Take-up rate		95.6	
Employee contribution required:			
Yes			8
No			92
Method of payout:			
Fixed percentage of annual earnings			94.5
Percentage varies by annual earnings			3.8
Flat dollar amount			1.2
Other			0.6
Has maximum benefit amount:			
Yes			87
No			13

Source: Analysis of NCS survey data from 2013. Results replicated from Bureau of Labor Statistics, "National Compensation Survey: Employee benefits in the United States, March 2013," http://www.bls.gov/ncs/ncspubs.htm.

Notes: The unit of observation for the calculation of the access rate in column 1 is the occupation within the establishment; the unit of observation for the take-up rate and plan characteristics in columns 2 and 3 is the LTDI plan offered to the occupation within the establishment. Unweighted sample sizes: occupations= 46,080 (column 1); LTDI plans offered = 24,234 (columns 2 and 3). We use weights to ensure the analysis samples are representative of workers in the private industry in the United States.

Table 2. Characteristics of workers in the 2013 sample, by LTDI status

Variable	Access to LTDI		No access to LTDI		Difference
	Mean	**SE**	**Mean**	**SE**	
Occupation:					†
Management, professional, and related	44.6	0.7	15.4	0.4	29.2**
Service	6.6	0.4	30.2	0.7	-23.6**
Sales and office	27.7	0.6	28.2	0.5	-0.5
Natural resources, construction, and maintenance	6.5	0.3	8.8	0.3	-2.3**
Production, transportation, and material moving	14.6	0.5	17.4	0.4	-2.8**
Full time	96.4	0.2	63.5	0.7	32.9**
Union	9.5	0.4	8.7	0.3	0.8
Average wages:					†
Lowest 25 percent	5.9	0.4	40.3	0.7	-34.4**
Second 25 percent	20.6	0.6	27.3	0.6	-6.7**
Third 25 percent	29.6	0.6	19.5	0.5	10.1**
Highest 25 percent	43.9	0.6	12.8	0.4	31.1**
Industry:					†
Mining	1.2	0.1	0.4	0.1	0.8**
Construction	2.2	0.2	5.8	0.2	-3.6**
Manufacturing	14.8	0.4	9.9	0.3	4.9**
Trade, transportation, and utilities	17.6	0.5	25.9	0.5	-8.3**
Information	4.8	0.2	1.3	0.1	3.5**
Financial activities	14.1	0.3	3.4	0.2	10.7**
Professional and business services	20.9	0.6	14	0.5	6.9**
Education and health services	21	0.6	16.8	0.6	4.2**
Leisure and hospitality	1.6	0.2	18.4	0.6	-16.8**
Other services	1.9	0.2	4.1	0.2	-2.2**
Establishment size:					†
1–49 workers	23.4	0.7	50.6	0.7	-27.2**
50–99 workers	10.9	0.4	13.2	0.4	-2.3**
100–499 workers	31.3	0.6	24.8	0.5	6.5**
500 workers or more	34.4	0.6	11.5	0.3	22.9**
Region:					†
New England	6.4	0.3	4.7	0.3	1.7**
Middle Atlantic	14.9	0.4	14.5	0.4	0.4
East North Central	16.8	0.5	15.7	0.5	1.1
West North Central	7.9	0.3	7.7	0.4	0.2
South Atlantic	18.4	0.6	18.9	0.5	-0.5
East South Central	4.7	0.3	4.7	0.2	0
West South Central	11.4	0.5	10.9	0.4	0.5
Mountain	6.7	0.3	6.8	0.3	-0.2
Pacific	12.8	0.4	16.1	0.5	-3.3

Variable	Access to LTDI		No access to LTDI		Difference
	Mean	**SE**	**Mean**	**SE**	
Imputed disability rate:					†
Lowest 25 percent	35.8	0.6	19.5	0.4	16.3**
Second 25 percent	26.5	0.6	24.1	0.6	2.4**
Third 25 percent	22.7	0.5	26.1	0.6	-3.4**
Highest 25 percent	15	0.6	30.3	0.7	-15.3**

Source: Analysis of NCS survey data from 2013.

Notes: Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey. Unweighted sample sizes: occupations with access to LTDI = 23,854; occupations with no access to LTDI = 22,226. We use weights to ensure the analysis samples are representative of workers in the private industry in the United States.

† Difference in distributions is statistically significant, $p < 0.05$ using a chi-squared test.

* Difference in means is statistically significant, $p < 0.05$ using a two-tailed t-test.

** Difference in means is statistically significant, $p < 0.01$ using a two-tailed t-test.

Table 3. Employer cost of LTDI in 2013, by worker characteristics

Variable	Hourly employer LTDI cost (in dollars)	Employer LTDI cost as a percentage of wages
Workers with access to LTDI		
All	0.13	0.47
By worker characteristic		
Occupation:		
Management, professional, and related	0.15	0.39
Service	0.07	0.44
Sales and office	0.09	0.43
Natural resources, construction, and maintenance	0.13	0.46
Production, transportation, and material moving	0.2	0.8
Full time	0.13	0.45
Part time	0.18	1.09
Union	0.29	0.85
Nonunion	0.12	0.43
Average wages:		
Lowest 25 percent	0.05	0.47
Second 25 percent	0.07	0.53
Third 25 percent	0.1	0.47
Highest 25 percent	0.2	0.44
Industry:		
Mining	0.14	0.42
Construction	0.14	0.45
Manufacturing	0.13	0.49
Trade, transportation, and utilities	0.19	0.7
Information	0.1	0.32
Financial activities	0.1	0.35
Professional and business services	0.14	0.4
Education and health services	0.12	0.45
Leisure and hospitality	0.07	0.39
Other services	0.12	0.5
Establishment size:		
1–49 workers	0.11	0.46
50–99 workers	0.11	0.38
100–499 workers	0.12	0.47
500 workers or more	0.17	0.5
Region:		
New England	0.13	0.43
Middle Atlantic	0.15	0.49
East North Central	0.13	0.48
West North Central	0.14	0.48
South Atlantic	0.12	0.44
East South Central	0.13	0.54
West South Central	0.11	0.47

Variable	Hourly employer LTDI cost (in dollars)	Employer LTDI cost as a percentage of wages
Mountain	0.15	0.42
Pacific	0.16	0.49
Imputed disability rate:		
Lowest 25 percent	0.12	0.41
Second 25 percent	0.13	0.44
Third 25 percent	0.15	0.51
Highest 25 percent	0.13	0.51

Source: Analysis of NCS survey data from 2013.

Notes: Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey. Unweighted sample size for all occupations with access to LTDI (row 1) = 23,854. Unweighted sample sizes for all cells are provided in table A3. We use weights to ensure the analysis samples are representative of workers in the private industry in the United States.

Table 4. Relationship between worker characteristics and access to and hourly cost of LTDI

Variable	Access (standard error)	Employer cost of LTDI (standard error)	Log employer cost of LTDI (standard error)
Occupation (reference group: service):			
Management, professional, and related	0.104**	0.016*	0.073**
	-0.016	-0.006	-0.017
Sales and office	0.088**	0.013*	0.057**
	-0.014	-0.006	-0.015
Natural resources, construction, and maintenance	0.027	0	0.050**
	-0.018	-0.009	-0.017
Production, transportation, and material moving	0.054**	0.115**	0.121**
	-0.016	-0.015	-0.026
Part time	-0.264**	0.049**	-0.015
	-0.008	-0.017	-0.021
Union	-0.043**	0.129**	0.144**
	-0.01	-0.016	-0.013
Average wages (reference group: lowest 25 percent):			
Second 25 percent	0.109**	0.036**	0.014
	-0.012	-0.009	-0.014
Third 25 percent	0.181**	0.064**	0.025
	-0.013	-0.009	-0.016
Highest 25 percent	0.282**	0.169**	0.115**
	-0.015	-0.012	-0.026
Industry (reference group: construction):			
Mining	0.236**	-0.012	-0.031
	-0.038	-0.011	-0.021
Manufacturing	0.130**	-0.049**	-0.065*
	-0.014	-0.01	-0.025
Trade, transportation, and utilities	0.137**	0.048**	0.053*
	-0.014	-0.011	-0.022
Information	0.268**	-0.052**	-0.073**
	-0.022	-0.008	-0.017
Financial activities	0.347**	-0.009	-0.034*
	-0.016	-0.008	-0.016
Professional and business services	0.174**	-0.007	-0.059
	-0.015	-0.008	-0.031
Education and health services	0.167**	-0.006	-0.066**
	-0.017	-0.012	-0.019
Leisure and hospitality	-0.003	0	0
	-0.02	-0.01	-0.029
Other services	0.111**	0.024	0.044
	-0.023	-0.013	-0.038

Variable	Access (standard error)	Employer cost of LTDI (standard error)	Log employer cost of LTDI (standard error)
Establishment size (reference group: 1–49 workers):			
50–99 workers	0.096**	-0.005	0.009
	-0.011	-0.011	-0.014
100–499 workers	0.149**	0.004	-0.003
	-0.009	-0.005	-0.007
500 workers or more	0.239**	0.043**	0.079**
	-0.01	-0.007	-0.011
Region (reference group: South Atlantic):			
New England	0.029	-0.011	0.005
	-0.016	-0.007	-0.025
Middle Atlantic	-0.014	0.006	-0.007
	-0.012	-0.007	-0.026
East North Central	0.004	-0.015*	0.028
	-0.011	-0.007	-0.036
West North Central	0.028	0.001	-0.012
	-0.014	-0.008	-0.029
East South Central	0.014	0.01	-0.034
	-0.016	-0.009	-0.025
West South Central	0.016	-0.011	-0.054*
	-0.013	-0.007	-0.024
Mountain	0.017	0.02	0.110*
	-0.015	-0.026	-0.051
Pacific	-0.046**	0.002	-0.011
	-0.011	-0.008	-0.027

Source: Analysis of NCS survey data from 2013.

Notes: Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey. Access to LTDI, hourly employer cost of LTDI, and log hourly employer cost of LTDI are the three outcome variables for the regressions. The binary access outcome is estimated using a logit model, and coefficients are presented as marginal effects. The continuous outcomes are estimated using ordinary least squares. Unweighted sample sizes: all occupations = 46,080 (column 1); occupations with LTDI access = 23,854 (columns 2 and 3). We use weights to ensure the analysis samples are representative of workers in the private industry in the United States.

* Difference from zero is statistically significant, $p < 0.05$ using a two-tailed t-test.

** Difference from zero is statistically significant, $p < 0.01$ using a two-tailed t-test.

Table 5. LTDI access rates over time, by worker characteristics

Variable	LTDI access rates		
	2003	2008	2013
All workers	29.7	31.5*	33.1**
Worker subgroups			
Occupation:			
Management, professional, and related	56.6	56.7	58.9
Service	10.8	12.4	9.7**
Sales and office	30	31.4	32.7
Natural resources, construction, and maintenance	18.9	22	26.8**
Production, transportation, and material moving	22.2	27.0**	29.3
Full time	37.5	39.2	42.9**
Part time	4.2	6.6**	4.7**
Union	28	33.6**	35.2
Nonunion	29.9	31.3	32.9**
Average wages:			
Lowest 25 percent	5.5	7.5*	6.7
Second 25 percent	22.1	25.9*	27.2
Third 25 percent	34.8	38.2*	42.9**
Highest 25 percent	56.3	56.6	62.9**
Industry:			
Mining	28.5	55.3**	57.1
Construction	9.8	10.1	15.7**
Manufacturing	34.5	40.3**	42.5
Trade, transportation, and utilities	19.4	23.4**	25.2
Information	43	59.4**	65
Financial activities	61.2	62.6	67.3**
Professional and business services	41.3	37.3	42.5**
Education and health services	38.9	37	38.2
Leisure and hospitality	7.3	X	4.2**
Other services	20	26.8	18.5**
Establishment size:			
1–49 workers	16.9	17.2	18.6
50–99 workers	27.3	24.7	29.1**
100–499 workers	32.6	35	38.5**
500 workers or more	54.7	57.5	59.7*
Region:			
New England	31.4	33.2	40.4**
Middle Atlantic	27.8	29.9	33.6*
East North Central	31	35.4*	34.7
West North Central	30.1	30.1	33.7
South Atlantic	32.5	32.7	32.5
East South Central	26.3	30.7	33.4
West South Central	30.3	31.6	34.1
Mountain	23.3	28.3	32.5*
Pacific	28.9	28.9	28.2

Variable	LTDI access rates		
	2003	2008	2013
Imputed disability rate:			
Lowest 25 percent	NA	NA	47.6
Second 25 percent	NA	NA	35.3
Third 25 percent	NA	NA	30.1
Highest 25 percent	NA	NA	19.7

Source: Analysis of NCS survey data from 2003, 2008, and 2013. Access rates replicated from 2008 and 2013 BLS publications. Access rates for 2003 are slightly different than those listed in the BLS publication due to different definitions of workers' characteristics.

Notes: Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey. Three observations in 2003 are missing information on establishment size, and 2,056 observations in 2008 are missing information on wages and establishment size; these observations are only included in the worker categories for which they are not missing information. X=Access rates in some industries by region have been redacted due to small sample sizes. NA=Not applicable. Unweighted sample sizes for all occupations in row 1: 2003 = 14,692; 2008 = 54,683; 2013 = 46,080. Unweighted sample sizes for other cells are provided in table A2. We use weights to ensure the analysis samples are representative of workers in the private industry in the United States.

* Difference in means between the five-year interval is statistically significant, $p < 0.05$ using a two-tailed t-test.

** Difference in means between the five-year interval is statistically significant, $p < 0.01$ using a two-tailed t-test.

Table 6. Changes within establishments in LTDI access from 2012 to 2013

Access status	Percentage of workers
Had access to LTDI in both years	32.3
Did not have access to LTDI in both years	66.6
Dropped access to LTDI	0.6
Added access to LTDI	0.5

Source: Analysis of NCS survey data from 2012 and 2013.

Notes: The sample excludes the 11,595 occupations that had data in 2013 but not 2012. The unweighted sample size is 34,485. We use weights to ensure the analysis samples are representative of workers in the private industry in the United States.

Table 7. Changes over time in characteristics of LTDI plans offered to workers

Variable	Mean 2003	2008	2013
Employee contribution required:		†	†
Yes	11.4	11.9	9.9**
No	66.1	86.8**	89.3**
Missing	22.6	1.3**	0.8**
Take-up rate:	93.2	94.9**	95.6**
Take-up if no employee contribution required	96.9	97.2	97.7
Take-up if employee contribution	67.4	77.5**	76.7
Method of payout:		†	†
Fixed percentage of annual earnings	72.9	90.6**	93.7**
Percentage varies by annual earnings	4.1	5.4**	3.9**
Flat dollar amount	1.9	1.5	1.1**
Other	1.4	1.2	0.6**
Missing	19.7	1.3**	0.8**
Has maximum benefit amount (only plans whose payout method is a fixed percentage of annual earnings):		†	†
Yes	67.6	78.5**	86.8**
No	15.3	21.5**	13.2**
Missing	17.1	0.0**	0

Source: Analysis of NCS survey data from 2003, 2008, and 2013. Estimates differ from those listed in the BLS publication due to the inclusion of observations with missing take-up and plan information.

Notes: Unweighted sample sizes for LTDI plans: 2003 = 7,239 (12 missing take-up rate); 2008 = 28,132 (244 missing take-up rate); and 2013 = 24,406 (172 missing take-up rate). We use weights to ensure the analysis are representative of workers in the private industry in the United States in each year.

† Difference in distributions between the five-year interval is statistically significant, $p < 0.05$ using a chi-squared test.

* Difference in means between the five-year interval is statistically significant, $p < 0.05$ using a two-tailed t-test.

** Difference in means between the five-year interval is statistically significant, $p < 0.01$ using a two-tailed t-test.

Table A1a. LTDI access rates in 2013 across regions, by worker characteristics

	Percentage									
Variable	All	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
All	33.1	40.4	33.6	34.7	33.7	32.5	33.4	34.1	32.5	28.2
Occupation:										
Management, professional, and related	58.9	63.3	55.6	61.3	62.5	58.1	65	54.9	61.4	57.7
Service	9.7	12.1	14.2	9.7	8.7	9	4.5	10.5	8.3	7.9
Sales and office	32.7	41.5	34.5	33.5	33.5	32.6	31.4	35.5	33.7	25.3
Natural resources, construction, and maintenance	26.8	33	20.5	30.5	20.5	29.6	37.7	23.8	34.5	18.1
Production, transportation, and material moving	29.3	31.3	23.7	32.6	31.5	27.5	28	38.6	31.8	20.5
Full time	42.9	53.7	43.5	44.3	46.3	42.8	41.1	41.5	42	37.5
Part time	4.7	5.8	5.1	6.5	6.4	2.2	1.4	2.9	4.9	5.4
Union	35.2	55.6	32.6	36.7	36.4	39.1	26.4	32.9	29.8	32.4
Nonunion	32.9	39	33.8	34.4	33.5	32.2	34	34.2	32.7	27.7
Average wages:										
Lowest 25 percent	6.7	2.1	6.7	6.6	6.6	7.2	7.2	12.2	6.2	2.4
Second 25 percent	27.2	27.9	25.1	30.9	25.8	27.8	31.9	33.6	30	16.1
Third 25 percent	42.9	49.2	43.7	42.3	46.6	43.6	45.6	46.4	45.4	33.1
Highest 25 percent	62.9	64.2	59.5	65.8	70.6	64	72.3	57.4	66.3	59.3
Industry:										
Mining	57.1	X	X	X	X	X	X	X	X	X
Construction	15.7	38.4	19.7	12.1	3.8	22.8	8.8	13.9	18.8	7.8
Manufacturing	42.5	39.4	39.9	41.7	43.7	44.5	43.8	49.4	39.2	40
Trade, transportation, and utilities	25.2	29.2	17.8	27.5	29.6	22	26	29.3	32.5	21.9
Information	65	X	49.9	61.4	55.7	69.4	X	81.3	68.7	78.8
Financial activities	67.3	76	69.8	65.9	81.8	63.3	71.4	69	63.7	56.7
Professional and business services	42.5	52.8	44.3	39.5	30.8	45.3	51.5	40.1	41.1	42.2
Education and health services	38.2	47.5	43.3	43.5	33.8	36.7	36.5	26.4	43.9	30.9
Leisure and hospitality	4.2	X	3.8	3.6	9.6	2.7	2.3	9.8	3.3	2.5
Other services	18.5	X	X	X	X	X	X	X	X	X

	Percentage									
Variable	All	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Establishment size:										
1–49 workers	18.6	27.7	17.8	14.8	20.3	19.2	24	23.4	18.6	13.5
50–99 workers	29.1	25	28	35.3	31.3	27.2	31.7	23.8	40	24.8
100–499 workers	38.5	49.6	41	37.3	36.2	37.1	30.4	44.4	39.3	33.8
500 workers or more	59.7	61.4	57.3	61.9	69.3	62.7	62.8	49.2	53.2	61.3
Imputed disability rate:										
Lowest 25 percent	47.6	62.7	37.3	43.3	51.7	51.8	63.7	50.1	51.2	44.9
Second 25 percent	35.3	38.2	39.9	45.2	45	43.2	25.9	23.7	29.4	19.6
Third 25 percent	30.1	37.2	24.7	25.5	37.1	31.9	24.5	42.6	38	23.4
Highest 25 percent	19.7	20.9	25.5	20.3	13.3	22.1	11.2	17.4	20.5	18.1

Source: Analysis of NCS survey data from 2013. Access rates for all workers replicated from the BLS publication (2013).

Notes: Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey. The unweighted sample size for all occupations = 46,080. Unweighted sample sizes for all cells are provided in table A1b. X=Access rates in some industries by region have been redacted due to small sample sizes. We use weights to ensure the analysis are representative of workers in the private industry in the United States.

Table A1b. Unweighted number of observations for LTDI access rates in 2013 across regions, by worker characteristics

Variable	Number of Workers									
	All	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
All	46,080	3,067	6,962	8,194	4,115	7,782	2,660	4,700	2,976	5,624
Occupation:										
Management, professional, and related	16,723	1,481	2,964	2,883	1,559	2,584	772	1,478	914	2,088
Service	5,506	361	1,056	909	476	823	248	519	491	623
Sales and office	13,728	780	1,892	2,341	1,125	2,553	850	1,507	992	1,688
Natural resources, construction, and maintenance	3,357	178	306	524	228	670	265	471	264	451
Production, transportation, and material moving	6,766	267	744	1537	727	1,152	525	725	315	774
Full time	38,859	2,548	5,862	6,877	3,419	6,620	2,295	4,162	2,505	4,571
Part time	7,221	519	1,100	1,317	696	1,162	365	538	471	1,053
Union	5,673	386	1,167	1,304	497	543	270	299	239	968
Nonunion	40,407	2,681	5,795	6,890	3,618	7,239	2,390	4,401	2,737	4,656
Average wages:										
Lowest 25 percent	6,726	206	896	1,071	582	1,330	509	860	503	769
Second 25 percent	11,213	552	1,440	2,034	1,120	2,089	724	1,310	850	1,094
Third 25 percent	12,131	859	1,767	2,286	1,152	1,985	778	1,171	731	1,402
Highest 25 percent	16,010	1,450	2,859	2,803	1,261	2,378	649	1,359	892	2,359
Industry:										
Mining	242	X	X	X	X	X	X	X	X	X
Construction	1,793	90	159	206	91	355	94	303	191	304
Manufacturing	7,226	383	632	1,827	869	1,126	500	717	292	880
Trade, transportation, and utilities	9,170	347	1,043	1,435	625	1,790	820	1,159	693	1,258
Information	1,287	X	199	129	159	239	X	146	81	247
Financial activities	7,343	563	1,375	1,154	723	1,084	417	738	569	720
Professional and business services	3,630	158	441	778	208	832	180	288	196	549
Education and health services	12,790	1386	2,542	2,368	1,277	1,871	481	1,031	564	1,270
Leisure and hospitality	1,793	X	421	185	85	290	82	134	339	216
Other services	806	X	X	X	X	X	X	X	X	X

Variable	Number of Workers									
	All	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Establishment size:										
1–49 workers	8,609	476	1,165	1,230	774	1,465	606	998	626	1,269
50–99 workers	3,863	201	480	629	347	659	279	442	270	556
100–499 workers	12,515	723	1,666	2,021	1,199	2,579	747	1,304	786	1,490
500 workers or more	21,093	1,667	3,651	4,314	1,795	3,079	1,028	1,956	1,294	2,309
Imputed disability rate:										
Lowest 25 percent	16,373	1,119	4,090	1,359	1,627	2,266	869	1,986	578	2,479
Second 25 percent	11,572	364	1,674	3,728	518	1,485	685	994	817	1,307
Third 25 percent	10,581	1,099	611	2,252	1,151	1,411	696	1,121	1,056	1,184
Highest 25 percent	7,554	485	587	855	819	2,620	410	599	525	654

Source: Analysis of NCS survey data from 2013.

Notes: X=Access rates in some industries by region have been redacted due to small sample sizes. Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey.

Table A2. Unweighted number of observations for LTDI access rates over time, by worker characteristics

Variable	Number of observations		
	2003	2008	2013
All	14,692	54,683	46,080
Occupation:			
Management, professional, and related	4,913	18,503	16,723
Service	1,778	6,678	5,506
Sales and office	4,277	16,110	13,728
Natural resources, construction, and maintenance	1,171	4,433	3,357
Production, transportation, and material moving	2,553	8,959	6,766
Full time	12,485	46,374	38,859
Part time	2,207	8,309	7,221
Union	1,785	7,196	5,673
Nonunion	12,907	47,487	40,407
Average wages:			
Lowest 25 percent	1,928	8,022	6,726
Second 25 percent	3,335	12,498	11,213
Third 25 percent	4,190	13,814	12,131
Highest 25 percent	5,239	18,293	16,010
Industry:			
Mining	160	470	242
Construction	582	2,125	1,793
Manufacturing	2,632	9,689	7,226
Trade, transportation, and utilities	2,754	10,720	9,170
Information	556	1,693	1,287
Financial activities	2,457	8,797	7,343
Professional and business services	948	3,297	3,630
Education and health services	3,624	14,541	12,790
Leisure and hospitality	692	X	1,793
Other services	287	868	806
Establishment size:			
1–49 workers	2,788	9,521	8,609
50–99 workers	1,335	4,925	3,863
100–499 workers	4,134	14,224	12,515
500 workers or more	6,432	23,957	21,093
Region:			
New England	971	3,738	3,067
Middle Atlantic	2,037	7,739	6,962
East North Central	2,713	10,713	8,194
West North Central	1,270	4,810	4,115
South Atlantic	2,630	9,012	7,782
East South Central	784	2,869	2,660
West South Central	1,577	5,809	4,700
Mountain	985	3,441	2,976
Pacific	1,725	6,552	5,624

Variable	Number of observations		
	2003	2008	2013
Imputed disability rate:			
Lowest 25 percent	NA	NA	16,373
Second 25 percent	NA	NA	11,572
Third 25 percent	NA	NA	10,581
Highest 25 percent	NA	NA	7,554

Source: NCS data from 2003, 2008, and 2013.

Notes: Three observations in 2003 are missing information on establishment size, and 2,056 observations in 2008 are missing information on wages and establishment size; these observations are only included in the worker characteristics for which they are not missing information. X= Access rates in some industries by region have been redacted due to small sample sizes. NA=Not Applicable. Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey.

Table A3. Unweighted number of observations for employer cost of LTDI in 2013, by worker characteristics

Workers with access to LTDI	
Variable	**Number of Observations**
All	23,854
By worker characteristic	
Occupation:	
Management, professional, and related	11,789
Service	1,639
Sales and office	6,748
Natural resources, construction, and maintenance	1,213
Production, transportation, and material moving	2,465
Full time	22,999
Part time	855
Union	2,509
Nonunion	21,345
Average wages:	
Lowest 25 percent	818
Second 25 percent	4,633
Third 25 percent	6,935
Highest 25 percent	11,468
Industry:	
Mining	150
Construction	366
Manufacturing	3,622
Trade, transportation, and utilities	2,722
Information	896
Financial activities	5,682
Professional and business services	2,046
Education and health services	8,020
Leisure and hospitality	170
Other services	180
Establishment size:	
1–49 workers	2,548
50–99 workers	1,440
100–499 workers	5,345
500 workers or more	14,521
Region:	
New England	1,853
Middle Atlantic	3,812
East North Central	4,475
West North Central	2,255
South Atlantic	3,819
East South Central	1,260
West South Central	2,328
Mountain	1,397

Workers with access to LTDI	
Variable	**Number of Observations**
Pacific	2,655
Imputed disability rate:	
Lowest 25 percent	6,920
Second 25 percent	7,274
Third 25 percent	5,276
Highest 25 percent	4,384

Source: Analysis of NCS survey data from 2013.

Notes: Disability rates are imputed using reported disability rates by industry and region from the Current Population Survey.