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Disability employment quotas: Effects of laws and nudges

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Disability Employment Quotas: Effects of Laws and Nudges*

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Abstract

We study the effects of a new 1% employment quota enacted in Chile in 2018 using anonymized administrative data on monthly employer-employee linkages and disability certification records. Our firm-level difference-in-difference results show a 15-20% increase in the number of people with disabilities working in eligible firms after the quota. About a third of the employment effects occur through the relabeling of existing workers as workers with disabilities, and the remainder through new hires. There are no negative effects found for the firms or other workers. We also conducted an experiment in quota-eligible firms to study if firms can be nudged to employ people with disabilities (PwD) by sending letters containing different information. We find that the pure information treatment increased the number of PwD working in the firms and that most of this impact is explained by an increase in the reclassification of incumbent workers. While not transformational for the labor market, inclusion of PwD, quotas and nudges do have an effect.

JEL classifications: J14, J71, J78

Keywords: Disability, Disability employment quota, Affirmative action, Difference-in-Difference, RCT

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1 Introduction

People with disabilities (PwD) encounter numerous obstacles with respect to labor market inclusion. According to the OECD (OECD 2010), individuals with disabilities have a considerably lower employment rate of only 44%, in comparison to the 75% employment rate of those without disabilities. This lower participation is one of the pathways through which disability may lead to poverty (OECD 2010; WHO 2011). Additionally, PwD who are employed tend to receive lower wages compared to those without disabilities, although the extent of this wage gap varies across countries (WHO 2011). The exclusion of PwD from the labor market results in productivity loss and lower tax revenue (OECD 2010; WHO 2011). The losses can intensify when family members withdraw from employment or decrease their work hours to care for their disabled family members (WHO 2011). Although the detrimental effects of attitudinal and environmental barriers to the labor market inclusion of PwD are widely acknowledged, data limitations have made it challenging to accurately measure the costs of exclusion (WHO 2011).¹

Labor market outcomes for PwD are influenced by various factors, such as lower levels of education, leading to productivity differences (Gilleskie and Hoffman 2014; Jolly 2013; Jones et al. 2014; Schur, Kruse, and Blanck 2013); labor market imperfections, including discrimination and prejudice (Ameri et al. 2018; ILO 2015); and eligibility requirements for disability transfer programs creating disincentives (Acemoglu and Angrist 2001; French and Song 2014; Maestas, Mullen, and Strand 2013). Discrimination can manifest in different forms, including differential treatment (Schur, Kruse, and Blanck 2013), job insecurity, and prejudice of employers (Ameri et al. 2018). Imperfect information may also contribute to discrimination when employers assume that disability translates to reduced productivity. Correspondence studies have consistently found that individuals with disabilities have lower rates of call-back interviews when compared to candidates without disabilities (Jones et al. 2014). In Norway, a study was conducted to examine the impact of disclosing wheelchair use on job interview invitations. The study controlled for productivity differences related to disabilities by limiting job postings and applicants to roles where reduced mobility was not likely to affect job performance. The results revealed that disclosing the use of a wheelchair decreased the probability of receiving an interview invitation by 10.7 percentage points (Bjørnshagen and Ugreninov 2021).

One of the primary obstacles PwD encounter in the labor market is the challenge of entry. PwD who want to participate in the labor market are already at a disadvantage in comparison to people without disabilities, as they have less access to education, environmental barriers that obstruct their access to the workplace, and less employment and vocational training opportunities (ILO 2015). To address these labor market imperfections and promote the employment of PwD, many countries have enacted laws prohibiting disability-based employment discrimination, targeted subsidies, and affirmative action policies, such as quotas.² Although quotas for PwD have been introduced

¹The UN Convention on the Rights of People with Disabilities recognizes the social model of disability, which defines disability as the interaction of impairment with external barriers that restrict participation in society (WHO 2011).

²The quota policy has faced criticism because employers often opt to pay levies instead of achieving their quotas. It is important to note the costs associated with fees are not the primary consideration when hiring PwD. The expenses related to modification measures, workplace adaptations, or other arrangements may be far more significant (Fuchs

in many countries, there is limited empirical evidence of their impact, particularly outside high-income countries. The small body of evidence has focused primarily on Austria, Spain, and Japan. Moreover, the available evidence suggests mixed results regarding their effectiveness.³

Several studies have found evidence that employment quotas can increase the representation of PwD in firms. For example, a PwD quota was gradually introduced in Austria, requiring at least one position out of 25 to be filled by a PwD. Lalive, Wuellrich, and Zweimuller 2013 find that firms above the 25 people threshold hire approximately 12% more workers with disabilities than firms not subject to the quota. Threshold studies in Japan and Spain also found positive, but small, evidence of employment effects (Mori and Sakamoto 2018; Malo and Pagán 2014). However, these studies have found that the direct effects on the employment of PwD are weakened by firms reclassifying their own workers and poaching from other firms. In the Austrian study, as much as 64% of workers with disabilities were already employed by the firm when they received their disability status, suggesting that firms are complying with the quotas by relabeling workers rather than through new hires (Lalive, Wuellrich, and Zweimuller 2013). The analysis in Spain also found that employed people with disabilities are more likely to be employed continuously with the quota, while quota systems provide only small incentives to hire previously unemployed PwD (Malo and Pagán 2014). Therefore, quotas might increase job retention instead of attracting new entrants. De Araújo et al. 2021 use an RD design to evaluate the enactment of PwD quotas in Brazil between 2007 and 2016. The authors do not find significant effects on average on the number of workers with disabilities. They do, however, find an increase in workers with disabilities in medium-sized firms (100 to 500 workers).

Regarding other outcomes, Mori and Sakamoto 2018 find mixed effects on productivity at the firm level in Japan. While the results of a fuzzy regression discontinuity design suggest that an increasing number of workers with disabilities does not necessarily decrease the firm's profit rate, results from the OLS regression indicate a negative relationship between the profit rate and PwD employment. Additionally, they find externalities for firms that were not required to comply with the law. Small-sized firms hired more PwD as their size increased, although they did not have to pay levies (the quota is implemented through a levy-grant scheme). This fact could suggest that the productivity of workers with disabilities is not low per se.

Other regression discontinuity studies have not analyzed the relationship between the application of quotas and firms' productivity. Some studies suggest that firms design jobs to comply with the quota that involves mostly unskilled work (Brennan and Conroy 2004; Eichhorst et al. 2010) that do not lead to higher productivity. Other evidence finds that hiring PwD increases the overall productivity of the firm in developed countries (Lindsay et al. 2018), Brazil (Bitencourt and M Guimaraes 2012), and Turkey (Bengisu and Balta 2011). Some argue that when reasonable accommodations are provided to employees with disabilities, then overall productivity increases (Hartnett et al. 2011; Solovieva, Dowler, and Walls 2011). Event study cases in the United States (e.g., Houtenville and Kalargyrou 2012) find a 20% increase in productivity and a 67% greater return on investment after employing a significant number of PwD; however, these studies solely

2014).

³However, the research in economics has focused on examining the effects of quota policies for protecting the interests of other marginalized groups, such as women (Pande 2003) and ethnic minorities (Mori and Sakamoto 2018).

establish correlations, not causal relationships.

Another set of studies explores changes in the fines for non-compliance in the context of the quota thresholds. A study in Austria found that a penalty increase improved compliance with the Law, with one in 40 firms employing one additional PwD (Wuellrich 2010). A similar approach in Hungary finds that the higher fine had a significant positive effect on the hiring of PwD, but with limited scope; 72% of firms subjected to the quota do not hire any PwD (Krekó and Telegdy 2022). In Brazil, Szerman 2022 and De De Souza 2023 focus on the impacts of inspections of firms subject to the quota and find mixed results. While both studies found positive effects of the inspections on the hiring of new employees with disabilities, they found negative effects on the growth of wages, retention, and promotion of existing employees with disabilities.

A related question, beyond the direct effect of the quota law, is whether compliance can be affected by a light-touch intervention. The tax literature has explored the effects of informational letters to taxpayers on tax compliance. Researchers have also studied the effects of letters conveying a deterrence message (for example, informing recipients of an increase in the probability of audits) and/or a tax moral message (social norms, intrinsic motivation, public service messages). Tax deterrence messages have, in general, positive impacts on tax compliance (Slemrod, Blumenthal, and Christian 2001; Kleven et al. 2011; Pomeranz 2015). For example, letters informing firms about additional tax monitoring increase tax payments in Chile (Pomeranz 2015). There is mixed evidence on the effects of social norms and public services messages, with positive impacts in the United Kingdom (Hallsworth et al. 2017) and Germany (Dwenger et al. 2016), and no impact in Argentina (Castro and Scartascini 2015). The Bosch et al. 2021 study in Peru is related to this paper. Their study finds that sending letters that contained either a punitive or social commitment message encouraged compliance with a disability quota. They found neither type of message had an impact on compliance, but both increased the number of firms hiring at least one hour of workers with disabilities. The impact is driven by the punitive letter.

We study the effects of a new 1% employment quota enacted in Chile in 2018 using anonymized administrative data on monthly employer-employee linkages and disability certification records. We find the quota increases the number of PwD working in eligible firms by 15-20%. About one-third of these individuals were already working in the firm before the new policy was enacted and subsequently joined the disability roster, and two-thirds are new hires. There are no significant effects on their wages. However, the number of PwD working with indefinite contracts increased. Firms are not hurt by the quota, and if anything, results are better for firms above the threshold: they pay higher average wages and have more workers after the quota. There is no significant effect on the probability of firm survival or the number of months the firm is active. In 2019, 3.2% of firms complying with the law were using alternative measures (1.1% subcontracting, 2.2% donating in 2019). We also find the quota has effects on firms that provide activities that are typically subcontracted (such as cleaning and security), which comprise a large share of PwD. The law thus also has impacts on the hiring of PwD in smaller firms that are not bound by the quota.

We also conducted an experiment in quota-eligible firms to study if firms can be nudged to employ individuals with disabilities (PwD) by sending letters containing different information. The experiment informational letter successfully increases the number of PwD by 0.20. The number

of reclassified workers increases by 0.15, and the number of new hires by 0.05, but the latter coefficient is non-significant. Therefore, the increase in the number of PwD can be attributed mostly to incumbent workers. Comparing both sets of results highlights the significance of understanding the context of what was analyzed to comprehend the impact. Our findings indicate that a quota by itself has a greater positive impact than nudges to comply with it.

We contribute to the literature in two key ways. Firstly, in contrast to the predominant focus on quotas in developed countries within existing research, our study presents findings from the implementation of a 1% employment quota in Chile, a middle-income country. This quota's relatively modest threshold places it within the lower range of quotas examined globally, and our study elucidates its positive effects within this particular context. Secondly, we conduct a complementary analysis, assessing the impact of the quota alongside nudges aimed at enhancing compliance. Notably, we uncover distinct and noteworthy differences in their effects. While both strategies lead to an increase in the employment of people with disabilities (PwD), they exhibit divergent patterns in terms of employment composition. The quota's impact encompasses both new hires and reclassifications, whereas the nudge primarily stimulates reclassifications within the workforce. If we categorize nudges and inspections as interventions aimed at inducing compliance, these findings could potentially elucidate the varying impacts observed between quotas and quota inspections in the existing literature.

The remainder of the paper is organized as follows. Section 2 describes the quota law. Section 3 outlines our empirical strategy and defines the relevant firm-level outcomes related to PwD labor inclusion. In Section 4, we provide information about our data sources, data arrangements and present descriptive statistics. In Section 5, we investigate the impact of the quota law on PwD labor inclusion outcomes. In Section 6, we investigate whether informational letters can nudge either PwD labor inclusion or compliance with the labor inclusion law. Finally, Section 7 discusses our results and suggests avenues for future research, and we conclude in Section 8.

2 PwD in Chile

Labor Inclusion Law

In 2017, the Labor Inclusion Law (21.015) was passed with the aim of facilitating the inclusion of People with Disabilities (PwD) into the workforce. From April 2018 onwards, the law has mandated that companies with 200 or more employees should maintain a minimum employment quota of 1% for PwD. In April 2019, this requirement was extended to companies with 100 or more employees.⁴

If the firm is unable to meet the 1% employment requirement for PwD, it is required to provide a justification on why the nature of its activities cannot be performed by PwD or the unavailability of suitable PwD candidates for the job offers; it must otherwise document a lack of PwD interested

⁴It should be noted that the law also stipulates a preferential selection of PwD in the public sector and mandates a 1% employment quota for public institutions with 100 or more employees. However, there is no system in place to hold these institutions accountable for meeting these requirements.

in the firm's job offers. For the latter, the company needs to demonstrate that it had advertised the job openings on a public platform and had not received applicants with disabilities.

If the firm fails to fully or partially comply with the employment quota and is unable to justify the reasons mentioned earlier, it has two options to fulfill the requirement. The first is to make a donation, at the end of the year, equivalent to at least 24 minimum wages per employee who should have been hired to meet the quota, to organizations that work towards improving the quality of life of PwD. The second option is to subcontract firms that employ PwD in order to meet the quota through the PwD workers of the subcontracting firm. The contract between the company and the subcontracting firm should guarantee a minimum of 24 minimum wages for each PwD employee that the company was supposed to hire to fulfill the quota.

The process of certifying an individual's disability status begins with a Health Commission (Comisión de Medicina Preventiva e Invalidez, COMPIN) evaluation, which is then registered in the National Disability Registry.⁵ The Superintendency of Social Security maintains records of individuals who receive disability pensions. Since one can only receive a disability pension if they have accredited their disability through a Health Commission, they have met the criteria for certification of the disability.⁶ The evaluation process is voluntary as is the decision to disclose one's disability certification to employers. Employers do not have access to the personal information in the disability registry.

Compliance with the quota through the employment of PwD is measured monthly, but the firms subject to the law are determined annually. At the end of each year, the number of employees on the last day of each month is divided by 12 (or the number of months the firm is active). If the average number of employees is 200 or more after April 2018 (or 100 or more after April 2019), then the required number of PwD to be hired is determined by applying a 1% quota to this average. Firms must comply with the law only for the months when the number of employees is above 100 (or 200). The targeted firms are required to register the number of employees and the number of PwD that should have been hired at the end of each year on the Labor Department's (Dirección del Trabajo, DT) web portal. DT, an adjunct office to the Ministry of Labor, is responsible for monitoring compliance with the law. The deadline for uploading contracts and registering compliance is April 1 of the following year (e.g., April 1, 2019, for 2018). The effective number of PwD workers is determined by applying a floor function to 1% of the workforce (e.g., firms with 100 to 199 workers must hire 1 PwD, firms with 200 to 299 must hire 2 PwD, and so on).

At the worker level, the incentive (without accounting for prejudice and/or discrimination factors) to receive the disability pension is direct, since it is a monetary transfer.⁷ With respect to incentives

⁵To prove their disability status, individuals must provide reports that show their disability. The evaluation of disability follows the International Classification of Functioning in which disability exists when an impairment interacts with external barriers. A multidisciplinary disability commission evaluates the individual's medical records regarding impairments and questions about functioning in different domains. It determines the origin, level, and degree of the disability and may request a re-evaluation if necessary. An individual is certified as having a disability if their disability is 5 percent or more. The Commission then informs the National Registry about the disability status.

⁶If they secure employment, the worker can keep the disability pension as long as they earn below certain thresholds.

⁷A direct transfer of 206.173 CLP.

for the registry at RND, there are no monetary transfers tied to the registry; but there are several subsidies and exemptions contingent on RND, and RND is included in the calculation of Chile's socioeconomic group scores, which is in turn the eligibility mechanism of a wide array of social programs and transfers.⁸ At the firm level, on the one hand, there are incentives for having their workers with disabilities register at RND and/or begin receiving a disability pension, since those are the main compliance channels at the firm level.

Medium-sized companies that fail to comply with the quota may face penalties ranging from 2 to 40 monthly tax units (MTU), while large-sized companies may face penalties ranging from 3 to 60 MTU.⁹ DT may apply discounts or increases depending on its Infractions Classifier.¹⁰ However, according to anecdotal evidence, there has been little supervision in the first two years of implementation.¹¹

Chile's Labor Market and PwD

Research on the connection between disabilities and the labor market in Chile has primarily explored the interaction between disabilities and social security provision, participation of PwD in the private pension funds system, and market efficiency mechanisms (James, Edwards, and Iglesias 2009; Reyes 2010; Joubert and Todd 2011). However, only a limited literature directly investigates the relationship between disabilities and labor markets in Chile, with most studies being descriptive. Over a decade ago, Contreras, De Mello, and Puentes 2011 used cross-section analysis to show that PwD have lower participation rates and receive lower returns to education. Melo and Valdes 2011 examined the socio-economic factors associated with disability in Chile and found a strong correlation between unemployment and the probability of living with a disability.

More recently, Martinez A. and Vial 2023 show that, even after controlling for education and gender, individuals with disabilities earn 21% less than those without disabilities. Meanwhile, Mayorga Camus 2018 examined the effects of the 2010 Law on Equal Opportunities and Social Inclusion of People with Disabilities (Law N. 20.422).¹² The study did not identify any significant effects on PwD's labor market outcomes by analyzing longitudinal data from the Chilean Social Protection Survey.

3 Empirical Strategy

We use a Difference-in-Differences (DiD) design at the firm level.

⁸The set of benefits contingent on being registered at RND can be found [here](#).

⁹According to the Internal Tax Service (SII in Spanish), as of October 2019, a MTU was equivalent to approximately US\$68.2. Therefore, the fine would range from approximately US\$136.4 to US\$2,728 for medium-sized companies and from approximately US\$136.4 to US\$4,092 for large-sized companies.

¹⁰Page 82 of [this link](#) shows the current infraction ranges for non-compliance with the labor inclusion law.

¹¹During late 2019, there was social unrest in Chile, and the COVID-19 pandemic led to large lockdowns starting in March 2020. This challenging context should be taken into consideration when evaluating the results of this evaluation.

¹²This legislation aims to increase the labor inclusion of PwD by promoting several measures, including improving accessibility and job accommodations, as well as eliminating custom tariffs for relevant equipment.

DiD Design

We use the functional form in Equation 1. We estimate in a sample of firms that are in the neighborhood of the quota, this is whose number of workers comply with $NW(i)_t - Q \in (-h, h)$, where Q is the quotas threshold and $NW(i)_t$ is a function that gives the number of workers at the firm i in period t . $Y_{i,t}$ are firm-level outcomes for the period t , $\mathbb{I}[NW(i)_t \geq Q]$ takes a value of 1 if the condition is met (i.e., the firm crossing the quotas' threshold in t) and zero otherwise.

We also include the variable $Post_t$, which takes a value of 1 after the phase-in of the quota (and zero otherwise), and an interaction term, $\mathbb{I}[NW(i)_t \geq Q] \times Post_t$, which captures the effect of the phase-in of the quota for firms above the threshold. The vector $X'_{i,t}$ controls for firm characteristics and includes industry (4-digit ISIC, Rev. 4) and location fixed effects (comuna¹³ of the firm's HQ location). The bandwidth by which firms are included in the estimation sample is fixed by the pair \underline{h} and \bar{h} , representing the distance to the threshold below and above the cut-off, respectively. The firm-level specification is:

$$Y_{i,t} = \alpha \mathbb{I}[NW(i)_t \geq Q] + \beta Post_t + \gamma \mathbb{I}[NW(i)_t \geq Q] \times Post_t + X'_{i,t} \Phi + \epsilon_{i,t} \quad \forall \quad NW(i)_t - Q \in (\underline{h}, \bar{h}) \quad (1)$$

The parameter of interest is the interaction term γ , which captures the effect of the phase-in of the quota on treated firms. Standard errors are clustered at the interaction between 2-digit industries and province.¹⁴

To evaluate the expansion of the quota to firms with 100 or more workers, we use data from 2016 to 2020 onwards.¹⁵

Bandwidths

We determine the estimation sample based on two criteria. To determine the lower bandwidth, denoted \underline{h} , we employ the endogenous procedure proposed by Calonico, Cattaneo, and Titiunik 2015. This procedure sets the lower threshold for firm size at 83 workers.

To determine the upper bandwidth, denoted as \bar{h} , we conducted a placebo test using pre-quota periods—specifically, 2016 and 2017. In this test, we simulated the introduction of a placebo quota in 2017 while keeping \underline{h} fixed and varying \bar{h} , employing the specification detailed in Equation 1. Our objective was to identify the point in the firm-size distribution where the threshold crossing significantly affected the proportion of firm-level PwD employees. We incrementally expanded the upper bound of firm sizes, \bar{h} , until the coefficient for the interaction between threshold crossing and the placebo phase-in became statistically significant. This process resulted in an upper bound of 158 workers. Further details on the selection of these lower and upper bounds can be found in

¹³Chile's smallest administrative division and seat of local governments, totalling 345 comunas.

¹⁴Industries correspond to ISIC Rev 4. Provinces are Chile's second-smallest administrative division (totalling 56 provinces).

¹⁵Results pertaining to the 200-worker threshold are available upon request. However, we primarily present findings associated with the 100-worker threshold due to the limited number of firms with more than 200 workers, which can impact the external validity of the results

the Appendix, specifically in Appendix C.2, along with additional tests. In the Appendix, we also conducted robustness checks by varying the upper bandwidth for firm sizes.

The regression results presented in this paper pertain to firms with employee counts ranging from 83 to 158 workers.

4 Data

4.1 Sources

This paper uses four main sources of data, an employer-employee panel from the unemployment insurance (AFC), two registries on disability certifications (RND and IPS) from the Social Information Registry provided by the Chilean Undersecretary of Social Evaluation, and a compilation of firm-level reports concerning compliance with the labor inclusion law (Alternative Compliance) from the DT. For a comprehensive overview of these data sources, please refer to Appendix A.1.

AFC

The unemployment insurance database (henceforth AFC, *Asociación del Fondo de Cesantía*) is a monthly employer-employee dataset containing all worker-employer links, along with contractual status—whether temporarily hired or permanently hired—and top-coded wages. At the employer level, this dataset also records the firm’s industry and its headquarters location.¹⁶ Public sector firms and their employees are not registered in AFC.

RND

The national disability registry (henceforth RND, *Registro Nacional de Discapacidad*) records individuals with a certified disability. This is the official disability certification record, and social programs benefiting PwD are usually contingent on this registry. The evaluation and certification of disability is the responsibility of COMPIN (*Comisión de Medicina Preventiva e Invalidez*).¹⁷ To determine disability status a multidisciplinary team considers medical reports as well as assessments of functioning of daily activities in the community.

IPS

The Social Security Institute (henceforth IPS, *Instituto de Previsión Social*) also records disability status as it processes non-contributory disability pensions. Payments are contingent on an external evaluation of the person’s disability status by COMPIN.

Alternative Compliance

¹⁶Industry as per the Internal Revenue Services (SII) industry classification system, that corresponds almost identically to ISIC, Rev. 4. The location is registered as the headquarters municipality, Chile’s smallest administrative division. This creates a bias in terms of the number of workers towards large municipalities, especially those located in Santiago, that tend to concentrate multiple firms’ headquarters.

¹⁷COMPIN is an independent governmental institution that handles and certifies medical records used in administrative procedures (such as certifying sick-leave mandates.)

We also include data on additional mechanisms of compliance, including donating to non-profit PwD advocacy groups, subcontracting services from firms that do comply with quota, and sending a communication statement to the enforcing agency disclosing reasons for non-compliance, such as the non-suitability of job postings. These data are provided by the DT.

4.2 Labor Panel

To generate comprehensive worker-level and firm-level outcomes, we integrated employer-employee labor trajectories with individual disability status information. This process involved several steps. Initially, we constructed a matched employer-employee monthly panel. Subsequently, we aggregated the data at both the firm-month level and worker-month level. Finally, we computed annual outcomes by averaging the monthly data for both firm-level and worker-level variables.

We adopted the same criterion employed by the labor inclusion law, which defines firm size as the yearly average of the monthly number of workers. This will define which firms are directly affected by the law.

To obtain a proxy of the number of full-time employees, given that AFC does not report hours worked, we calculated a full-time equivalency measure. This measure involved aggregating the wages earned by a worker across all their jobs in a given month, which we refer to as “earnings.” Subsequently, we established their full-time-equivalent association with a specific firm by dividing their monthly wage at that firm by their monthly earnings.

For workers with disabilities, we categorize them based on specific criteria within their current job spell. Those who become registered at RND and/or commence receiving a disability pension during their current job spell are classified as “reclassified workers.” If a worker initiates a job spell while already being registered at RND and/or receiving a disability pension, we classify them as “hired workers.” Furthermore, if a worker with a disability maintains their job while being registered at RND and/or receiving a disability pension, we designate them as “retained.”

Firm Panel

We collapse the monthly employer-employee labor panel into a monthly firm panel. We calculate both averages and sums of worker-level outcomes, including wages, indefinite contracts, full-time equivalency, whether a worker was newly hired or retained their job, and tenure. We compute these outcomes for all workers, and additionally, we break down the analysis into two groups: workers with disabilities and workers without disabilities. Specifically, for workers with disabilities, we also calculate averages and sums based on their status as reclassified or hired.

To assess compliance, we employ yearly outcomes, focusing on whether a firm meets the requirement of having at least 1% of its workforce constituted by workers with disabilities. Additionally, we integrate firm-level data from the DT on alternative compliance mechanisms to further evaluate compliance metrics.

4.3 Variables of Analysis

The outcomes are constructed using AFC's employer-employee dataset, which is linked through worker IDs with the disability registry (RND) and disability pensions (IPS) and through firm IDs with compliance records (DT). Firm-level outcomes are aggregated at the firm-year level. A detailed description of all outcomes can be found in [Appendix A.2](#).

- PwD labor inclusion outcomes: These are annual firm-level outcomes pertaining to PwD labor inclusion, which can result from employing PwD or achieving compliance with the labor inclusion law through alternative means.
- PwD labor dynamics: These are firm-level indicators of the labor dynamics among working PwD. They encompass reclassification and hiring of PwD workers.
- PwD labor quality: These metrics are related to observable labor quality indicators. They include data on wages, employment under a permanent contract, tenure (or number of months a worker has been linked to a specific firm), and full-time equivalence (FTE).
- Firm productivity: These are firm-level productivity metrics not directly related to PwD outcomes. This category includes information on firm survival, the duration of firm activity in months, the number of employees (with adjustments for full-time equivalence), wages, and the prevalence of indefinite contracts among employees.
- Compliance: These are metrics related to whether and how firms comply with the labor inclusion law.

4.4 Descriptive Statistics

Table 1 shows the number of firms, workers, and PwD by year and firm size. We observe a large increase in the number of PwD, with 20 thousand PwD workers in 2016 and 34 thousand by 2020. The average share of PwD by firm has increased from 0.34% to 0.44% in the same time period. Labor inclusion of PwD has been driven by large-sized firms. According to [Figure A.1](#), the share of PwD workers remains fairly constant after the quotas phase-in for firms far below the threshold (0 to 49 workers) and in the vicinity of the thresholds (50 to 249 workers) while expanding significantly and increasingly at larger firms. The same is true for compliance, either through hiring PwD or through alternative compliance mechanisms, as shown in [Figure A.2](#).¹⁸

¹⁸These are predominantly and increasingly concentrated in larger firms, as 46% of PwD were employed by firms with over 250 workers in 2016, increasing to 58.8% in 2020. As PwD workers shift towards larger firms, those working at firms near the quota's threshold (in firms with between 50 and 250 workers) represent 17% of PwD by 2020, whereas by 2016 this percentage was 19%. This implies that, even as the absolute number of PwD working in smaller firms has increased (as the total number of PwD in the labor force), the brunt of this growth is borne by larger firms.

Table 2 shows sample sizes above and below the 100-workers threshold on the estimation sample. The number of firms remains fairly constant across years both below and above the 100 workers threshold, nearing 1.5 thousand and 2.4 thousand respectively. As firms are selected into the sample by their average number of yearly workers, firm sizes are also constant across years, nearing 90 workers below the threshold and 124 workers above the threshold. The total number of workers in each group in both groups is around 140 thousand and 310 thousand, respectively, with both declining in 2019 and 2020, suggesting that social unrest (2019) and the onset of the COVID-19 pandemic (2020) negatively impacted this firm size group. The number of PwD saw growth in both groups, where firms below the threshold increased their PwD share from 0.33 in 2016 to 0.50 in 2020, while firms above the threshold from 0.45 to 0.71. In the same time frame, the total number of PwD increased from 476 to 733 in firms below the threshold, and from 1,089 to 1,672 in firms above the threshold.

4.4.1 Firm-Level Descriptive Statistics

Table 3 presents a comprehensive analysis of firms operating near the disability hiring quota threshold between 2016 and 2018, focusing on companies employing 83 to 158 workers.

Panel A indicates that persons with disabilities (PwD) constituted a modest fraction (0.385%) of the overall workforce in these firms. Nearly half of the firms (49.8%) had at least one PwD employee. On average, these firms employed approximately 0.44 PwD, with an average of 0.037 PwD being reclassified. Regarding compliance, only 15.3% of the firms complied with the labor inclusion laws, and 14.8% met the specific disability hiring quota requirements. A mere 0.46% of firms opted for alternative methods of compliance.

Panel B shows that PwD earned approximately 0.46 million CLP monthly (690 USD at the 2017 exchange rate), while the total monthly wage bill for PwD averaged 0.21 million CLP (315 USD at the 2017 exchange rate). Roughly 46.02% of PwD were employed under indefinite contracts. On average, PwD occupied 93.77% of a full-time equivalent position, with an average of 0.41 FTE PwD.

Panel C reports that firms employed an average of 111.65 workers, with a survival rate of 96.5%. The average duration of firm activity was 11.61 months. In terms of wages, the average wage of PwD was 0.76 million CLP (1,140 USD at the 2017 exchange rate), with a total wage expenditure reflecting 84 million CLP (126 thousand USD at the 2017 exchange rate). Around 65.65% of the workforce was employed under indefinite contracts, involving an average of 72.29 permanently contracted workers. Workers were hired on 95.61% of a full-time equivalent position, with a total of 106.70 FTE workers.

Finally, Panel D shows that 9.55% of firms communicated through written statements, and 29.64% declared contracts with the Department of Labor. Alternative compliance methods were sparingly utilized, with 0.15% of firms opting for compliance through donations and 0.34% choosing to subcontract services.

In the Appendix, [Table A.3](#) presents the evolutions of these outcomes by whether firms lie above or below the quota’s threshold, and by whether the quota is in place or not.

Two stylized facts appear relevant from this discussion. First, the labor metrics show a movement towards more inclusion of PwD in the workplace after the quota law. Second, these metrics improve both for firms directly subject to the quota and for those below the 100-employees metric.

5 Quotas Impact

We provide firm-level results as quota compliance is assessed at this level.

We use [Equation 1](#) to estimate the impact of the quota on eligible firms. Our regression tables include the coefficient for the interaction of threshold crossing with the quotas phase-in the parameter of interest. Additionally, the tables present the pre-phase-in means for quota-eligible firms and the sample sizes of the regressions.

Main Outcomes

[Table 4](#) presents the main results of the paper: the impact of quotas on employment and compliance. The number of PwD increases by 0.08, a statistically significant 15.8% increase, as observed in column (2). Additionally, we note a significant increase of 0.04 in the likelihood of a firm employing at least one PwD worker, significant at the 5% level. However, there is no significant impact of the quota on the share of PwD.¹⁹

Panel A also breaks down the labor dynamics of PwD workers, distinguishing between those hired and reclassified. Both reclassification and new hiring of PwD workers increase, with statistically significant effects of 0.034 workers reclassified and 0.049 newly hired. While the effect on hiring is larger, if the pre-phase-in levels of these variables are taken into consideration, the relative change in reclassification is larger.

Labor Quality

Panel B of [Table 4](#) explores impacts on job quality. The point estimate for the effect on the average wage for PwD is positive but not significant. Panel B also shows a significant increase in the number of PwD with indefinite contracts of 0.06, significant at 1%. There is no impact on the tenure of PwD, nor on the differences of tenure between PwD and individuals without disabilities.

Firm Productivity

Panel C of [Table 4](#) presents the impact of the quota on firm productivity outcomes. There are no

¹⁹There are valid criticisms of RD design, as the narrow window at the cutoff limits external validity, as well as due to the small law compliance that diminishes power in the RD design. Specifically, a symmetrical bandwidth around the quota’s threshold largely diminishes sample sizes above the threshold, since the density of firms decreases with size as measured by the number of workers. However for robustness we estimate the RDD, with details of the RD specification in [Appendix C.1](#) and results in [Appendix Table A.2](#) and [Figure A.4](#). Consistent with the DiD model, there is a positive impact on the number of PwD workers and the probability of the firm having at least one worker with disabilities. In the RD estimation there is also a positive impact on the share of workers with PwD.

statistically significant impacts on any measures of firm productivity (number of workers, probability of survival, number of months active, average wage, wage bill, and indefinite contracts). Therefore, we find no evidence that the quota influences a firm’s performance, either positively or negatively.

Alternative Compliance

Finally, concerning compliance, Panel A indicates that although firms are more likely to have workers with disabilities, there is no increase in the likelihood of compliance. Before the quota enactment, 12.2% of firms complied with the quota, and the point estimate is both small in magnitude and statistically insignificant. On the other hand, there is a substantial increase in alternative compliance (Panel D). In response to the law, firms are significantly more likely to subcontract with firms that have higher levels of PwD and make donations. Firms also increase their written statements and reports to the Department of Labor on the hiring of PwD after the law, which may be indicators of willingness to communicate with the entity responsible for monitoring the implementation of the law (Panel D). In summary, there is an increase in compliance with the law. The legislation has a clear impact on alternative compliance measures but not on the primary compliance measure.

Robustness Checks

In [Table A.4](#) we check whether our results hold for the 2018 phase-in of the quota for firms above 200 workers threshold, and how the bandwidth selection interacts with our results. For the 2018 phase-in of the quota, column (1) shows that under an endogenous bandwidth, the effects are still positive; however, narrowing the bandwidth (Panel B and C) makes all estimates but those over compliance metrics non-significant. For the 2019 phase-in of the quota, column (3) shows that increasing bandwidth size on the 100 workers threshold strengthens the results, while under a symmetrical 50 workers bandwidth all outcomes are positively and significantly affected by the quotas phase-in. This suggests that effects close to the threshold are only relevant for firms near the 100 workers threshold and that increasing bandwidths strengthen the quotas phase-in effect.

Some outcomes, particularly those related to PwD, have large masses in zero since a large fraction of firms do not have PwD workers. Following [Szerman 2022](#), we apply an inverse hyperbolic sine transformation to our outcome variables.²⁰ [Table A.5](#) shows that our results on labor inclusion outcomes hold, although the point estimates are smaller. Interestingly, now the coefficient of interest is positive for all labor quality outcomes, including those variables whose estimation in previous specifications was contingent on the firm having at least one PwD worker.

²⁰The explicit transformation is $\text{asinh}(y) = \log(y + \sqrt{y^2 + 1})$.

6 Experiment

6.1 Design

Given that the quota law is already in place, it is interesting to consider whether compliance might be affected by a light-touch intervention. Along these lines, we conducted an experiment to assess the effectiveness of using behavioral insights to increase compliance with the quotas.²¹ In collaboration with the Department of Labor (Dirección del Trabajo), we designed three different types of letters with the goal of increasing compliance. The study aims to determine whether the information is sufficient to change compliance behavior or if a positively framed letter emphasizing the benefits of compliance has a larger impact on PwD labor outcomes than a message that emphasizes the penalties for non-compliance.

Emails were sent on May 28, 2019, between 13:10 and 13:20 hours through an institutionalized email server of DT. This is the second year of implementation of the quota for firms with 200+ employees and the first year for firms with 100+ employees. We chose email as the medium for delivery because it allows for tracking its reception. Research in the tax literature has suggested that emails can be more effective than letters in delivering the same message in certain contexts (Mascagni, Nell, and Monkam 2017). To increase the saliency of the emails, the letters were sent through an institutionalized mail server of the Direction of Labor and signed by its director, following standard practice in the tax literature.

Quota-eligible firms were randomly assigned to four treatment arms:

- Pure control
- Informational
- Benefits: Information plus benefits of inclusion (positive social norms)
- Fines information plus the threat of fine (deterrence).

Letter contents are available in [Figure A.8](#). The letter that emphasizes benefits is consistent with social norms in the tax literature, which informs about the advantages of including PwD in the workforce. On the other hand, the letter that emphasizes penalties aligns with the deterrence approach in the tax literature. [Table A.7](#) shows the treatment assignment.

We obtained public firm-level data from the National Tax Authority to create our sample. The sample includes all firms that meet the following criteria: i) have a commercial legal personality, ii) employ 100 or more workers (self-reported), and iii) have an active email address. There are 7,878 firms that meet these criteria. The randomization used firms active during 2017.

²¹ AEA RCT Registry (RCT ID AEARCTR-0004813). IRB Approval Number 190123003 from the Social Science Institutional Review Board of the Pontificia Universidad Católica de Chile.

The randomization was stratified by the number of employees (100-149, 150-199, 200-499, 500 or more), the principal economic activity of the firm (agriculture, livestock, forestry, fishing, manufacturing, construction, and services), and geographic location (i.e., north, center, Metropolitan Region and south).²² It is important to note that we did not have access to the disability status of the employees when conducting the randomization. [Table A.8](#) shows the number of firms by strata, and [Table A.9](#) shows that firms were balanced in observables across a broad set of variables such as sales.

Descriptive Statistics

After obtaining access to unemployment insurance and disability records data, we merged the experimental data with these administrative records. [Table 5](#) shows sample sizes and descriptive statistics for the experimental sample, the control group, pooled treatments, and by treatment arm. The statistics are compiled for 2018 (before the experiment).²³

Firms included in the experiment are significantly larger than the average firm, with an average workforce size of over 200 workers compared to less than 10 workers for firms not included in the experiment. The experiment covers more than 1.5 million workers, whereas 3.4 million workers are not included in the experiment. Although the proportion of workers with disabilities in the experimental sample is slightly higher than the total number of workers, this share increases over time. Therefore, the resulting dataset used in the study is not representative of all firms subject to the law, and the external validity of the results should be considered in this context.

Balance

As previously mentioned, the random assignment resulted in balanced treatment groups when we used tax data. However, upon assessing balance in observables from AFC data, as shown in [Table A.10](#), we observe statistically significant differences between treatment groups prior to the letters being sent. In Panel A, we show that firms in the control group are significantly smaller in terms of their number of workers than treated firms. In Panel B, we show that the groups that received an email had a higher share of PwD than the control group, with differences significant at the 1-10% level, depending on the comparison.

Empirical Strategy

In order to control for pre-treatment differences between treatment arms, we estimate a difference in difference regression as follows:

²²Industrial categories are based on sections of Chile’s industrial classification system, which is nearly identical to ISIC Rev 4. Geographical regions are based on firm HQ’s location latitude, whereas northern, central, and southern regions have distinct climatic and economic features, while the metropolitan region includes Santiago, which is by far the largest pole of economic activity and population.

²³We exclude non-matched firms (included in the randomization procedure but not available in the AFC dataset) since the non-matching rate is negligible and comprises only two firms. The matching rate between the experimental sample and AFC data is nearly perfect for 2017 (the year from which the pool of eligible firms was selected), and slightly decreases before and after 2017 due to the entry-exit of firms.

$$\begin{aligned}
Y_{i,t} = & \alpha_0 \text{Benefits}_i + \beta_0 \text{Fines}_i + \gamma_0 \text{Information}_i \\
& + \alpha_1 \text{Benefits}_i \times \text{Post}_t + \beta_1 \text{Fines}_i \times \text{Post}_t \\
& + \gamma_1 \text{Information}_i \times \text{Post}_t + \phi \text{Post}_t + X'_{i,t} \Phi + \epsilon_{i,t}
\end{aligned} \tag{2}$$

The variables Information_i , Benefits_i and Fines_i are dummies that take a value of 1 if the firm was sent an informational letter with a pure informational, positive or punitive content, respectively. The variable Post_t takes a value of 1 after DT sent the informational letters (2019 onwards). The interaction terms (treatment dummies interacted with Post_t) capture the effect of the informational contents of the letters after the letters were sent. The vector $X'_{i,t}$ controls for firm characteristics and includes industry (4-digit ISIC, Rev. 4) and location (headquarters location at the comuna level) fixed effects.

6.2 Results

Firm-level tables include our coefficient of interest in [Equation 2](#), which is the interaction term between treatment assignation (either pooled or by treatment arm) and the periods after the letters dispatch, and the number of observations in the regressions.²⁴

The impact of the experiment on the outcomes of interest is presented in [Table 6](#). The treatment effects are estimated using the difference-in-differences approach specified in [Equation 2](#). The first column presents the results pooling all three treatment arms (information, benefits, and fines), while the following columns show results by treatment arm (information, benefits, and fines) separately. In columns (5) and (6), the control group is omitted from the estimation sample, and the pure informational treatment is used as the control group.²⁵

In Column (2) of [Table 6](#), we see that the pooled treatment has a positive impact on the number of workers with disabilities. The coefficient on the interaction between treatment and post-experiment dummy suggests that receiving a treatment email increases the number of PwD in the firm by 0.131, which is statistically significant at the 10% level. This result indicates that the emails were effective in promoting the inclusion of PwD in firms.

To further analyze this effect, we decompose it into the number of reclassifications and new hires. The result shows that 0.08 of the total effect is due to the number of reclassifications, which is significant at the 5% level. The coefficient for the number of new hires is 0.023 and is non-significant. This suggests that the increase in the number of PwD can be attributed to an increase in the reclassification of incumbent workers rather than new hires.

²⁴Notice that sample size on pooled treatment regressions and regressions by treatment arm are identical, thus column (6) of [Table 6](#) shows sample sizes for both the estimation in column (1), and the estimation in column (2), (3) and (4).

²⁵Again, notice that sample size on pooled treatment regressions and regressions by treatment arm are identical, thus column (6) of [Table 6](#) shows sample sizes for both the estimation in column (1) and the estimation in column (2), (3) and (4).

These findings provide insights into the mechanism through which the treatment effect occurs. Specifically, the results suggest that the emails prompted firms to reclassify their existing employees as PwD, more than hiring new employees with disabilities. This could be due to the fact that firms may find it easier to enumerate existing employees with disabilities than to recruit and train new employees with disabilities.

Columns (3) to (5) of [Table 6](#) provide further insights into the impact of each type of letter on the outcomes of interest. The results show that only the informational letter has a positive and statistically significant impact on the number of workers with disabilities in the firm. Specifically, the coefficient on the interaction between the informational treatment and the post-experiment dummy is 0.197, significant at the 5% level. This indicates that receiving the informational letter increases the number of PwD compared to firms that did not receive any treatment.

In terms of the mechanisms behind this effect, the impact is driven by an increase in the number of reclassifications, rather than new hires. The coefficient on the interaction between the informational treatment and the post-experiment dummy is 0.132 for the number of reclassifications, which is significant at the 5% level. However, the coefficient for the number of new hires is only 0.02 and is not statistically significant. Therefore, the increase in the number of workers with disabilities induced by the informational letter is primarily due to an increase in the reclassification of incumbent workers.

On the other hand, the benefit and fines letters do not have any impact on any of the outcomes of interest. The coefficients for these treatments are not statistically significant, indicating that firms that received these letters did not exhibit any significant changes in the number of workers with disabilities or their employment status. Overall, these results suggest that only the informational letter was effective in promoting the inclusion of workers with disabilities in the workplace, primarily by increasing the reclassification of incumbent workers.

As in the direct quota analysis, we do not find an impact on our measures of firm productivity. Regarding compliance, we find a positive effect on the likelihood of declaring contracts, driven by the fines treatment.

We conclude that providing information to firms positively affects the number of employees with disabilities at the firm level. This increase in the number of workers with disabilities is primarily due to reclassifications. However, we find that this effect is only significant within the informational treatment and not for the benefits and fines treatments.

7 Discussion

7.1 Quotas

The quota has a positive effect on the number of PwD employed, share, and firms hiring PwD. There is also an increase in alternative compliance with the law in the PwD wage bill and in the

number and share of PwD with indefinite contracts. Firms are not negatively affected by the quota, as far as it appears in our outcomes (survival rate, number of workers, average wage, workers with indefinite contracts, and full-time equivalent workers).

In this section, we discuss these results using heterogeneity analyses by firm size and sector.

Firm Size

We defined quantiles based on firm size (using the 2018 number of workers) omitting the upper bound on size used in the DiD regressions. We defined a dummy per quantile size and interacted it (in a triple difference specification from Equation 4) with the quotas phase-in and eligibility dummies. We then run 100 regressions (one per quantile dummy) with the complete sample. Figure A.6 shows the interaction of post/above quantile (on the left of each variable panel)²⁶, and threshold by post (on the right of each variable panel). In the upper figure, we can observe an increasing effect on the share of PwD. This is, the larger the firm before the quota enactment, the larger the effect of the quota. Regarding the number of PwD, a similar trend—but on a different scale—can be seen in the lower panel.

Sector

We examined the impact on specific sectors at a two-digit level. While only a small portion of companies in our sample subcontract based on reports based on data from DT 2011 (labor survey by the Labor Ministry), we investigated whether likely subcontracting firms tend to hire more people with disabilities. We also looked into whether there are any externalities to smaller firms, as subcontracting can be done with both above and below-threshold firms. The activities that are most commonly subcontracted include legal services, cleaning and maintenance, and security.²⁷ Two of these industries (security and cleaning) also had a large share of PwD before the quota was enacted (see Table A.6).

Within each “subcontracting” industry we ran a difference and difference regression as in Equation 1 to address if there are larger effects of the quota law in these industries. To identify effects on small-size firms, we restricted the sample to firms with less than 100 workers within the same industries and used a first difference to identify effects after the quota enactment.

Results are shown in Figure A.7. For each industry, we compiled the effects on the share of PwD, the share of reclassifications, and the share of hirings.

- *Legal and Accounting*: We find positive impacts on the share of PwD on small firms, which are driven by reclassifications rather than hirings. Even though according to DT legal and accounting activities are largely subcontracted, this industry is not particularly inclusive prior to the labor inclusion law.
- *Private security*: We find positive impacts on the share of PwD on firms above the threshold after the quotas phase-in. Again, these results are driven by reclassifications. We do not find impacts on the share of PwD at small firms. We do find, however, a positive impact on reclassifications at small firms.

²⁶The above threshold dummy is collinear with the above quantile dummy.

²⁷Activities that fall outside the main activity of the firm.

- *Cleaning:* We do not find effects on the share of PwD with the DiD model, but we do on reclassifications. We also find effects on the share of PwD in small firms, again driven by reclassifications.

This evidence suggests that there are post-phase-in impacts on firms that are not eligible to comply with the quota. Unfortunately, the data do not allow us to identify which firms are being subcontracted by firms complying through alternative compliance mechanisms. However, the conjunction of positive impacts of the quotas phase-in on small firms from industries with high PwD shares supports this possibility.

7.2 Experiment

Our study aims to investigate the effectiveness of using behavioral insights to increase compliance with PwD quotas. We conducted an experiment in collaboration with the Direction of Labor (Dirección del Trabajo, or DT). Our study aimed to determine the most effective type of letter in promoting compliance behavior. We designed three letters with varying frames and content to achieve this.

The first letter contained only informational content about the new quota law. The second letter emphasized the benefits of inclusion for PwD and was framed positively to align with social norms promoting inclusion. Finally, the third letter emphasized the penalties for non-compliance and was framed negatively to align with the deterrence approach commonly used in tax literature. We randomly assigned firms to receive one of these letters.

By analyzing the impact of each letter on compliance behavior, we sought to determine whether information alone was sufficient to drive compliance or if the framing of the message had a larger impact on PwD labor outcomes. We find that providing information to firms had a positive impact on the number of employees with disabilities at the firm level. This result is significant because it indicates that simply providing information about PwD inclusion policies and legal requirements can lead to positive outcomes.

However, we also found that this increase in the number of workers with disabilities was primarily due to reclassifications. This means that the firms reclassified existing employees as individuals with disabilities, rather than hiring new PwD employees. While this finding suggests that there is still room for improvement in hiring practices, it does highlight the importance of promoting awareness and understanding of PwD inclusion policies.

Additionally, our study revealed that the positive effect on the number of employees with disabilities was only significant within the informational treatment and not for the benefits and fines treatments. This finding suggests that the framing of the message is critical in promoting behavior change. Specifically, providing information alone was more effective than emphasizing either the benefits of inclusion or the penalties for non-compliance.

Overall, our study provides important insights into the effectiveness of using informational letters

to promote PwD inclusion in the workplace. By highlighting the impact of different types of letters and the importance of framing the message appropriately, we hope to contribute to the creation of more inclusive and diverse workplaces. Our findings can inform policy and decision-making at both the firm and government levels, ultimately leading to greater PwD labor inclusion and a more equitable society.

8 Conclusion

We study the impact of the labor inclusion law on a set of PwD labor inclusion outcomes and drivers using a difference-in-difference design. In the context of the existing quota law, we also study whether different informational letters are valid channels to nudge firm behavior toward the labor market inclusion of PwD.

The DiD model finds positive impacts of the labor law on the number of PwD employed by the firm, on the number of reclassifications and the number of hirings of PwD, on the likelihood of employing at least one PwD, and on the likelihood of complying with the labor inclusion law through all potential means, although not for complying with the quota itself.

Reports from the Department of Labor highlight that the labor inclusion law is far from perfectly implemented, and indeed, it is not enforced adequately. There are two types of inspections: i) By complaint, or audits initiated by DT after receiving anonymous complaints, and ii) By program, or audits that the DT initiated (randomly). [Table A.11](#) shows the number of audits carried out by DT. During 2019 there were only 100 programmed audits, while during 2020, there were only 200 programmed audits, both numbers far below the number of firms bound to comply. We also explore effects on a subset of firms for which the quota does not apply given their size but may be affected through the subcontracting activities of larger firms associated with alternative compliance. The quota law is found to affect the number of PwD employed in firms that typically subcontract services such as security and cleaning, again with the reclassification of pre-existing workers in these small firms playing an important role.

Our light-touch experiment explored whether we could increase compliance by contacting firms about the law with different letters. The effect of the treatment is strongest within the pure informational treatment. We posit that the general letter about the quota law may have been more effective than the letter that explicitly detailed the fines, because the anticipated fines may have been larger than the actual fines detailed in the deterrence letter. The pooled treatment, which included the general information about the law as well as the information about the fines, has a positive effect on the number of PwD employed, and this effect is driven by reclassifications. We find no effects for the letters that focused on benefits or fines, and no statistical differences between them.

Although promoting new employment opportunities for PwD remains a key objective for labor inclusion, the reclassification of the existing workforce in firms plays a large role in the labor dynamics associated with the law. According to ENDISC 2015 ²⁸, only 13% of PwD are registered

²⁸ENDISC is a government-sponsored survey focused on a diagnostic of disability situations in Chile. CASEN

in the RND, suggesting that PwD labor inclusion might be underestimated in our analysis. This, in turn, explains the increasing relevance of reclassifications as a driver of PwD labor inclusion, as firms have the incentive to relabel their workers with a disability in order to comply with the labor inclusion law. As the certification process and the disclosure of the disability status to the firm are both voluntary processes, these dynamics also depend on the incentives for individuals to be evaluated and self-disclose.

2017, a poverty-characterizing survey, also government-sponsored, finds that 27.1% of PwD are registered in the RND.

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Main Tables

Table 1: Sample Sizes by Firm Size

	(1)	(2)	(3)	(4)	(5)
	Sample Sizes	9 workers or less	10 to 49 workers	50 to 249 workers	250 workers or more
Number of firms					
2016	420394	85.41%	11.57%	2.45%	0.57%
2017	425437	85.21%	11.74%	2.48%	0.57%
2018	444025	84.94%	11.99%	2.51%	0.57%
2019	452539	85.10%	11.90%	2.43%	0.57%
2020	401153	84.37%	12.43%	2.59%	0.61%
Number of workers					
2016	5185664	18.97%	19.21%	20.19%	41.63%
2017	5307352	18.82%	19.25%	20.10%	41.83%
2018	5554267	18.78%	19.58%	20.17%	41.47%
2019	5654383	18.84%	19.46%	19.56%	42.14%
2020	5279303	17.46%	19.13%	19.75%	43.66%
Number of PwD					
2016	20567	16.49%	17.68%	19.22%	46.60%
2017	22110	16.46%	17.60%	18.77%	47.16%
2018	25932	14.94%	16.13%	18.20%	50.73%
2019	32171	13.20%	13.91%	17.21%	55.68%
2020	34061	11.61%	12.91%	17.09%	58.40%

Note: Sample sizes by year and firm size group, which correspond to standardized brackets defined by SII, are ordered as micro, small, medium, and large-sized firms. Column (1) shows pooled totals for the AFC firm panel. Column (2) to (5) shows the share of totals in column (1) at each firm size group. Rows show the number of firms, number of workers, and numbers of PwD by year.

Table 2: Sample Sizes near the Threshold

	(1)	(2)	(3)	(4)
	Averages		Totals	
	Below	Above	Below	Above
Number of firms				
2016	-	-	1426	2412
2017	-	-	1478	2467
2018	-	-	1571	2532
2019	-	-	1567	2500
2020	-	-	1464	2349
Number of workers				
2016	90.28	124.65	128743	300654
2017	90.43	124.49	133662	307112
2018	90.54	124.27	142237	314657
2019	90.33	123.87	141553	309682
2020	90.26	124.17	132141	291671
Number of PwD				
2016	0.33	0.45	476	1089
2017	0.36	0.49	528	1202
2018	0.35	0.52	557	1325
2019	0.44	0.64	686	1599
2020	0.50	0.71	733	1672

Note: Sample sizes by year near the quotas threshold, split by whether their number of workers lies below or above the threshold. Firms below the threshold have between 83 and 99 workers. Firms above the threshold have between 100 and 158 workers. Columns (1) and (2) show the average number of workers and number of PwD at the firm level, below and above the threshold respectively. Columns (3) and (4) show the total number of firms, number of workers, and number of PwD across firms, below and above the threshold respectively. Rows show the number of firms, number of workers, and numbers of PwD by year.

Table 3: Firm-Level Descriptive Statistics

		Mean
Panel A. Main outcomes		
PwD labor inclusion	PwD share	0.003848
	Number of PwD	0.435641
	1 = Firm with PwD	0.497560
PwD labor dynamics	Number of hirings	0.400220
	Number of reclassifications	0.037447
Compliance	1 = Complies with law	0.152815
	1 = Complies with quota	0.148428
	1 = Alternative compliance with law	0.004631
Panel B. Labor quality		
Wages	PwD average wage	0.467675
	PwD wage bill	0.214062
	PwD wage premia	0.751308
Contract	Share of PwD under indefinite contract	0.460232
FTE	Average FTE PwD	0.937714
	Number of FTE PwD	0.414630
Tenure	Tenure	9.521476
	PwD tenure premia	0.729345
Panel C. Firm productivity		
Main outcomes	Number of workers	111.649437
	Survival	0.964917
	Months active	11.606933
Wage	Average wage	0.761399
	Wage bill	84.705627
Contract	Share of workers under indefinite contract	0.656484
	Number of workers under indefinite contract	72.290001
FTE	Average FTE	0.956113
	Number of FTE Workers	106.695313
Panel D. Compliance		
Communication with DT	1 = Sends written statement	0.095540
	1 = Declares contracts	0.296369
Alternative compliance	1 = Declares donations	0.001462
	1 = Subcontracts services	0.003412

Note: Descriptive statistics for firms below and above the 100 workers firm size threshold, before the quotas phase-in. Periods before phase-in are years 2016, 2017, and 2018. Wages are in millions of CLP from 2017.

Table 4: Firm-Level DiD

		(1)	(2)	(3)
			DiD model	
		Baseline mean	Interaction coefficient	Number of observations
Panel A. Main outcomes				
PwD labor inclusion	PwD share	0.003882	0.000314	19,714
	Number of PwD	0.488021	0.081925***	19,714
	1 = Firm with PwD	0.534476	0.036113**	19,714
PwD labor dynamics	Number of hirings	0.450741	0.049180**	19,714
	Number of reclassifications	0.039574	0.034235***	19,714
Compliance	1 = Complies with law	0.128357	0.026223**	19,714
	1 = Complies with quota	0.122038	0.007561	19,714
	1 = Alternative compliance with law	0.006319	0.019921***	19,714
Panel B. Labor quality				
Wages	PwD average wage	0.477206	0.017156	10,186
	PwD wage bill	0.239918	0.059549***	19,714
	PwD wage premia	0.752892	0.013080	10,186
Contract	Share of PwD under indefinite contract	0.471173	0.017112	10,186
FTE	Average FTE PwD	0.938946	0.018107***	10,186
	Number of FTE PwD	0.465533	0.078324***	19,714
Tenure	Tenure	9.764316	0.527146	10,186
	PwD tenure premia	0.741924	0.030637	10,186
Panel C. Firm productivity				
Main outcomes	Number of workers	124.466766	-0.330180	19,714
	Survival	0.968425	-0.006263	15,913
	Months active	11.651329	-0.009044	19,714
Wage	Average wage	0.775464	-0.000181	19,714
	Wage bill	95.860558	1.000950	19,714
Contract	Share of workers under indefinite contract	0.660025	0.003353	19,714
	Number of workers under indefinite contract	80.983482	0.816158	19,714
FTE	Average FTE	0.957165	0.000812	19,714
	Number of FTE Workers	119.051826	-0.171902	19,714
Panel D. Compliance				
Communication with DT	1 = Sends written statement	0.119273	0.093001***	19,714
	1 = Declares contracts	0.373223	0.162089***	19,714
Alternative compliance	1 = Declares donations	0.002370	0.017090***	19,714
	1 = Subcontracts services	0.004344	0.002872*	19,714

Note: Results from [Equation 1](#) estimated in an extended bandwidth for firms around the 100 workers threshold, were pre-phase in periods comprise years 2016 to 2018, and post phase-in periods comprise year 2019 to 2020. Column (1) shows averages for eligible firms before the quotas phase-in. Column (2) shows the interaction coefficient between threshold crossing and quotas phase-in. Column (3) shows the number of observations at each regression. Regression samples on labor outcomes of PwD (PwD average wage, PwD wage premia, share of PwD under indefinite contract, average FTE PwD, Tenure, and PwD tenure premia) are lower since estimation is contingent on the firm having had at least one PwD worker. Sample sizes for survival likelihood are also lower since we omit the last available period. Wages are in millions of CLP from 2017. The statistical significance of the coefficients is given by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Experimental Sample

Variable	Sample	Year				
		2016	2017	2018	2019	2020
Panel A. AFC						
Number of firms	Experiment firms	7,683.00	7,876.00	7,727.00	7,324.00	6,920.00
	Non-experiment firms	412,711.00	417,561.00	436,298.00	445,215.00	394,233.00
Number of workers	Experiment firms	1,678,833.38	1,760,286.88	1,775,892.00	1,742,296.13	1,644,198.63
	Non-experiment firms	3,427,063.50	3,449,881.75	3,680,811.25	3,817,871.75	3,588,344.50
Average firm size	Experiment firms	218.51	223.50	229.83	237.89	237.60
	Non-experiment firms	8.30	8.26	8.44	8.58	9.10
Total number of PwD	Experiment firms	6,184.87	6,844.98	8,159.19	10,672.07	11,636.15
	Non-experiment firms	14,128.62	14,910.13	17,385.86	21,235.64	22,236.52
Average number of PwD	Experiment firms	0.81	0.87	1.06	1.46	1.68
	Non-experiment firms	0.03	0.04	0.04	0.05	0.06
Panel B. Control vs. Treatment						
Number of firms	Control	1,923.00	1,972.00	1,933.00	1,840.00	1,741.00
	Treated	5,760.00	5,904.00	5,794.00	5,484.00	5,179.00
Number of workers	Control	393,639.53	416,071.75	420,429.59	408,147.56	381,693.34
	Treated	1,285,193.88	1,344,215.19	1,355,462.38	1,334,148.50	1,262,505.31
Average firm size	Control	204.70	210.99	217.50	221.82	219.24
	Treated	223.12	227.68	233.94	243.28	243.77
Total number of PwD	Control	1,533.03	1,737.87	2,083.50	2,605.66	2,743.70
	Treated	4,651.83	5,107.11	6,075.69	8,066.41	8,892.45
Average number of PwD	Control	0.80	0.88	1.08	1.42	1.58
	Treated	0.81	0.87	1.05	1.47	1.72
Panel C. Treatment Arms						
Number of firms	Information	1,915.00	1,970.00	1,940.00	1,835.00	1,737.00
	Benefits	1,922.00	1,966.00	1,930.00	1,831.00	1,725.00
	Fines	1,923.00	1,968.00	1,924.00	1,818.00	1,717.00
Number of workers	Information	442,975.84	463,884.59	468,741.91	459,409.97	438,646.66
	Benefits	410,811.78	431,248.66	432,727.41	429,247.13	405,322.69
	Fines	431,406.25	449,081.94	453,993.06	445,491.41	418,535.97
Average firm size	Information	231.32	235.47	241.62	250.36	252.53
	Benefits	213.74	219.35	224.21	234.43	234.97
	Fines	224.34	228.19	235.96	245.04	243.76
Total number of PwD	Information	1,530.25	1,674.43	2,037.29	2,748.48	3,089.82
	Benefits	1,534.61	1,681.23	1,995.55	2,649.67	2,922.17
	Fines	1,586.98	1,751.45	2,042.84	2,668.27	2,880.47
Average number of PwD	Information	0.80	0.85	1.05	1.50	1.78
	Benefits	0.80	0.86	1.03	1.45	1.69
	Fines	0.83	0.89	1.06	1.47	1.68

Note: Sample sizes in terms of number of firms, number of workers, average firm size, total number of PwD, and average number of PwD. Panel A compares firms in the experiment to firms not in the experiment. Panel B compares control group firms to treated firms. Panel C compares firms by treatment arm. Columns are years in the AFC panel.

Table 6: Firm-Level Experiment Impact

		(1)	(2)	(3)	(4)	(5)	(6)
Specification			Pooled	Treatment arms			
Coefficient		Baseline mean	Treated	Information	Benefits	Fines	Number of observations
Panel I. Main outcomes							
PwD labor inclusion	PwD share	0.004	0.000125	0.000505	-0.000272	0.000146	35,729
	Number of PwD	0.910	0.131420*	0.197154**	0.117640	0.079783	35,729
	1 = Firm with PwD	0.553	-0.018952	-0.017663	-0.026954	-0.012232	35,729
PwD labor dynamics	Number of hirings	0.825	0.023394	0.026108	-0.012522	0.056662	35,729
	Number of reclassifications	0.092	0.080518**	0.132922**	0.107372	0.000709	35,729
Compliance	1 = Complies with law	0.133	-0.008730	-0.000279	-0.013942	-0.011987	35,729
	1 = Complies with quota	0.122	-0.008188	-0.001490	-0.013300	-0.009798	35,729
	1 = Alternative compliance with law	0.011	0.000808	0.002045	-0.000232	0.000618	35,729
Panel II. Labor quality							
Wages	PwD average wage	0.478	-0.005268	-0.002586	-0.013478	0.000127	21,095
	PwD wage bill	0.470	0.043976	0.112273	0.038757	-0.019387	35,729
	PwD wage premia	0.734	-0.001192	0.004163	-0.008875	0.000947	21,095
Contract	Share of PwD under indefinite contract	0.453	-0.001274	0.014104	-0.016266	-0.001513	21,095
FTE	Average FTE PwD	0.937	0.002180	0.005030	-0.000875	0.002439	21,095
	Number of FTE PwD	0.859	0.091455	0.147187	0.074908	0.051847	35,729
Tenure	Tenure	9.477	-0.279250	0.258024	-0.142530	-0.924488	21,095
	PwD tenure premia	0.724	-0.009856	0.010738	-0.004059	-0.035165	21,095
Panel III. Firm productivity							
Main outcomes	Number of workers	223.955	8.023989	9.582295	7.056277	7.483321	35,729
	Survival	0.976	-0.001374	0.000344	-0.002789	-0.001684	30,590
	Months active	11.720	0.001484	0.010884	-0.012805	0.006336	35,729
Wage	Average wage	0.719	-0.001091	-0.001305	-0.005781	0.003814	35,729
	Wage bill	184.139	8.183463	8.876517	8.036271	7.681688	35,729
Contract	Share of workers under indefinite contract	0.610	0.001996	0.009306	-0.003069	-0.000359	35,729
	Number of workers under indefinite contract	153.069	6.732753	10.004757	4.399435	5.846893	35,729
FTE	Average FTE	0.954	0.000621	0.001310	0.000466	0.000078	35,729
	Number of FTE Workers	212.095	7.046820	8.267293	7.159360	5.732366	35,729
Panel IV. Compliance							
Alternative compliance	1 = Sends written statement	0.057	0.009654	0.009006	0.014889	0.005049	35,729
	1 = Declares contracts	0.117	0.018906*	0.013015	0.013778	0.029950**	35,729
Communication with DT	1 = Declares donations	0.007	-0.000085	-0.000198	0.000844	-0.000896	35,729
	1 = Subcontracts services	0.005	-0.001155	-0.000253	-0.003007	-0.000200	35,729

Note: Results from Equation 2, using data from 2016 to 2020. Treatment letters were sent on 2019. Column (1) shows baseline means from periods 2016 to 2018. Column (2) shows the interaction coefficient of treatment and letters dispatch in regression where treatments are pooled. Columns (3), (4) and (5) shows the interaction coefficient for each treatment arm and the letters dispatch. Column (5) shows sample sizes for the regression in (2), and the regression in (3), (4) and (5). Regression samples on labor outcomes of PwD (PwD average wage, PwD wage premia, share of PwD under indefinite contract, average FTE PwD, Tenure, and PwD tenure premia) are lower since estimation is contingent on the firm having had at least one PwD worker. Sample sizes for survival likelihood are also lower since we omit the last available period. Wages are in millions of CLP from 2017. The statistical significance of the coefficients is given by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix

A Data

A.1 Data Sources

Asociación del Fondo de Cesantía (AFC)

Data from matched workers and firms corresponds to that of Chile's unemployment insurance system. These datasets collect the monthly payroll and contractual status (whether permanent or temporal contract) of its workers. Every 6 months the firm updates its location (The firm HQ's comuna, Chile's smallest administrative division), *SII* industry (Chile's IRS 6-digit industry codes), and number of workers. The periodicity of these data is monthly, and it is used to assemble a matched employer-employee panel dataset.

Registro Nacional de Discapacidad (RND)

The Registro Nacional de Discapacidad²⁹ is the main registry from which PwD can certify their disability situation and/or apply/get social benefits conditional on disability situations. The RND currently uses the ICF criteria recommended by the OMS in qualifying disability situations.

According to ENDISC 2015³⁰ there are 2.836.818 PwD in Chile, or 16.7% of the population. However, RND (up until December 2020) only has 396.201 registered PwDs, corresponding to 13.9% of the total PwD population.

The application procedure has three stages:

1. Disability Qualification

- By Comisión de Medicina Preventiva e Invalidez (COMPIN), supported by a multidisciplinary evaluation according to the ICF guidelines

2. Disability Certification

- Disability Percentage
- Disability Cause
- Reduced Mobility Report

3. Registration at RND

This process involves submitting a biopsychosocial report (biomedical, functional, and social) that validates the health conditions and limitations on carrying out activities. This report must be signed by a treating professional.

²⁹Dependent on the Registro Civil

³⁰Household survey with a focus on characterizing disability situations. Published by SENADIS (National Disabilities Service), a governmental agency within MDSF. [Link to report.](#)

Finally, these are the relevant historical dates on the RND registry:

- **1994** Enactment of Ley Number 19.284, creating the Registro Nacional de la Discapacidad³¹
 - Registration standards based on conditions or deficiencies (visual, auditive, speech, physical, mental, and psychological) rather than capabilities
- **2012** Decreto 47, modifying RND registration standards to comply with the ICF criteria, focused on capabilities, and promoted by the OMS³²
- **2018** Enactment of Ley Number 21.015, creating a 1% PwD quota for firms with over 200 workers. Expanded to firms with over 100 workers in 2019

Pensión de Discapacidad (IPS)

An alternative certification of PwD status—as measured by the quota enforcing agency—is being a recipient of a disability pension. This is a regular monthly payment. We match this monthly payment indicator to our employer-employee dataset. This benefit is not mutually exclusive with other social programs contingent on an RND registration.

A.2 Outcome Variables

Firm level

³¹[Link to RND at the Civil Registry](#)

³²[Link to Quotas Law Enactment](#)

Table A.1: Firm-Level Outcomes

Panel I. Main outcomes		
<i>PwD labor inclusion</i>	PwD share	Yearly average of the monthly share of employees with a disability with respect to the total number of employees. This is the main mechanism through which firms can comply with the labor inclusion law.
	Number of PwD	Yearly average of the monthly number of employees with a disability at the firm level.
	1 = Firm with PwD	Binary variable, takes a value of one if the number of PwD is strictly greater than zero.
<i>PwD labor dynamics</i>	Number of hirings	We define hired employees as workers whose positive disability status was already certified prior to the current job spell. As with reclassifications, we calculate this outcome at the firm level both as the aggregate number of reclassified PwD (zero if no employees with a disability) and as the share of PwD reclassified over the number of PwD (missing if no employees with a disability).
	Number of reclassifications	We define reclassified employees as workers who obtained a disability certification status on their current job spell. ^a At the firm level, we calculate this outcome as the aggregate number of reclassified PwD (zero if no employees with a disability), and as the share of PwD reclassified over the total number of PwD in the firm (missing if no employees with a disability). ^b
<i>Compliance</i>	1 = Complies with law	Whether the firm complies with the labor inclusion law through any mechanism, either through hiring PwD or alternative compliance. Available from reports of the Labor Department.
	1 = Complies with quota	Binary variable, takes a value of one if the PwD share is at least 0.01. Note that there are additional compliance mechanisms besides hiring employees with a disability.
	1 = Alternative compliance with law	Whether the firm complies with the labor inclusion law through alternative compliance. Available from reports of the Labor Department.
Panel II. Labor quality		
<i>Wages</i>	PwD average wage	Yearly average of monthly firm-level average PwD wage
	PwD wage bill	Yearly average of monthly firm-level PwD wage bill
	PwD wage premia	Ratio between the yearly average of monthly average wage of PwD and wages of people without disabilities
<i>Contract</i>	Share of PwD under indefinite contract	Yearly average of the monthly average likelihood of PwD holding permanent contracts
<i>FTE</i>	Average FTE PwD	Since our dataset is at the employer-employee level, we can identify whether workers have more than one job. We define the full-time equivalency (FTE) of worker <i>i</i> at firm <i>j</i> as the share of wages accrued by <i>i</i> at <i>j</i> . That is, <i>i</i> 's wage at <i>j</i> with respect to total earnings, or the sum of wages across the collection <i>j</i> firms to which <i>i</i> is linked. This worker-firm estimate is then aggregated at the firm level, compiling both the average full-time equivalency of PwD workers and the total number of full-time equivalent PwD workers.
	Number of FTE PwD	Yearly average of monthly FTE PwD at the firm.
<i>Tenure</i>	Tenure	Defined as the average number of months a PwD employee has been working at the firm.
	PwD tenure premia	Ratio of average PwD tenure by average non-PwD tenure.
Panel III. Firm productivity		
<i>Main outcomes</i>	Number of workers	Calculated as the yearly average of the monthly total number of workers.
	Survival	Takes a value of 1 if the firm is still active (having at least one employee) during the next year.
	Months active	Number of months a firm has had employees during the current year.
<i>Wage</i>	Average wage	Average of monthly average wage
	Wage bill	Average monthly wage bill.
<i>Contract</i>	Share of workers under indefinite contract	Yearly average of the monthly average likelihood of workers holding permanent contracts,
<i>FTE</i>	Average FTE	Yearly average of monthly average full-time-equivalency of workers at the firm.
Panel IV. Compliance		
<i>Alternative compliance</i>	1 = Sends written statement	Whether the firm communicates with DT through any written statement. Available from reports of the Labor Department.
	1 = Declares contracts	Whether the firm communicates with DT regarding PwD labor. Available from reports of the Labor Department.
<i>Communication with DT</i>	1 = Declares donations	Whether the firm complies with the labor inclusion law through alternative compliance by donating to PwD advocacy groups. Available from reports of the Labor Department.
	1 = Subcontracts services	Whether the firm complies with the labor inclusion law through alternative compliance by subcontracting services from PwD hiring firms. Available from reports of the Labor Department.

Note: Description of firm-level outcomes. Based on administrative data from AFC, RND, IPS, and DT. AFC is a monthly employer-employee labor panel on unemployment insurance. RND records all disability registrations. IPS documents monthly pension payments including disability pensions. DT provides data on alternative compliance. AFC, IPS, and RND were provided by RIS. DT firm-level data was masked by MDSF staff.

^aIt takes the value of 1 if she was not in the RND and did not have a disability pension, and 0 if she had it before or did not have it in any period

^bA certified disability status can be obtained either by registering at RND or by receiving a disability pension from IPS.

B Descriptive Statistics

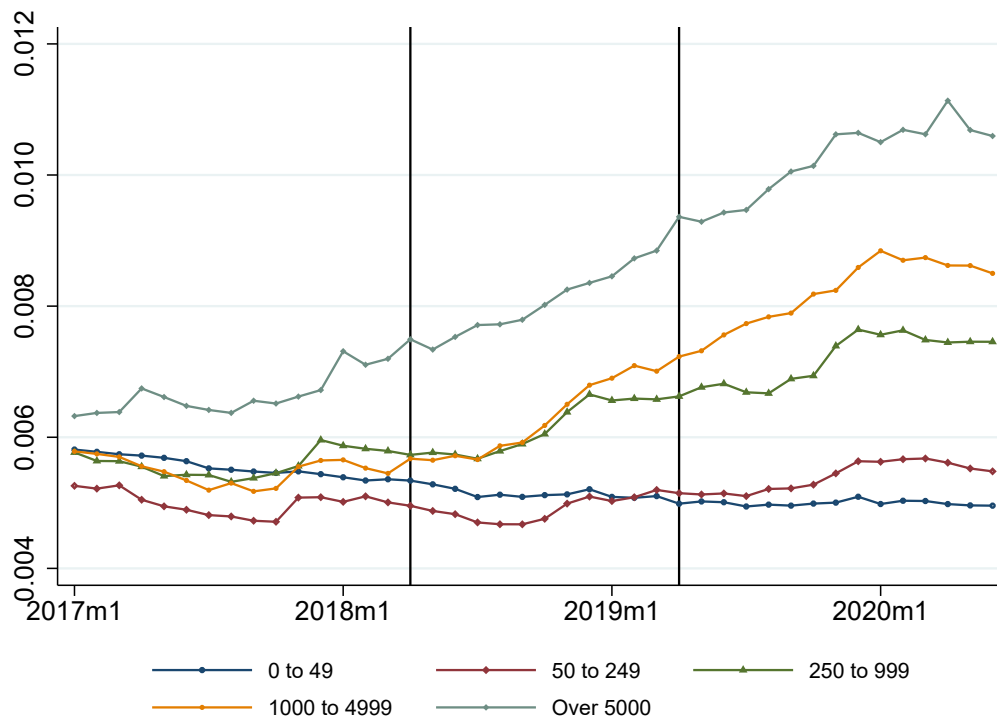


Figure A.1: Evolution of PwD Shares by Firm Size

Note: Y-axis shows PwD share of employees. The X-axis is monthly dates. Vertical lines mark the phase-in of the quotas for April 2018 and April 2019.

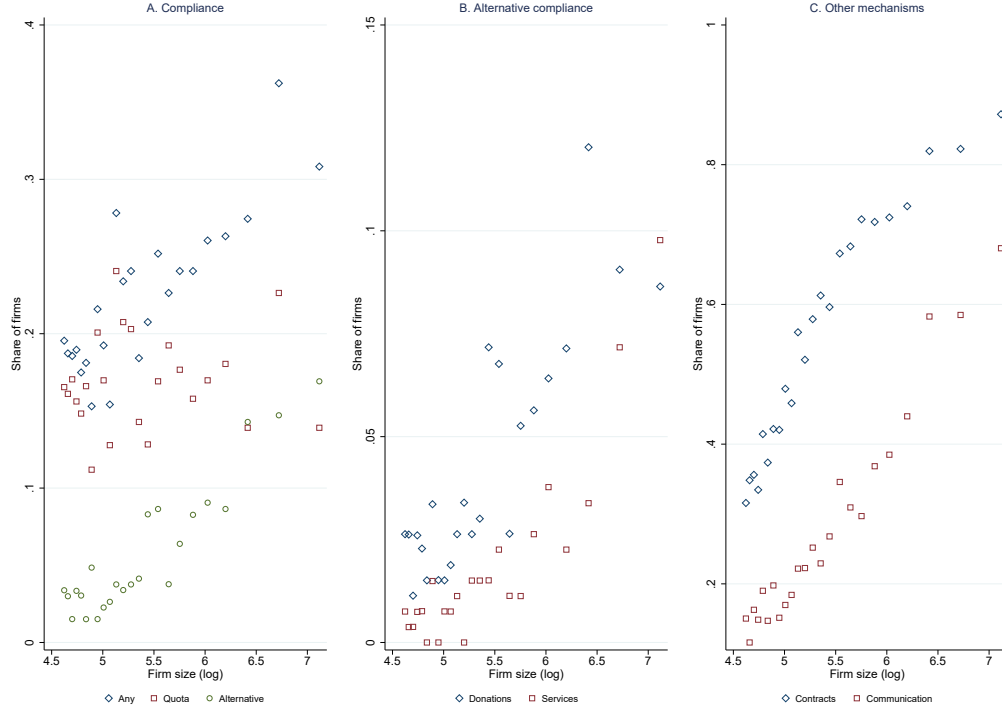


Figure A.2: Compliance by Firm Size

Note: Panel A. shows average compliance levels by firm size, by hiring or alternative mechanisms, or pooled. Panel B shows the average usage of alternative compliance mechanisms by firm size. Panel C shows average contract declarations and communication levels with DT by firm size. Firm size binned in quantiles and plotted in a log-scale. Data from 2019 and 2020.

C Quotas Impact

C.1 RD Model

Our RD strategy relies on Calonico, Cattaneo, and Titiunik 2014 for fixing an endogenous bandwidth h around the 100-employee quota threshold and then estimating a sharp RD. Once the bandwidth is set, we estimate Equation 3, taking firms whose number of workers complies with $NW(i)_t - Q \in (-h, h)$, where Q is the quotas threshold and $NW(i)_t$ is a function that gives the number of workers at the firm i in period t . $Y_{i,t}$ are firm-level outcomes for the period t , $\mathbb{I}[NW(i)_t \geq Q]$ takes a value of 1 if the condition is met (i.e., the firm crossing the quota's threshold in t) and zero otherwise. The vector $X'_{i,t}$ contains control variables, namely, a collection of industry (ISIC, Rev. 4 industries) and geographic (region of firm's HQ location) fixed effects. The function $f(\cdot)$ is an order one polynomial.

$$Y_{i,t} = \alpha \mathbb{I}[\text{NW}(i)_t \geq Q] + f(\text{NW}(i)_t - Q) + X'_{i,t}\Phi + \epsilon_{i,t}, \quad \forall \quad \text{NW}(i)_t - Q \in (-h, h) \quad (3)$$

Running Variable Manipulation Tests

We ran McCrary's manipulation test of the running variable in an RD design (McCrary 2008). The results are plotted in Figure A.3, finding no evidence of manipulation at the 100 workers threshold using data from 2019.

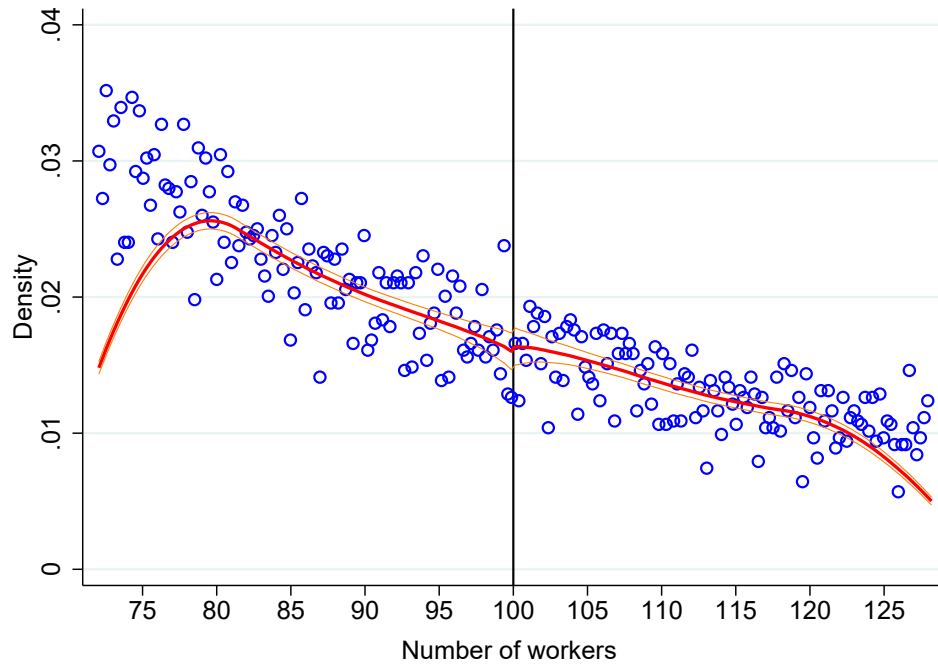


Figure A.3: McCrary Test

Note: McCrary test of manipulation of the number of workers in the vicinity of the 100 workers threshold. Data from 2019.

RD Results

To evaluate the expansion of the quota to firms with 100 or more workers, we use data from 2019 onwards.

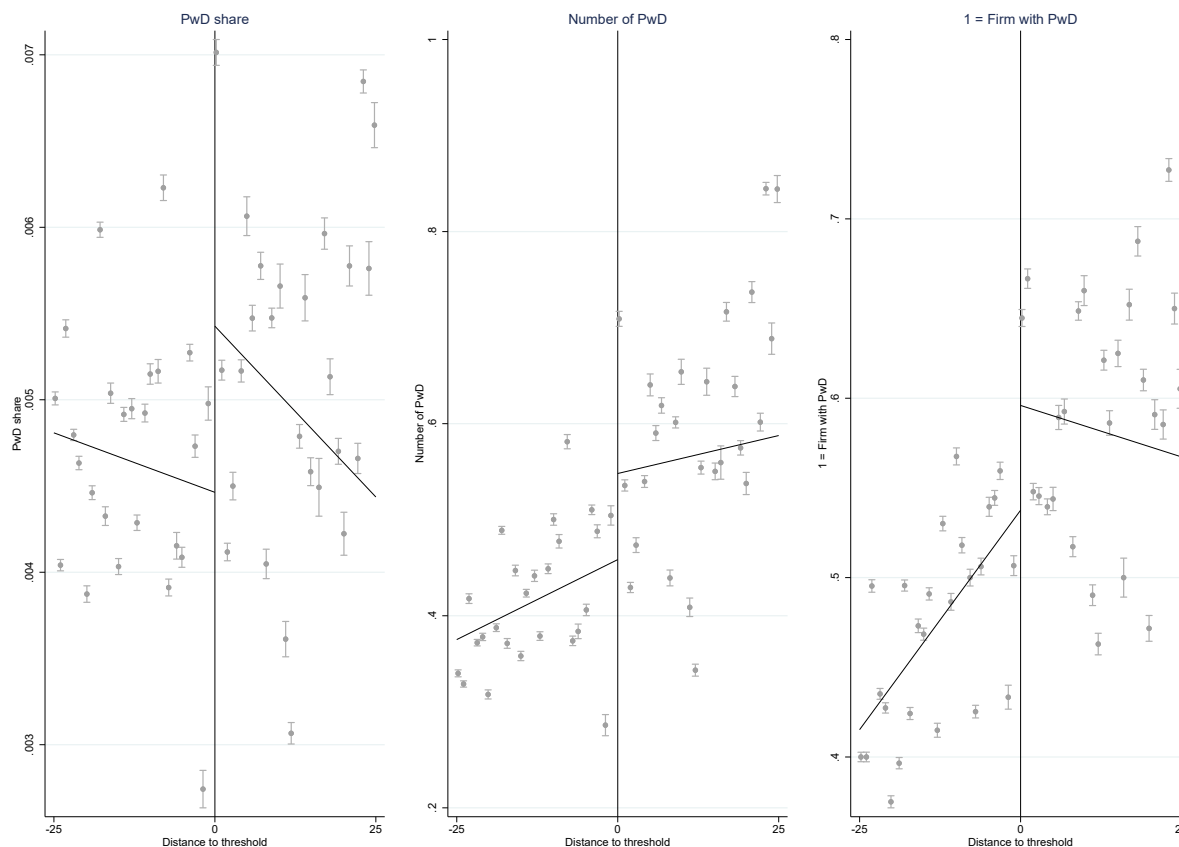


Figure A.4: Firm-level RD

Note: The plots were constructed following Calonico, Cattaneo, and Titiunik 2015 in a 25 workers bandwidth around the 100 workers threshold, using data from 2019 and 2020. The y-axis measures the levels of the outcome. The outcomes are the share of PwD, the number of PwD, the likelihood of at least one PwD employee, and the likelihood of compliance. The dots represent the sample mean of the outcome variable within the corresponding bin for each observation, along with a 5% percent confidence interval. The lines represent the predicted value of the outcome variable given by the global polynomial estimator of order one. The local polynomial used to construct the bias correction is a quadratic regression.

Table A.2: Firm-level RD

		(1)	(2)	(3)
		Bandwidth	RD model coefficient	Number of observations
Panel A. Main outcomes				
PwD labor inclusion	PwD share	17.53	0.001113*	2,542
	Number of PwD	19.83	0.104211*	2,878
	1 = Firm with PwD	36.30	0.049504*	5,898
PwD labor dynamics	Number of hirings	23.57	0.072640	3,496
	Number of reclassifications	21.10	0.028614	3,196
Compliance	1 = Complies with law	23.57	-0.016885	3,496
	1 = Complies with quota	21.65	-0.030384	3,196
	1 = Alternative compliance with law	28.96	0.018211*	4,370
Panel B. Labor quality				
Wages	PwD average wage	35.35	0.050058	2,787
	PwD wage bill	26.90	0.057703*	4,036
	PwD wage premia	22.58	0.042000	1,730
Contract	Share of PwD under indefinite contract	21.16	0.096788**	1,659
FTE	Average FTE PwD	20.03	0.021886	1,583
	Number of FTE PwD	20.37	0.103007*	3,035
Tenure	Tenure	17.16	2.714950	1,348
	PwD tenure premia	20.33	0.153840**	1,579
Panel C. Firm productivity				
Main outcomes	Number of workers	24.33	0.042155**	3,666
	Survival	30.55	-0.001470	4,704
	Months active	31.03	0.015640	4,894
Wage	Average wage	30.04	0.045586*	4,704
	Wage bill	28.98	4.586741*	4,370
Contract	Share of workers under indefinite contract	31.77	0.003801	4,894
	Number of workers under indefinite contract	27.05	0.714836	4,188
FTE	Average FTE	29.86	0.002219	4,547
	Number of FTE Workers	27.45	0.264812	4,188
Panel D. Compliance				
Communication with DT	1 = Sends written statement	19.51	0.033768	2,878
	1 = Declares contracts	23.23	0.076449**	3,496
Alternative compliance	1 = Declares donations	29.32	0.014588	4,547
	1 = Subcontracts services	38.57	0.003526	6,313

Note: Results from Equation 3 estimated in an endogenous bandwidth for firms around the 100 workers threshold, using data from 2019 and 2020. Wages are in millions of CLP from 2017. The statistical significance of the coefficients is given by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

C.2 DiD Bandwidth Selection

The lower bound for firm sizes is selected through the RD model's endogenous bandwidth (Calonico, Cattaneo, and Titiunik 2015) when estimating the impact of threshold crossing for firm-level PwD shares. This results in a lower bound of firm sizes of 184 to evaluate the 2018 phase-in of the quota (200 workers threshold) and a lower bound of firm sizes of 83 to evaluate the 2019 phase-in of the quota (100 workers threshold).

In order to fix an upper bound for firm sizes, we estimate a model similar to that of Equation 1, but instead, we only include time periods before the phase-in of the quotas, where our placebo design sets 2017 as the $Post_t$ indicator variable. To fix the upper bound to evaluate the 2018 quota (200 workers threshold), we use data from 2016 to 2017. To fix the upper bound to evaluate the 2019 quota (100 workers threshold), we use data from 2016 to 2018.

For each version of the quota, we then create quantiles of firm size (100), as measured by the num-

ber of workers, and sequentially estimate the placebo specification setting the upper bound of firm sizes to the largest firm size within each quantile; that is, we ran 100 regressions (corresponding to increasing upper firm size bounds) for each version of the quota (200 and 100 workers thresholds). We set the upper bound of firm sizes once the interaction between our placebo and threshold crossing variables is statistically different from zero (at the 99% significance). The results from the bandwidth selection procedure are plotted in [Figure A.5](#), selecting an unrestricted upper bound to evaluate the 2018 quota and a firm size of 158 workers to evaluate the 2019 quota.

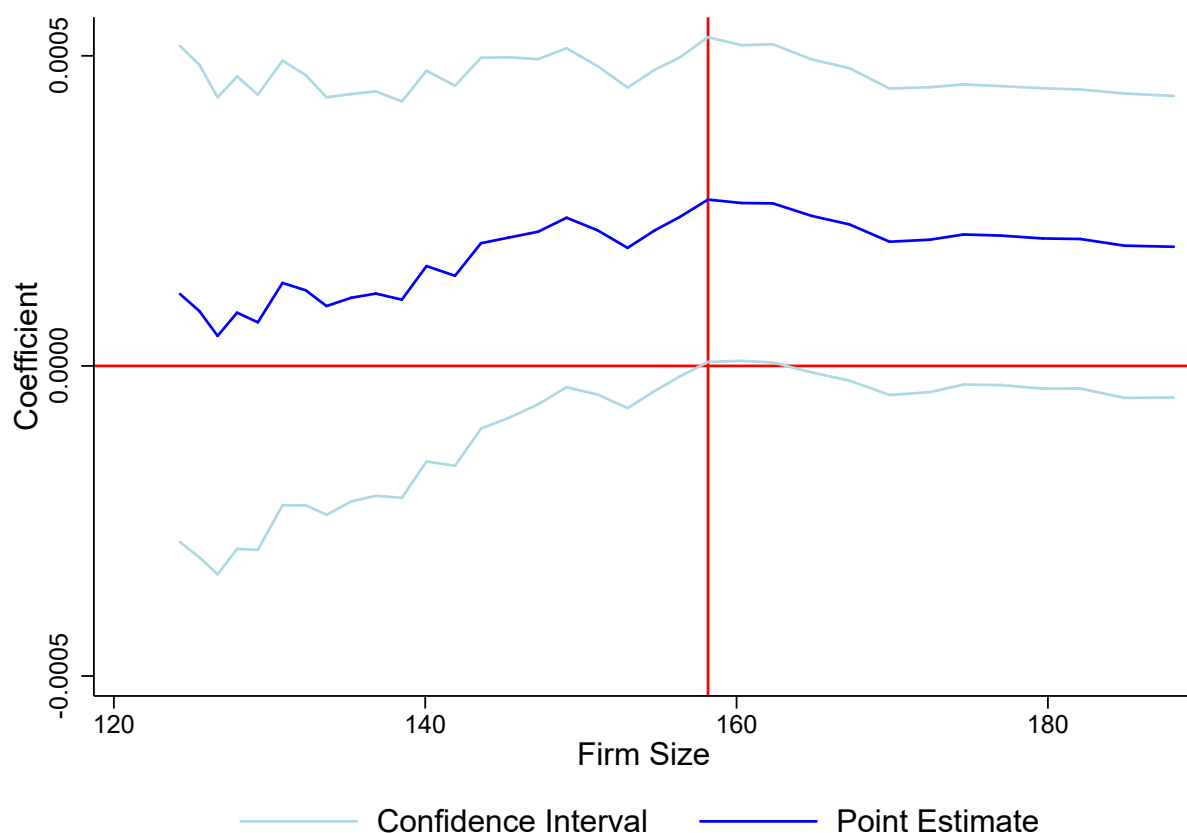


Figure A.5: DiD Bandwidth Selection

Note: Upper firm size bandwidth selection procedure results. Results from the placebo test according to [Equation 1](#), simulating a quotas phase-in in 2017, and including years 2016 and 2017. The y-axis shows the coefficient interaction term between threshold crossing and placebo phase-in and its confidence interval. The x-axis shows the upper bound of firm sizes included in the estimation.

C.3 Firm-level Dynamics

Table A.3: Firm-Level Dynamics

		(1)	(2)	(3)	(4)
		Before phase-in		After phase-in	
		Below threshold	Above threshold	Below threshold	Above threshold
Panel A. Main outcomes					
PwD labor inclusion	PwD share	0.003792	0.003882	0.005114	0.005339
	Number of PwD	0.348894	0.488021	0.468030	0.674458
	1 = Firm with PwD	0.436425	0.534476	0.467832	0.601774
PwD labor dynamics	Number of hirings	0.316553	0.450741	0.375261	0.542319
	Number of reclassifications	0.033923	0.039574	0.094721	0.135078
Compliance	1 = Complies with law	0.192234	0.128357	0.222080	0.182400
	1 = Complies with quota	0.190961	0.122038	0.216337	0.158000
	1 = Alternative compliance with law	0.001910	0.006319	0.006382	0.026400
Panel B. Labor quality					
Wages	PwD average wage	0.448345	0.477206	0.496793	0.547876
	PwD wage bill	0.171243	0.239918	0.246109	0.374678
	PwD wage premia	0.748096	0.752892	0.759318	0.762709
Contract	Share of PwD under indefinite contract	0.438042	0.471173	0.509757	0.564636
FTE	Average FTE PwD	0.935215	0.938946	0.925795	0.943338
	Number of FTE PwD	0.330330	0.465533	0.442446	0.641754
Tenure	Tenure	9.028958	9.764316	18.128687	19.292397
	PwD tenure premia	0.703821	0.741924	0.781042	0.815990
Panel C. Firm productivity					
Main outcomes	Number of workers	90.422806	124.466766	90.298164	124.015808
	Survival	0.959106	0.968425	0.973197	0.977200
	Months active	11.533408	11.651329	8.891455	8.940194
Wage	Average wage	0.738107	0.775464	0.772509	0.821736
	Wage bill	66.232056	95.860558	69.294510	101.397362
Contract	Share of workers under indefinite contract	0.650621	0.660025	0.671701	0.689708
	Number of workers under indefinite contract	57.892815	80.983482	59.753277	84.401878
FTE	Average FTE	0.954371	0.957165	0.954645	0.957963
	Number of FTE Workers	86.231827	119.051826	86.094887	118.706291
Panel D. Compliance					
Communication with DT	1 = Sends written statement	0.057288	0.119273	0.045948	0.160000
	1 = Declares contracts	0.172502	0.373223	0.156350	0.388400
Alternative compliance	1 = Declares donations	0.000000	0.002370	0.004467	0.020800
	1 = Subcontracts services	0.001910	0.004344	0.001914	0.005600

Note: Descriptive statistics for firms below and above the 100 workers firm size threshold, before and after the quotas phase-in. Firms below the threshold have between 83 and 99 workers. Firms above the threshold have between 100 and 158 workers. Periods before phase-in are years 2016, 2017, and 2018. Periods after phase-in are 2019 and 2020. Wages are in millions of CLP from 2017.

Table A.3 presents descriptive statistics for outcomes before and after the phase-in differentiating between firms below and above the 100-employee threshold. Firms above the threshold exhibited an average PwD share of 0.0038 before the quota phase-in, increasing to 0.0053 afterward. Similarly, for firms below the threshold, these shares were 0.0037 and 0.0051, respectively. Before the quotas phase-in, the average number of PwD working at the firm was 0.35 and 0.49 workers for firms below and above the threshold. This number increases to 0.47 and 0.67 after the quota phase-in, showing an increase in PwD for both firms subject and not subject to the quota. This is consistent with a secular time effect on the inclusion of PwD, as well as with an externality of the quota to smaller firms. The fraction of firms with at least one worker with disabilities is more extensive for bigger firms (43.6% vs. 53.4%) and also increases after the quota phase-in (to

46.7% and 60.2% respectively). Interestingly, the increase is larger for firms directly affected by the quota.

Then, Panel A. of [Table A.3](#) decomposes the number of workers with disabilities on those reclassified and new hires. Before the quota enactment, there were 0.03-0.04 reclassifications on average per firm, increasing to 0.09 and 0.13 after the quota phase-in for smaller and larger firms, respectively. In parallel, the new hirings increased from 0.32 (0.45) to 0.38 (0.54). Therefore, there is an increase in both the number of hirings and reclassifications for both directly and not directly affected by the quota firms, but the increase is larger in reclassifications.

Panel A finally reports three metrics of compliance. Regarding compliance with the quota, it is important to notice that there is a mechanical effect around the threshold, as the requirement of the number of workers with disabilities increases discretely when firms cross the threshold. We see that the compliance before the quota phase-in was 19% and 12%, respectively, for firms below and above the threshold. Both figures increase after the quota phase-in to 22% and 18%, respectively. Interestingly, the alternative compliance with the law is larger in bigger firms (3% vs. 0.6%), but this difference is not big enough to compensate for the big gap in direct compliance, implying total compliance with the law of 19% and 12% for smaller and bigger firms, respectively. These figures increase to 21% and 15% after the law's enactment.

With respect to labor outcomes, Panel B. of [Table A.3](#) shows wages, contracts, tenure, and full-time equivalent for PwD. The average wage was 448,000 Chilean Pesos for smaller firms and 477,000 for firms subject to the quota. Wages are larger after the law enactment for both firm sizes. PwD wages were 74-75% of those without disabilities before the quota, and the fraction increased to 76% after the quota enactment. Consistent with the differences in the number of workers with disabilities and their higher average wages, the wage bill is larger in bigger firms both before and after the quota phase-in. While we observe an increase in the share of PwD workers under an indefinite contract, this increase is not driven by differences between firm sizes, as both firms below and above the threshold saw a similar increase. As with the PwD wage bill, the number of PwD working under an indefinite contract increases after the phase-in for large firms. Regarding tenure, there is a substantial increase in the number of months employed in the same firm for both firms below and above the threshold, from 9 to 10 months before quota to 18–19 months afterward. This increase in tenure also reduces the differences between workers with and without disabilities. Finally, the descriptive statistics for full-time equivalence of PwD labor show an important increase in the intensity with which workers work in larger firms after the quota enactment.

Regarding firm productivity, Panel C. of [Table A.3](#) shows the survival rate for larger firms was 97%, which increases after the quota enactment to 98%. Regarding the number of months active, the average after the phase-in is truncated, as we only have information until June 2020, therefore a before and after comparison is not relevant; however, we can see that there are no relevant differences in the average before the quota between firms with more or less than 100 workers, with an average number of months active of 11.5-11.6 of each year. The average wage and wage bill, as well as the share and number of workers with indefinite contracts, also increases over time for both larger and smaller firms, with larger firms having larger figures both before and after the law's enactment. There are no relevant differences between the average full-time equivalence of

workers, neither with respect to the quotas phase-in nor with respect to firm size.

Finally, Panel D. of [Table A.3](#) reports statistics of alternative compliance. The fraction of firms that engage in alternative compliance, subcontracting services, and reporting donations is small, with 0.5% of firms above the threshold declaring subcontracting and 2% donating. There is a substantial difference in these activities depending on firm size, but interestingly, firms below the threshold also conduct these activities.³³ At last, Panel D shows statistics on other firms' engagement with DT: 16% of firms send a written statement, and 39% report a contract.

C.4 Robustness

Table A.4: Quotas Impact Robustness

		(1)	(2)	(3)	(4)
		200 workers threshold		100 workers threshold	
		Interaction coefficient	Number of observations	Interaction coefficient	Number of observations
Panel A. Endogenous bandwidth					
PwD labor inclusion	PwD share	0.000065	10,197	0.000314	19,714
	Number of PwD	1.276847**	10,197	0.081925***	19,714
	1 = Firm with PwD	-0.000495	10,197	0.036113**	19,714
PwD labor dynamics	Number of hirings	0.853943*	10,197	0.049180**	19,714
	Number of reclassifications	0.431475***	10,197	0.034235***	19,714
Compliance	1 = Complies with law	0.084816***	10,197	0.026223**	19,714
	1 = Complies with quota	0.002894	10,197	0.007561	19,714
	1 = Alternative compliance with law	0.085317***	10,197	0.019921***	19,714
Panel B. 25 workers bandwidth					
PwD labor inclusion	PwD share	0.000312	2,424	0.000298	18,118
	Number of PwD	0.078116	2,424	0.067886***	18,118
	1 = Firm with PwD	0.008477	2,424	0.043718**	18,118
PwD labor dynamics	Number of hirings	0.081048	2,424	0.038944*	18,118
	Number of reclassifications	-0.000950	2,424	0.030403***	18,118
Compliance	1 = Complies with law	0.025239	2,424	0.020446	18,118
	1 = Complies with quota	-0.000583	2,424	-0.000263	18,118
	1 = Alternative compliance with law	0.028770*	2,424	0.022287***	18,118
Panel C. 50 workers bandwidth					
PwD labor inclusion	PwD share	-0.000191	5,245	0.000638***	44,430
	Number of PwD	-0.012845	5,245	0.111836***	44,430
	1 = Firm with PwD	0.010026	5,245	0.052380***	44,430
PwD labor dynamics	Number of hirings	-0.020369	5,245	0.059046***	44,430
	Number of reclassifications	0.006854	5,245	0.054028***	44,430
Compliance	1 = Complies with law	0.028865*	5,245	0.043148***	44,430
	1 = Complies with quota	-0.011810	5,245	0.019236**	44,430
	1 = Alternative compliance with law	0.041490***	5,245	0.025531***	44,430

Note: Results from [Equation 1](#). Rows (1) and (2) are estimated on firms around the 200 workers threshold, were pre-phase in periods comprise years 2016 to 2017, and post phase-in periods comprise year 2018. Rows (3) and (4) are estimated on firms around the 100 workers threshold, were pre-phase in periods comprising years 2016 to 2018, and post phase-in periods comprising years 2019 to 2020. Panel A uses an endogenous bandwidth. Panel B uses a symmetrical 25 workers bandwidth. Panel C uses a symmetrical 50 workers bandwidth. The statistical significance of the coefficients is given by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

³³By definition, firms below the threshold do not need to comply. They might do it in anticipation if they think they will be eligible, but end up with a firm size smaller than 100 workers.

Table A.5: Quotas Impact under Inverse Hyperbolic Sine Transformation

		(1)	(2)	(3)
		DiD model		
		Baseline mean	Interaction coefficient	Number of observations
Panel A. Main outcomes				
PwD labor inclusion	PwD share	0.004263	0.000314	19,714
	Number of PwD	1.339001	0.060632***	19,714
	1 = Firm with PwD	0.647959	0.031829**	19,714
PwD labor dynamics	Number of hirings	1.237576	0.040281***	19,714
	Number of reclassifications	0.117138	0.028172***	19,714
Compliance	1 = Complies with law	0.108140	0.013428	19,714
	1 = Complies with quota	0.105781	0.006664	19,714
	1 = Alternative compliance with law	0.002359	0.007874***	19,714
Panel B. Labor quality				
Wages	PwD average wage	0.509108	0.030681***	19,714
	PwD wage bill	0.638788	0.046677***	19,714
	PwD wage premia	0.763754	0.026601**	19,714
Contract	Share of PwD under indefinite contract	0.507723	0.037126***	19,714
FTE	Average FTE PwD	0.942690	0.038253***	19,714
	Number of FTE PwD	1.247584	0.059608***	19,714
Tenure	Tenure	11.131157	0.201285***	19,714
	PwD tenure premia	0.793316	0.037740**	19,714

Note: Results from Equation 1 estimated in an extended bandwidth for firms around the 100 workers threshold, were pre-phase in periods comprising years 2016 to 2018, and post phase-in periods comprising year 2019 to 2020. Column (1) shows averages for eligible firms before the quotas phase-in. Column (2) shows the interaction coefficient between threshold crossing and quotas phase-in. Column (3) shows the number of observations at each regression. Wages are in millions of CLP from 2017. Dependent variables are transformed under inverse hyperbolic sine transformation. The statistical significance of the coefficients is given by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

C.5 Heterogeneity

Firm Size

To assess how firm size interacts with the quotas phase-in we estimate the following Equation 4.

$$\begin{aligned}
Y_{i,t} = & \alpha \mathbb{I}[\text{NW}(i)_t \geq Q] + \beta \text{Post}_t + \gamma \mathbb{I}[\text{NW}(i)_t \geq Q] \times \text{Post}_t \\
& + \delta \text{PwD}(i) + \zeta \mathbb{I}[\text{Size}(i) \geq F(k)] \times \mathbb{I}[\text{NW}(i)_t \geq Q] + \eta \mathbb{I}[\text{Size}(i) \geq F(k)] \times \text{Post}_t \\
& + \kappa \mathbb{I}[\text{Size}(i) \geq F(k)] \times \mathbb{I}[\text{NW}(i)_t \geq Q] \times \text{Post}_t \\
& + X'_{i,t} \Phi + \epsilon_{i,t} \quad \forall \quad k \in (1, 100)
\end{aligned} \tag{4}$$

where the notation follows that of Equation 1 and $\mathbb{I}[\text{Size}(i) \geq F(k)]$ retrieves whether the firm i exceeds the maximum firm size in the k firm size quantile, where the function $F(k)$ is the maximum firm size of firms in the k quantile. Results are plotted in Figure A.6.

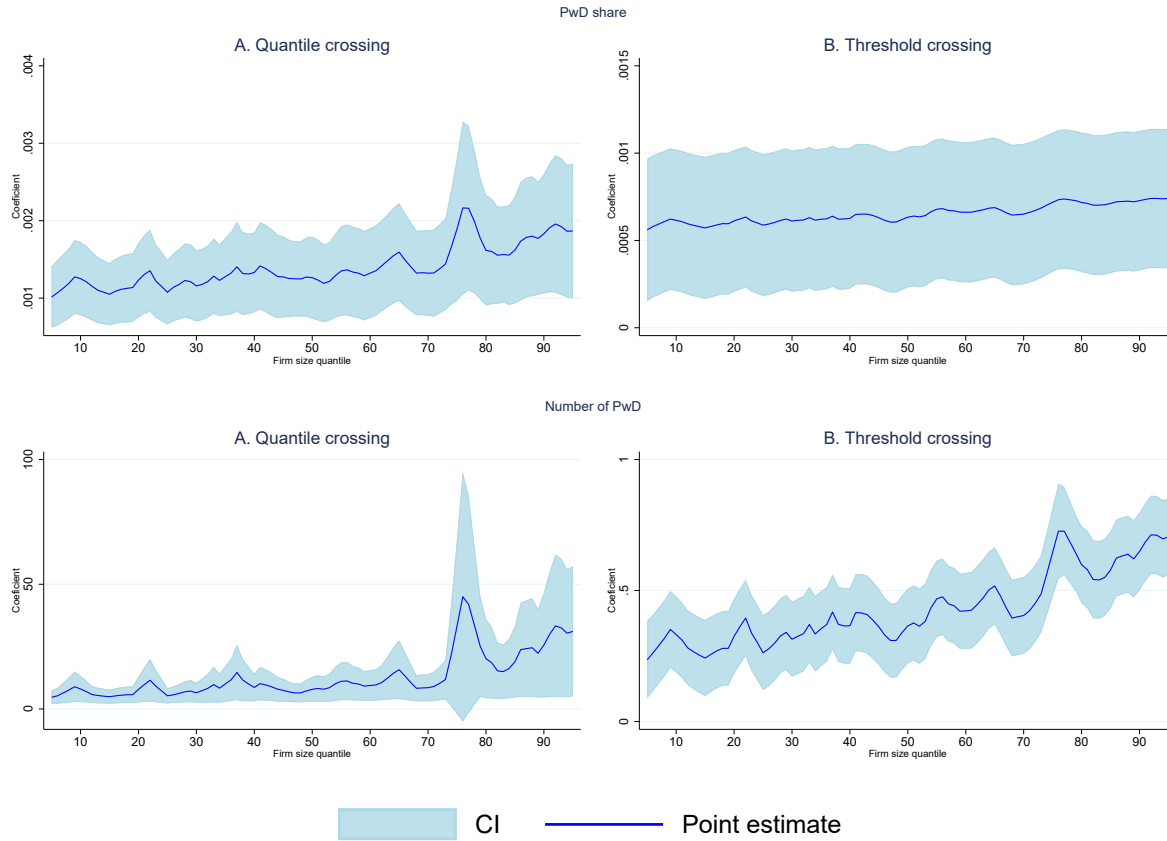


Figure A.6: Size Interaction

Note: Results from the augmented [Equation 4](#) estimated with an unrestricted upper bandwidth for firms around the 100 workers threshold, were pre-phase in periods comprising years 2016 to 2018, and post phase-in periods comprising years 2019 to 2020. Lower firm size set at 83 workers. The upper panel shows results for PwD shares. Lower panels show results for the number of PwD. Y-axis shows point estimates and X-axis firm size quantiles. Left figures show coefficients for quantile crossing

Sector

Table A.6 shows industries ranked by their inclusion of PwD. Panel A covers all AFC firms. Panel B shows firms with less than 100 workers. Panel C shows firms with over 100 workers.

Table A.6: PwD Labor Inclusion by Industry

Industry (ISIC Rev4, 2 Digits)	Number of Firms	Number of Workers	PwD Share
A. All Firms			
Libraries, archives, museums	1.10	22.84	1.09
Public administration and defence	3.29	54.64	0.94
Real estate activities	3.47	45.83	0.93
Other personal service activities	17.93	130.55	0.86
Security and investigation activities	2.42	77.17	0.86
Financial service activities	4.24	220.16	0.85
Waste collection	0.55	13.81	0.82
Services to buildings and landscape activities	5.09	94.86	0.78
Manufacture of paper and paper products	0.49	15.32	0.77
Remediation activities	0.86	21.56	0.76
B. Firms with < 100 Workers			
Security and investigation activities	2.27	32.82	0.94
Fishing and aquaculture	1.47	13.13	0.65
Activities of membership organizations	15.72	86.07	0.58
Services to buildings and landscape activities	4.95	58.03	0.58
Real estate activities	3.38	15.54	0.55
Crop and animal production	27.55	178.76	0.54
Warehousing and support activities for transportation	2.13	21.90	0.51
Manufacture of food products	6.97	51.21	0.49
Manufacture of wood and of products of wood and cork	1.41	11.97	0.49
Forestry and logging	3.27	24.88	0.48
C. Firms with ≥ 100 Workers			
Libraries, archives, museums	0.05	17.43	1.25
Other personal service activities	0.10	77.06	1.14
Public administration and defence	0.11	39.47	1.13
Real estate activities	0.09	30.29	1.12
Services to buildings and landscape activities	0.14	36.83	1.09
Retail trade	0.29	252.33	1.06
Forestry and logging	0.08	27.59	0.99
Travel agency	0.04	13.59	0.93
Financial service activities	0.10	198.12	0.91
Remediation activities	0.03	14.75	0.90

Note: Data from 2019 on industries sorted by their % of PwD. The number of firms and number of workers are in thousands. Panel **A.** shows all firms. Panel **B.** shows firms with less than 100 workers. Panel **C.** shows firms with at least 100 workers.

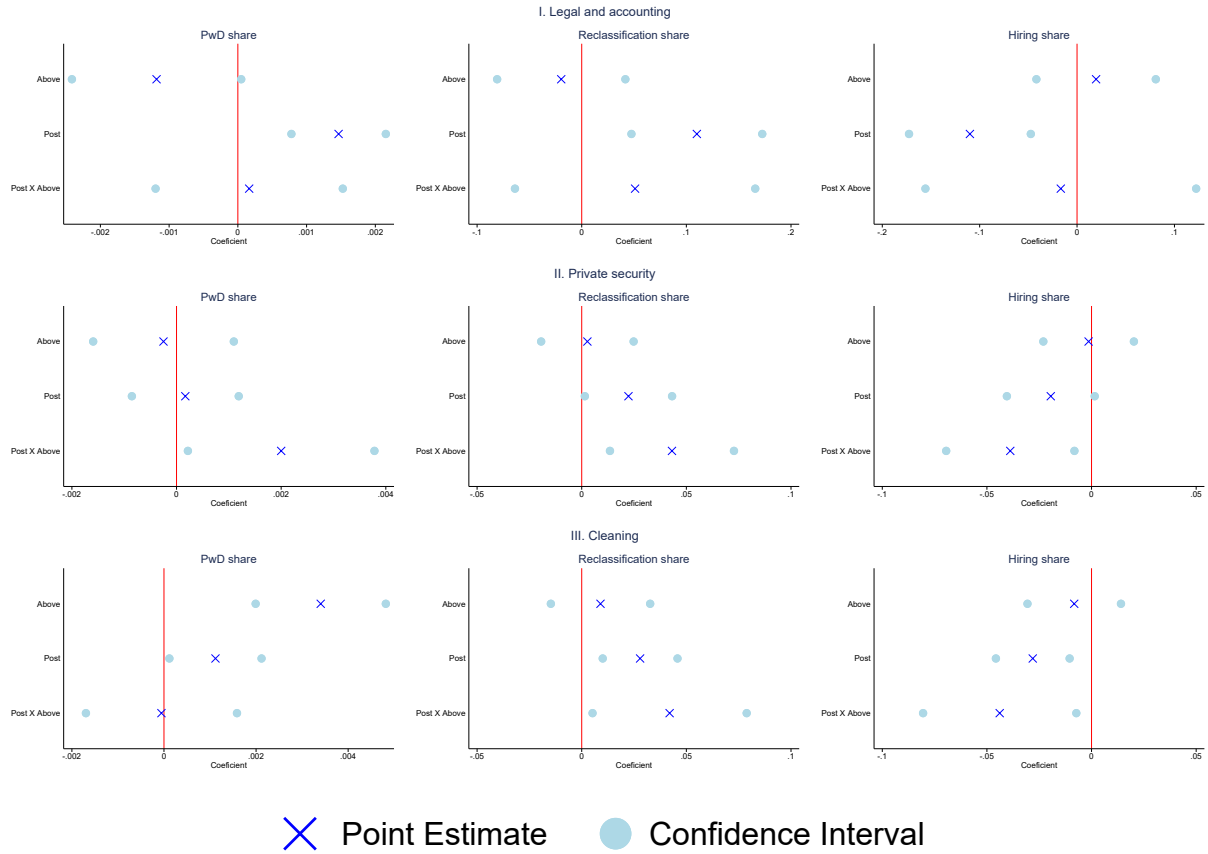


Figure A.7: Impact of Quotas in Selected Industries

Note: The figures plot the coefficients of estimating Equation 1 within each industry, were pre-phase in periods comprising years 2016 to 2018, and post phase-in periods comprising years 2019 to 2020. The left panels compile the impacts on PwD shares, the center panels on reclassification shares, and the left panels on hiring shares. Industries are classified according to ISIC Rev 4 sections. Panel I. shows results within legal and accounting services. Panel II. shows results within private security services (Security and investigation activities). Panel III. shows results within the cleaning industry (Services to buildings and landscape activities).

D Experiment Impact

D.1 Letters Content

[LOGO INSTITUCIÓN]		[LOGO INSTITUCIÓN]	
Santiago, 29 de junio de 2018		Santiago, 29 de junio de 2018	
Estimado(a) [Nombre y apellido] [Cargo] [Organización] Presente		Estimado(a) [Nombre y apellido] [Cargo] [Organización] Presente	
<p>La nueva Ley de Inclusión Laboral N°21.015, cuyo reglamento fue publicado en el Diario Oficial el 1 de febrero de 2018, entró en vigencia el 01 de abril de 2018. La finalidad de esta ley es promover una inclusión laboral eficaz de las personas con discapacidad, en el ámbito público y el privado.</p> <p>Dentro de las medidas de la ley se encuentra que las empresas con más de 200 empleados, como la suya, deben tener al menos un 1% de empleados con discapacidad contratados, a partir del 01 de abril de 2018. Las empresas de 100 hasta 199 trabajadores estarán sujetas a la contratación del 1% de empleados con discapacidad desde el 01 de enero de 2019.</p> <p>Las empresas deben registrar los contratos celebrados con las personas con discapacidad en la plataforma dispuesta por la Dirección del Trabajo en http://tramites.dirtrab.cl/registroempresa.</p> <p>Ante cualquier duda escriba a [ESCRIBIR MAIL DEL ENCARGADO].</p> <p>Sin otro particular, se despide atentamente.</p>		<p>La nueva Ley de Inclusión Laboral N°21.015, cuyo reglamento fue publicado en el Diario Oficial el 1 de febrero de 2018, entró en vigencia el 01 de abril de 2018. La finalidad de esta ley es promover una inclusión laboral eficaz de las personas con discapacidad, en el ámbito público y el privado.</p> <p>Dentro de las medidas de la ley se encuentra que las empresas con más de 200 empleados, como la suya, deben tener al menos un 1% de empleados con discapacidad contratados, a partir del 01 de abril de 2018. Las empresas de 100 hasta 199 trabajadores estarán sujetas a la contratación del 1% de empleados con discapacidad desde el 01 de enero de 2019.</p> <p>Las empresas deben registrar los contratos celebrados con las personas con discapacidad en la plataforma dispuesta por la Dirección del Trabajo en http://tramites.dirtrab.cl/registroempresa.</p> <p>Según información entregada por la Organización Internacional del Trabajo (OIT), la exclusión de personas con discapacidad del mercado laboral tiene costos relacionados con la pérdida de productividad. El entorno social y físico hacen a las personas con discapacidad menos productivas de lo que podrían ser.</p> <p>Dentro de las ventajas de la inclusión se encuentran que permite tener un acceso al talento a través de la atención en las competencias y no en los estereotipos. Existe un mayor nivel de innovación, ya que al tener empleados con experiencias diversas se aplican distintos enfoques para solucionar un problema. Existe un mayor sentido de pertenencia y una mayor retención en los empleados que se sienten integrados. Significa un beneficio para todos y para la institución, debido a que los consumidores valoran a las empresas realmente comprometidas con la inclusión.</p> <p>Ante cualquier duda sobre la ley y sus beneficios, escriba a [ESCRIBIR MAIL DEL ENCARGADO].</p> <p>Sin otro particular, se despide atentamente.</p>	
[Nombre] [Cargo]		[Nombre] [Cargo]	

(a) Information

(b) Benefits

[LOGO INSTITUCIÓN]		[LOGO INSTITUCIÓN]	
Santiago, 29 de junio de 2018		Santiago, 29 de junio de 2018	
Estimado(a) [Nombre y apellido] [Cargo] [Organización] Presente		Estimado(a) [Nombre y apellido] [Cargo] [Organización] Presente	
<p>La nueva Ley de Inclusión Laboral N°21.015, cuyo reglamento fue publicado en el Diario Oficial el 1 de febrero de 2018, entró en vigencia el 01 de abril de 2018. La finalidad de esta ley es promover una inclusión laboral eficaz de las personas con discapacidad, en el ámbito público y el privado.</p> <p>Dentro de las medidas de la ley se encuentra que las empresas con más de 200 empleados, como la suya, deben tener al menos un 1% de empleados con discapacidad contratados, a partir del 01 de abril de 2018. Las empresas de 100 hasta 199 trabajadores estarán sujetas a la contratación del 1% de empleados con discapacidad desde el 01 de enero de 2019.</p> <p>Las empresas deben registrar los contratos celebrados con las personas con discapacidad en la plataforma dispuesta por la Dirección del Trabajo en http://tramites.dirtrab.cl/registroempresa.</p> <p>El organismo encargado de la fiscalización del cumplimiento de la ley es la Dirección del Trabajo, la que podrá fiscalizar de manera presencial o vía electrónica, teniendo la facultad de solicitar a las empresas la información necesaria para acreditar el cumplimiento de la obligación. Las empresas están obligadas a entregar a la Dirección del Trabajo todos los antecedentes que sean requeridos. Por su parte, la Dirección del Trabajo y su personal deberán guardar reserva de la información que tomen conocimiento en virtud de lo solicitado a las empresas en el marco de la Ley N°21.015.</p> <p>Las infracciones a las obligaciones que establece la ley serán sancionadas de acuerdo a lo prescrito en el Título final del Libro V del Código del Trabajo, el cual indica, entre otras medidas, que las empresas serán sancionadas según la gravedad de la infracción. Para la micro empresa y la pequeña empresa, la sanción ascenderá de 1 a 10 unidades tributarias mensuales. Para las medianas empresas, la sanción ascenderá de 2 a 40 unidades tributarias mensuales. Tratándose de grandes empresas, la sanción ascenderá de 3 a 60 unidades tributarias mensuales. En el caso de las multas especiales, el rango se podrá duplicar y triplicar.</p> <p>Ante cualquier duda sobre la ley y los riesgos de su no cumplimiento escriba a [ESCRIBIR MAIL DEL ENCARGADO].</p> <p>Sin otro particular, se despide atentamente.</p>		<p>La nueva Ley de Inclusión Laboral N°21.015, cuyo reglamento fue publicado en el Diario Oficial el 1 de febrero de 2018, entró en vigencia el 01 de abril de 2018. La finalidad de esta ley es promover una inclusión laboral eficaz de las personas con discapacidad, en el ámbito público y el privado.</p> <p>Dentro de las medidas de la ley se encuentra que las empresas con más de 200 empleados, como la suya, deben tener al menos un 1% de empleados con discapacidad contratados, a partir del 01 de abril de 2018. Las empresas de 100 hasta 199 trabajadores estarán sujetas a la contratación del 1% de empleados con discapacidad desde el 01 de enero de 2019.</p> <p>Las empresas deben registrar los contratos celebrados con las personas con discapacidad en la plataforma dispuesta por la Dirección del Trabajo en http://tramites.dirtrab.cl/registroempresa.</p> <p>El organismo encargado de la fiscalización del cumplimiento de la ley es la Dirección del Trabajo, la que podrá fiscalizar de manera presencial o vía electrónica, teniendo la facultad de solicitar a las empresas la información necesaria para acreditar el cumplimiento de la obligación. Las empresas están obligadas a entregar a la Dirección del Trabajo todos los antecedentes que sean requeridos. Por su parte, la Dirección del Trabajo y su personal deberán guardar reserva de la información que tomen conocimiento en virtud de lo solicitado a las empresas en el marco de la Ley N°21.015.</p> <p>Las infracciones a las obligaciones que establece la ley serán sancionadas de acuerdo a lo prescrito en el Título final del Libro V del Código del Trabajo, el cual indica, entre otras medidas, que las empresas serán sancionadas según la gravedad de la infracción. Para la micro empresa y la pequeña empresa, la sanción ascenderá de 1 a 10 unidades tributarias mensuales. Para las medianas empresas, la sanción ascenderá de 2 a 40 unidades tributarias mensuales. Tratándose de grandes empresas, la sanción ascenderá de 3 a 60 unidades tributarias mensuales. En el caso de las multas especiales, el rango se podrá duplicar y triplicar.</p> <p>Ante cualquier duda sobre la ley y los riesgos de su no cumplimiento escriba a [ESCRIBIR MAIL DEL ENCARGADO].</p> <p>Sin otro particular, se despide atentamente.</p>	
[Nombre] [Cargo]		[Nombre] [Cargo]	

(c) Fines

Figure A8: Letter

D.2 Design

Table A.7: Treatment Arms

Group	N
Control	1973
Informative & letter	1970
Deterrence & letter	1969
Letter & benefits	1966
Total	7878

Source: Authors' calculation.

Table A.8: Number of Firms by Strata

Economic activity	Geographic region + number of workers																Total
	North				Center				Metropolitan area of Santiago				South				
	100-149	150-199	200-499	500+	100-149	150-199	200-499	500+	100-149	150-199	200-499	500+	100-149	150-199	200-499	500+	
Agriculture, livestock, forestry & fishing	21	9	27	4	191	110	227	105	84	63	124	68	38	21	38	34	1164
Industry	34	25	37	22	108	54	88	52	235	134	277	173	25	13	28	8	1313
Construction	71	32	62	20	173	83	155	64	257	130	308	197	20	12	25	12	1621
Services	120	57	62	17	344	141	185	102	844	426	755	529	86	40	56	16	3780
Total	246	123	188	63	816	388	655	323	1420	753	1464	967	169	86	147	70	7878

Source: Authors' calculation.

Table A.9: SII Experimental Sample Balance Tests

	Control	Informative letter	Punitive letter	Letter+benefits	Overall	p-value joint test of treatment arms
A. Size using annual sales						
Micro firm (10UF - 2400 UF)	0.007 (0.002)	0.007 (0.002)	0.008 (0.003)	0.010 (0.003)	0.008 (0.002)	0.549
Small firm (2400 UF - 25000 UF)	0.130 (0.020)	0.132 (0.022)	0.138 (0.021)	0.127 (0.021)	0.132 (0.020)	0.721
Medium firm (25000 UF - 100000 UF)	0.319 (0.026)	0.295 (0.024)	0.306 (0.024)	0.307 (0.029)	0.307 (0.024)	0.327
Big firm (100000 UF+)	0.533 (0.042)	0.554 (0.043)	0.536 (0.045)	0.543 (0.047)	0.542 (0.043)	0.196
B. Tax regime						
R 14 A	0.259 (0.024)	0.265 (0.026)	0.244 (0.023)	0.257 (0.027)	0.256 (0.024)	0.441
R 14 B	0.711 (0.027)	0.709 (0.028)	0.727 (0.026)	0.717 (0.030)	0.716 (0.027)	0.547
R 14 ter	0.030 (0.006)	0.025 (0.004)	0.029 (0.005)	0.026 (0.006)	0.028 (0.004)	0.788

Note: Authors' calculation based on SII data.

D.3 Descriptive Statistics

Table A.10: AFC Experimental Sample Balance Tests

Panel A. Firm size		Number of Workers			Wage Bill		
Treatment Arm		Information	Benefits	Fines	Information	Benefits	Fines
Control		-25.08***	-8.04**	-18.42***	-22.58***	-3.66	-5.24
Information		-	17.04***	6.67	-	18.91***	17.33***
Benefits		-	-	-10.38**	-	-	-1.58
Panel B. PwD labor inclusion		Number of PwD			PwD Share		
Treatment Arm		Information	Benefits	Fines	Information	Benefits	Fines
Control		0.018830	0.023002	-0.006672	0.000264***	0.000145*	0.000124*
Information		-	0.004173	-0.025502	-	-0.000119*	-0.000140*
Benefits		-	-	-0.029674*	-	-	-0.000021

Note: The tables show the differences of the means of outcomes between treatment groups in rows and columns, along with the statistical significance of the difference, given by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The outcomes are all at the firm level and include the number of workers, the total wage bill (in millions of pesos of 2017), the PwD share, and the number of PwD. All outcomes use the year 2017, before the quotas phase-in. Panel A shows balance tests for firm size metrics, as in the number of workers and wage bill. Panel B shows the balance test for PwD labor inclusion outcomes, as in the number of PwD and firm-level PwD share.

E Audits

Reports from the Department of Labor (DT)

Table A.11: Audits

Audit origins	2019	2020	2021	2022
Complaint	7	2	15	10
By program	100	200	535	0
Total	107	202	550	10

Source: Reports from the Labor Department, Dirección del Trabajo (DT).