

Online Appendix: Diversity and/or Inclusion?

Evidence from disability quota and inclusion laws in Brazil

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Appendix A – Institutional Background

Appendix A provides additional details on the institutional background, including the evolution of the Brazilian institutional framework and additional information on fines and penalties related to the disability quota law.

Table A.1 – Evolution of the institutional apparatus in Brazil about the inclusion of workers with disability.

Year	Legislation	Description
1991*	Law 8.213/91	This legislation creates a quota that every company with 100 employees or more must meet with respect to the hiring of workers with disability. More precisely, the quota is staggered and sets a minimum share of the total workforce of the company (not the establishment) that must consist of workers with disability: Firms between 100 and 200 employees: 2% Firms between 201 and 500 employees: 3% Firms between 501 and 1000 employees: 4% Firms larger than 1000 employees: 5% No private firm meeting the size requirements above is exempt from this legislation. The responsibility of monitoring firms with respect to these quotas fell under the Labor and Social Security Ministry.
1999	Decree 3.298/99	Establishes the “National Policy for the Integration of Workers with Disability,” and marks the point in time where the monitoring of the quotas established by Law 8.213/91 started. This decree also characterizes what constitutes a “disability” as a loss or abnormality of psychological, physiological, or anatomic functions that creates some degree of incapacity to exert “normal” activities. Such definition supported the use of formal medical assessments to confirm whether a worker indeed had a disability.
2001	Normative Instruction SIT 20 (January 26, 2001)	Defines the procedures used by Labor Auditors in their tasks of monitoring the lawful employment of workers with disabilities, including the achievement of the employment quotas set by Law 8.213/91. The procedures were fairly broad and Labor Auditors were not allowed to fine companies at that point in time.
2003*	Legal Ordinance 1.999 (October 30, 2003)	Provided the legal support for Labor Auditors to fine companies that did not meet the employment quotas of workers with disabilities set by Law 8.213/91. The value of the potential fines increases in firm size, following the same groupings associated to the employment quotas, and is proportional to the difference between target quota and the effective number of workers with disability effectively hired.
2012*	Normative Instruction SIT 98 (August 15, 2012)	Replaced the Normative Instruction SIT 20 and set much more detailed procedures for Labor Auditors to employ when monitoring the lawful employment of workers with disabilities. This document defined several changes to the role of labor audits, including that: (1) role of the audit would be expanded from simply monitoring the hiring and employment creation for PwD to a more expanded role of assessing the entire process of selection, hiring, adaptation of the workplace, and even following dismissals and replacement hiring;

		(2) firms had to provide supporting evidence that workers had a disability via medical reports – an element that was absent in the Normative Instruction SIT 20/2001 (3) the audit process would be decentralized to state-level Regional Labor Secretariats (which also had their decentralized offices) (4) the audit would have standardized monitoring processes and potential “solutions” that Labor Auditors suggested for firms found to be non-compliant with the Quota Law (e.g., actions to promote apprenticeship programs for PwD before hiring them as regular workers) (5) in case a firm signed an agreement to become compliant with the Law following the inspection (instead of simply paying the sanction), the new Normative Instruction expanded the timeline for a firm to become compliant with the law from 120 days to 12 months, among others.
2015*	Law 13.146/2015 (<i>Lei Brasileira de Inclusão de Pessoas com Deficiência</i> , LBI)	Works on this piece of legislation begun in 2012 and it is the most important legislation concerning people with disabilities in the past decade. It sets the general guidelines and rights of people with disabilities in the country. Although this legislation is not about the labor conditions/workforce inclusion, its passing had potentially large repercussions for the inclusion of workers with disability in the Brazilian labor market. (1) It heightened the agenda of workforce inclusion in the political sphere (e.g. one of the main supporters of this legislation was a Congressman Romário, a former World Cup winner with the Brazilian football team); (2) It provided a more “encompassing” definition of “disability” as a bio-psycho-social. In Article 2, it stated that the assessment of disability would require a multi-professional/interdisciplinary team (instead of a medical doctor before) that would consider not only physiological or anatomical aspects of a person, but also socioenvironmental, psychological, and personal factors. Such looser definition created margin for workers who were not necessarily classified as “with disability” to become classified as such (especially for non-severe disabilities). (3) The LBI defines discrimination of persons with disabilities as a crime in the national legal system. It defines imprisonment and fine as means of punishment and explicitly states that the refusal of reasonable accommodation and supply of assistive technology as a discriminatory practice. (4) LBI also imposed sanctions applicable to public agents in the field of administrative law by amending law 8.439/1992 and inserting in its article 11 noncompliance with the requirements of accessibility as provided by the law as an act of administrative impropriety. (5) The right not to be discriminated against requires protective measures that is, actions must be taken, resources must be invested to avoid practices of neglect, discrimination, exploitation, violence, torture, cruelty, and oppression and inhumane treatment of degrading treatment. Article 88 seeks to punish conduct that violates the rights guaranteed by the Constitution. Chapter VI of the LBI: The Right to Work

		Section 1: General provisions Section 2: Vocational qualification and rehabilitations Section 3: Inclusion of persons with disabilities at work
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* Significant actions

Computation of the financial sanctions for noncompliance to the Quota Law

Labor auditors may issue financial sanctions for firms that failed to comply with the Quota Law based on the legal directives of the Law 8.213/1991 and the Legal Ordinance 1,199 of 2003. According to these legal documents, the financial sanction had two components: (1) a deterministic penalty, defined as the number of unfilled PwD positions multiplied by a fixed value per such position; and (2) a quasi-discretionary penalty set by the labor auditor, ranging from 0 to 50% of the deterministic penalty. The legislation also defined a ceiling for the financial sanction of approximately 100x the fixed value of an unfilled PwD position. We describe how labor auditors computed the sanctions below.

For a firm that is below its quota, the magnitude of the sanction is a direct function of the absolute number of unfilled positions for PwD relative to the mandated quota (N), a fixed value for each unfilled position (f), and a quasi-discretionary value (d) that is defined by the labor auditor within the regional office conducting the labor inspection. The total fine ($F = f*N + d$) has a ceiling (C) that correspond to 100x the value of f .

The nominal value f is readjusted every year at the federal level, and the adjustments roughly follow the inflation. For instance, in 2011 (one year before the 2012 Normative Instruction SIT 98 passed), the nominal values were: $f(2011) = BRL 1,523.57$ and $C(2011) = BRL 152,355.73$. In 2015 (the year when the Inclusion Law passed), the nominal values were $f(2015) = BRL 1,925.81$ and $C(2015) = BRL 192,578.66$. For 2024, the nominal values were $f(2024) = BRL 3,215.07$ and $C(2024) = BRL 321,505.87$. We note that these annual readjustments roughly follow the inflation—e.g., $f(2011)$ corrected for 2015 prices would be BRL 2,012.48, and corrected for 2024 prices it would be BRL 3,017.35.

The quasi-discretionary value d is set by the labor auditor based on the firm's size. For firms with between 100 and 200 employees, it can be 0% to 20% of the value $f*N$. For firms with 201 to 500 employees, 501 to 1000 employees, and 1001 employees or more, d can be set as 20% to 30%, 30% to 40%, and 40% to 50% of $f*N$, respectively.

As an example, consider a firm with 350 employees in 2024. Its quota requirement is $3\% \times 350 = 10.5 \sim 11$ PwD workers (the quota is always rounded up). If the firm employed only 2 PwD workers, it would have 9 unfilled PwD positions relative to its quota. In this case, $N = 9$. Thus, the total fine $F(2024)$ would be as low as *BRL* 37,616.32 ($= 9 \times 3,215.07 + 0.3 \times 9 \times 3,215.07$) and as high as *BRL* 40,509.82 ($= 9 \times 3,215.07 + 0.4 \times 9 \times 3,215.07$), depending on the quasi-discretionary value d set by the labor auditor.

Descriptive Evolution of Adherence to the Quota Law and Hiring of PwD

Here, we provide additional context about the adherence to the Quota Law over time, as the 2012 and 2015 policy changes we study emerge in Brazil. Specifically, we show that since 2012 – the year of the first policy change we study – there has been a steady increase in the employment of PwD workers in Brazil. Not only is there growth in the share of firms meeting their quota targets (Figure A.1), but there is also a positive trend in the likelihood of firms hiring at least one PwD as a worker, as well as in the share of PwD amongst new hires (Figure A.2). However, our data also shows that even by 2015, less than 26% of firms met their quota targets and, even amongst those that met their targets, over half of them hired just enough PwD to meet their quota targets, and no more than that (Figure A.3). These patterns further motivate our study.

Figure A.1 – Share of firms meeting the quota (2008-2017)

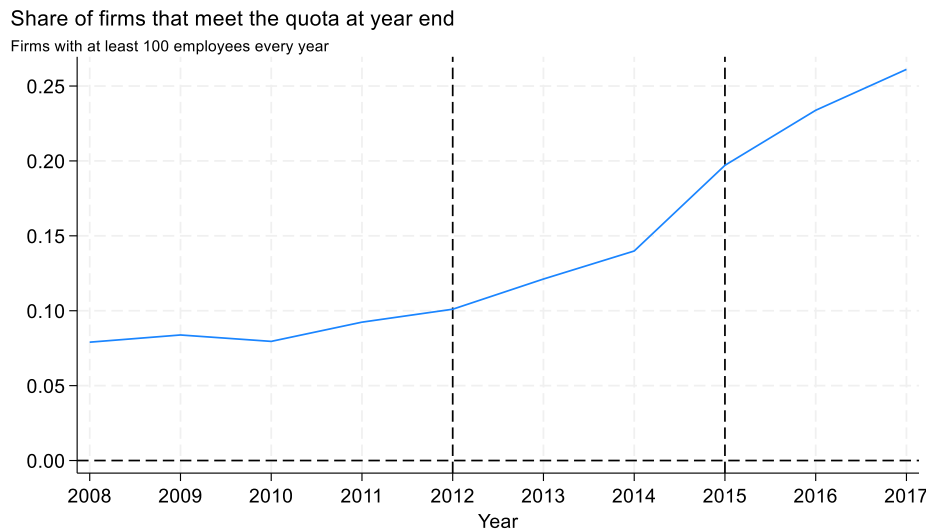
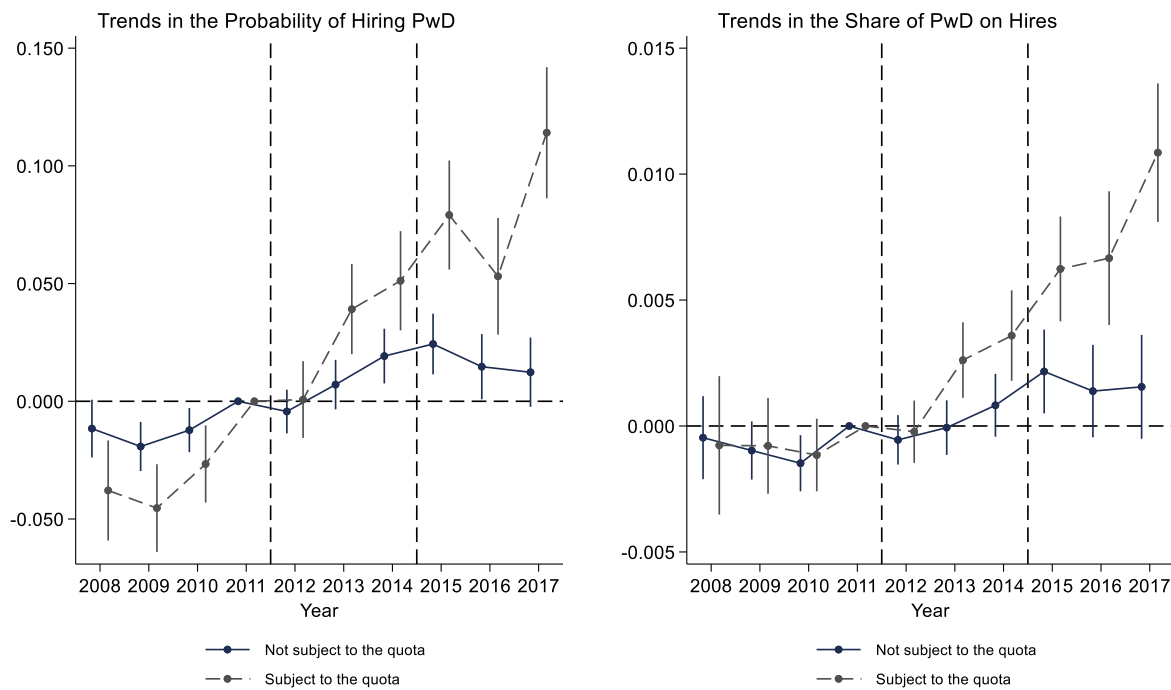
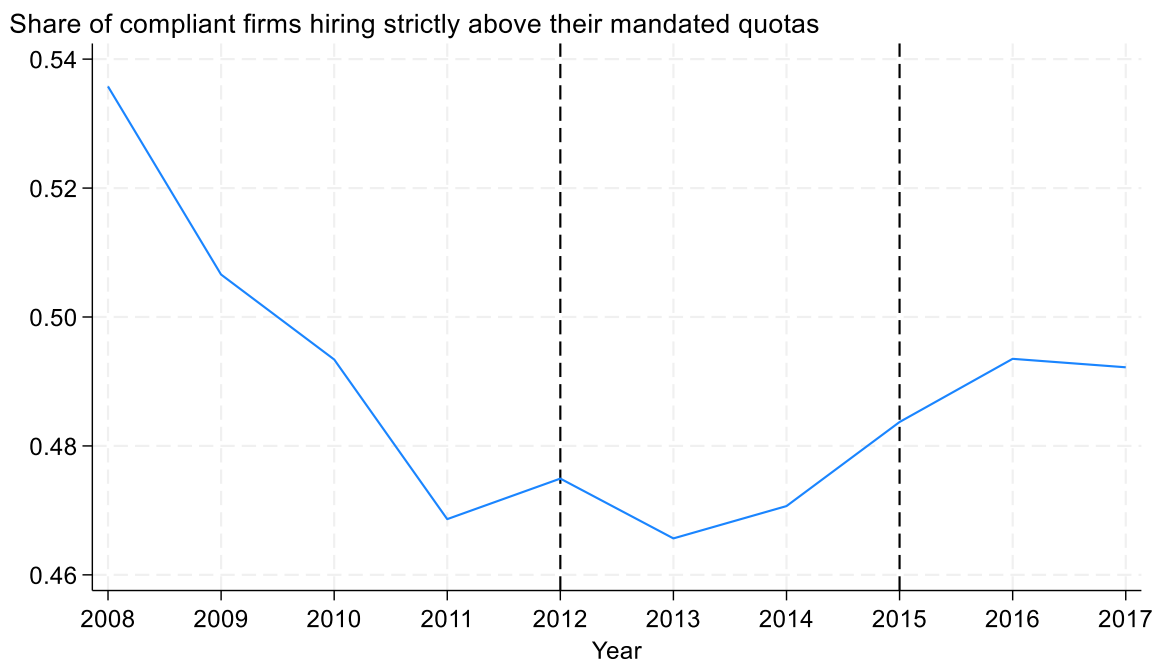


Figure A.2 – Trends in *Hired PwD* and *Share of PwD on Hires*



Notes: All regressions include controls and firm fixed effects and cluster standard errors by firm.

Figure A.3 – Share of quota-compliant firms surpassing their mandated quota target (firm-level sample)



Appendix B1 - Diversity Outcomes: Firm-Level Analyses and Analyses of Newly Hired Workers

This Appendix B1 presents additional details, extensions, and robustness checks, including supporting tables and figures, pertaining to analyses predicting diversity outcomes (i.e., analyses pertaining to newly hired workers). It has the following sections, based on the order in which their related main results appear in the paper:

- Section B1.1 details the regression discontinuity approach used to examine the effectiveness of pre-existing disability quotas.
- Section B1.2 presents robustness tests and rules out alternative explanations associated with the baseline firm-level analysis of diversity outcomes following the enactment of the 2012 strengthening of the quota law and the 2015 passing of a nondiscrimination law.
- Section B1.3 presents robustness tests and rules out alternative explanations associated with the results exploring firm-level heterogeneity in diversity responses (based on their position relative to their quota targets).
- Section B1.4 presents analyses pertaining to the role of external labor market tightness in terms of bounding firm-level responses to the policies studied in this paper.
- Section B1.5 presents extensions to the worker-level analyses assessing differences in newly hired workers following the policy shocks studied in the paper.

B1.1 – Additional Details on the Regression Discontinuity Design Assessing the Effects of Being Subject to the Quota Law

The first step in our study was to assess whether firms responded to the Quota Law in Brazil. We relied on a sharp regression discontinuity (RD) approach leveraging the 100-employee threshold that defines whether firms are mandated to hire PwD workers or not in Brazil. This is important as our study centers on how the strengthening of the Quota Law, and the passing of the Inclusion Law, may create heterogeneous responses to a pre-existing Quota Law in the hiring of new versus inclusion of incumbent minority workers. This step assessed whether the Quota Law led to *any* response by targeted firms without considering heterogeneities emerging from additional policies, firms, or outcomes. Here, we report additional details supporting: (1) the validity of the sharp RD approach, and (2) the robustness of our results to the analysis reported in the main text (i.e., Figure 1).

Validity of the sharp RD approach

A critical assumption for the causal interpretation of a sharp RD approach is that firms should not be manipulating their firm size to avoid being subject to the disability quota, that is, around the 100-employee threshold, assignment to treatment should be quasi-random. We assessed that this was indeed the case via visual checks (Figures B1.1.1 and B1.1.2) and statistical manipulation tests (Figure B1.1.3).

First, Figure B1.1.1 plots histograms of firms' total number of employees (in year $t-1$) around the 100-employee cutoff. The left hand-side plot restricts the sample to firms with more than 80 but less than 120 employees (at year $t-1$), while the right hand-side plot considers a broader bandwidth ($50 \leq \text{number of employees at year } t-1 \leq 150$). Both these plots reveal that there are no jumps in the lagged number of employees around the cutoff. Figure B1.1.2, shows similar evidence through kernel distributions. These visual checks align with the interpretation that there is no manipulation or bunching around the 100-employees' threshold.

Figure B1.1.1 – Histograms showing the distribution of lagged firm size around the 100-employee cutoff

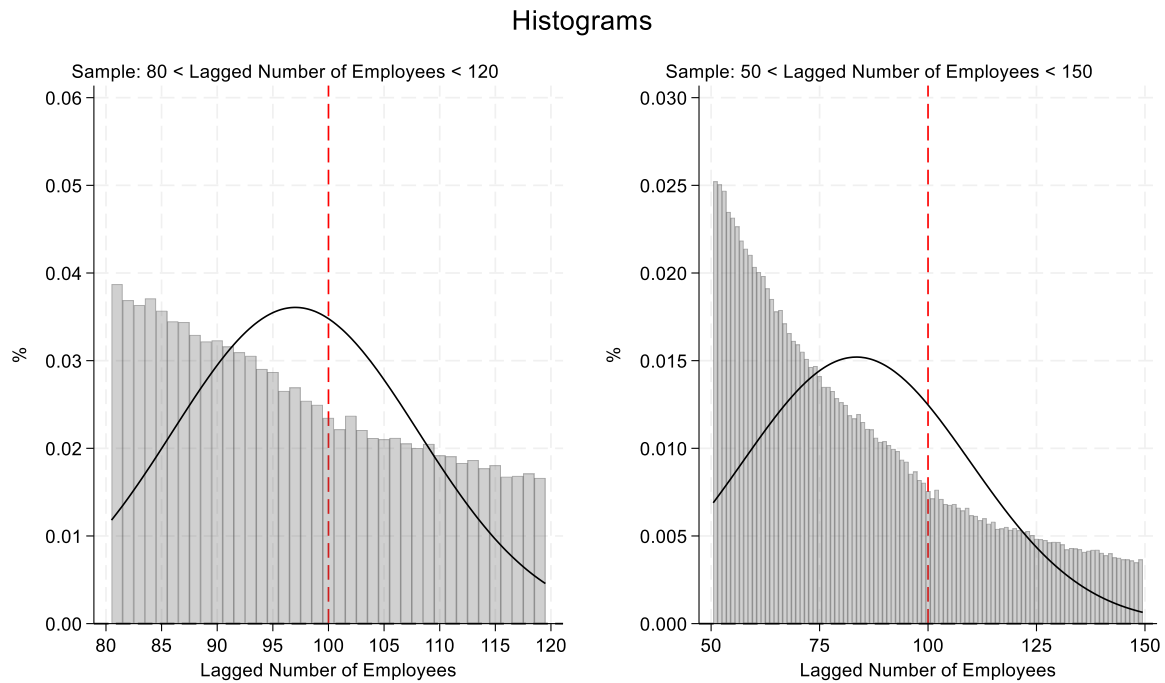


Figure B1.1.2 – Kernel densities showing the distribution of lagged firm size around the 100-employee cutoff

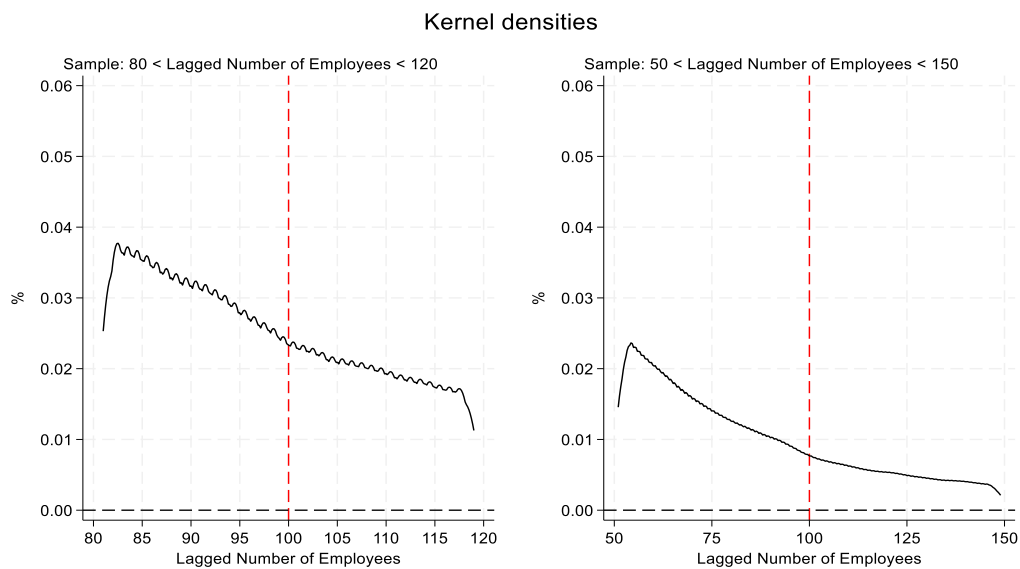


Figure B1.1.3 presents the results of a formal manipulation test. The null hypothesis for this test is that there is no bunching on either side of the 100-employee cutoff. Since we fail to reject the null

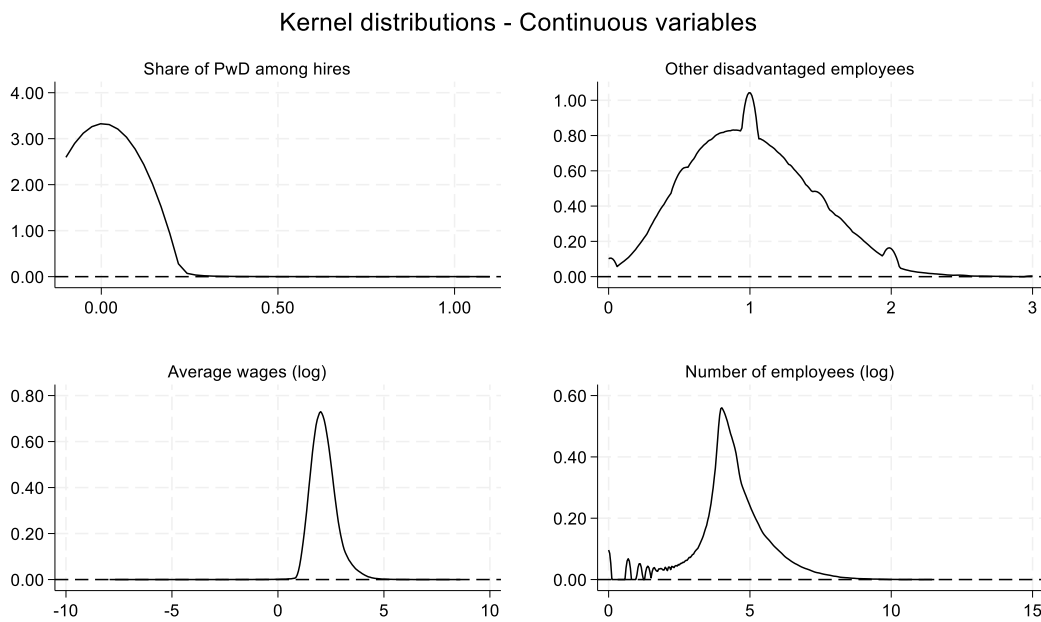
hypothesis at any conventional significance level ($p\text{-value} = 0.512$), we conclude that firms in our sample are not adjusting their size to avoid being subject to the disability quota. This finding supports the validity of our sharp RD approach.

Figure B1.1.3 – Manipulation test around the 100-employee cutoff



We also assessed that there is overall continuity on other firm-level characteristics, as reported in Figure B1.1.4.

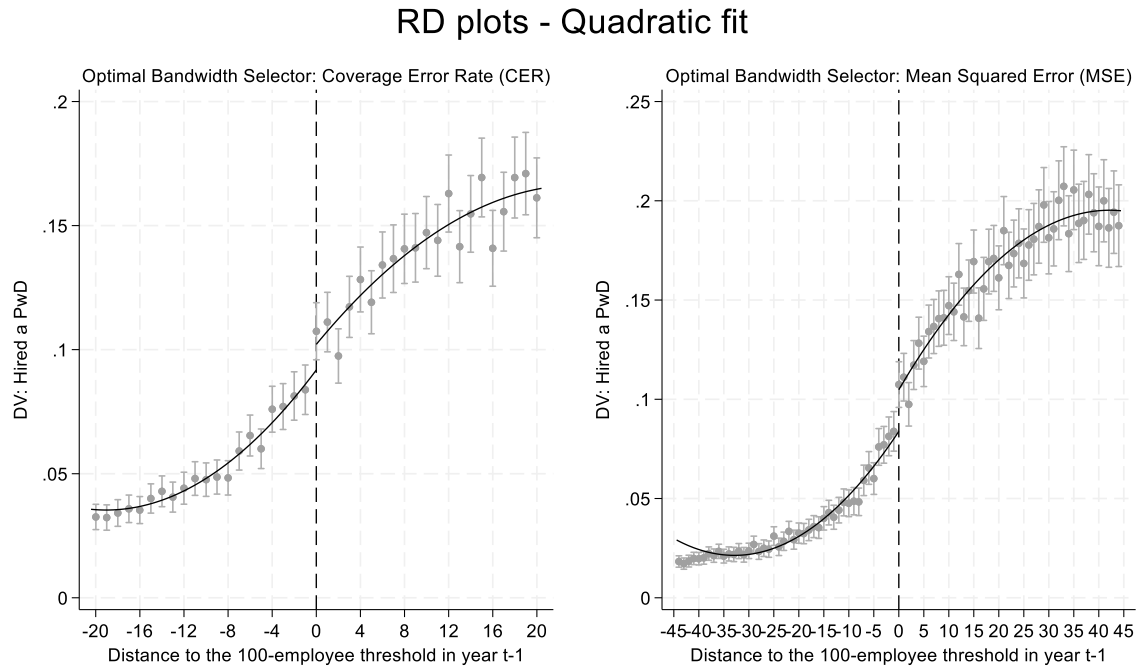
Figure B1.1.4 – Kernel distributions for continuous variables (firm-level sample)



Robustness to the results reported in the main text

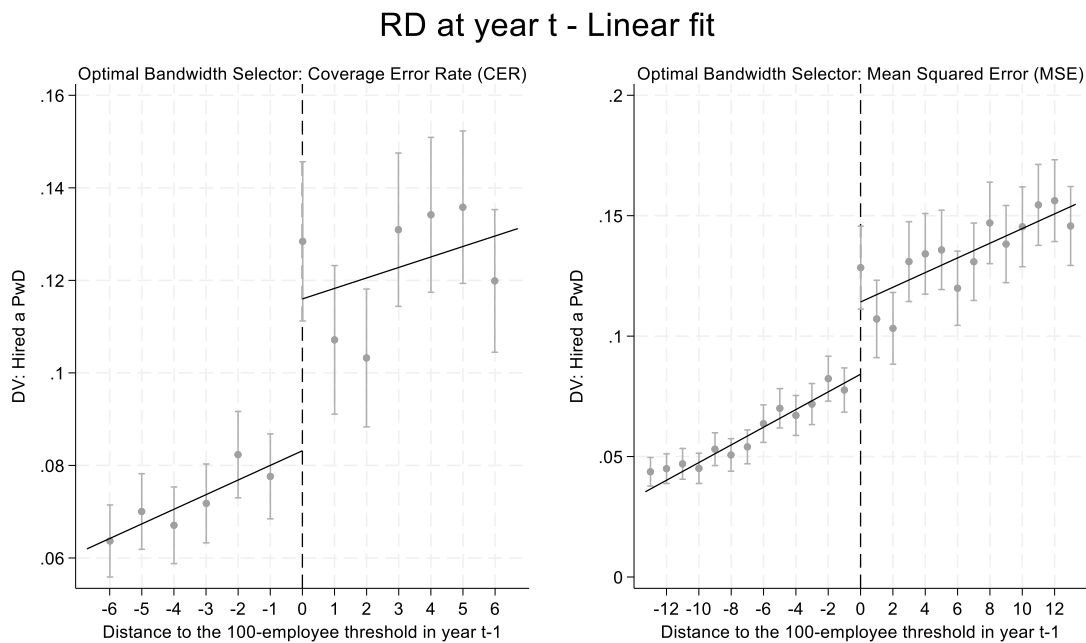
While the RD results reported in the main text (Figure 1) use a linear polynomial fit, we also show that the results are robust to different specifications. First, Figure B1.1.4 shows that the main results are robust to a quadratic polynomial form for the RD specifications.

Figure B1.1.4 - RD plot with quadratic fit. DV: Hired a PwD



Second, while in the main analyses we used a lagged running variable, assuming firms' responses to the Quota Law in year t would depend on their size in year $t-1$ as the running variable of the RD specification, we also tested whether the results are robust to the use of a contemporaneous running variable (i.e., their size in year t). This is also a plausible scenario considering potential low frictions in the hiring of PwD. We present this analysis in Figure B1.1.5, which shows that the results remain similar as to those reported in the main text.

Figure B1.1.5 - RD plot with unlagged running variable. DV: Hired a PwD



Note: The running variable is calculated at year t, in Figure B1.1.5. Note that these results drop firms that were subject to the quota at year t, but which were not subject to it in t-1. This is because firms may hit the 100-employee threshold at the end of the year (recall that our data provides a picture of each active labor contract as of December 31st of each year) or enforcement may only be binding in the year after, due to labor auditors' discretion.

Taken together, our results show that firms just above the 100-employees threshold were more likely to hire a PwD compared to similar firms just below the 100-employees threshold. This is consistent with the notion that the quota law has resulted in increased hiring of PwD.

B1.2 – Robustness and Assessing Alternative Explanations: Baseline Diversity-Related Effects of the Sequential Institutional Changes

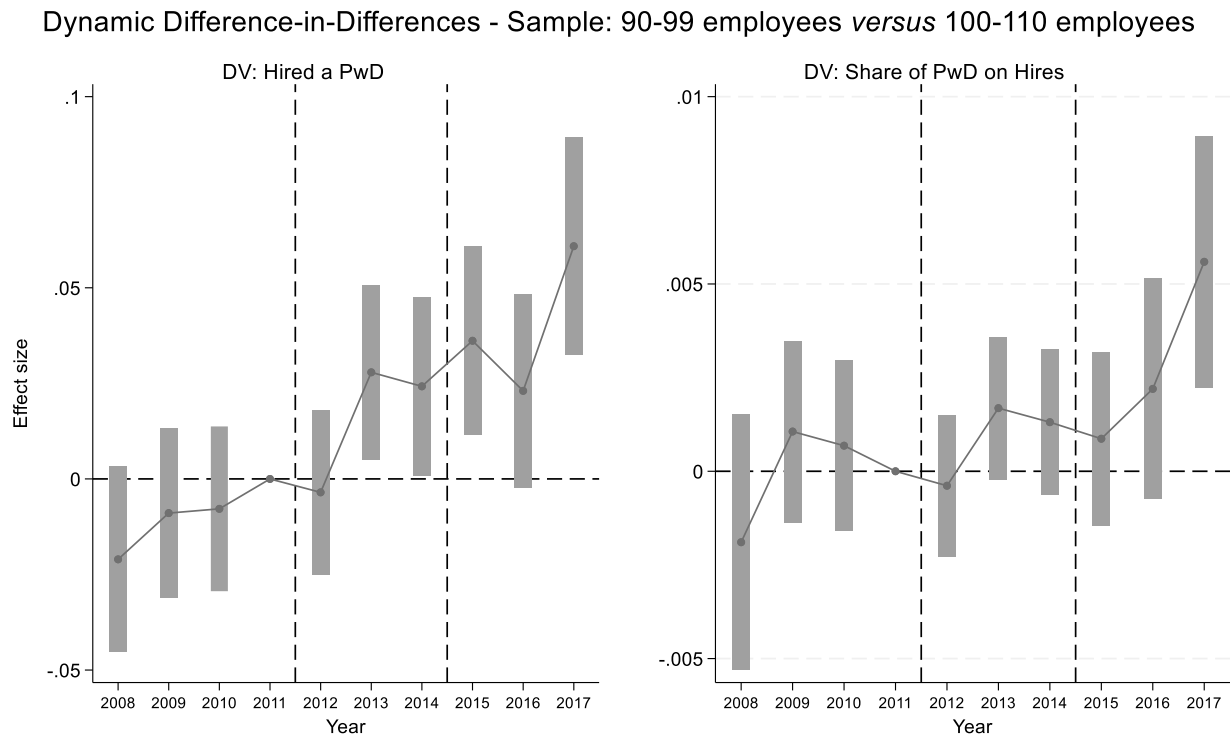
We report two sets of additional results to the firm-level analyses about the diversity-related outcomes of the 2012 strengthening of the Quota Law and the 2015 passing of the Inclusion Law. The first set consists of robustness tests showing that the results are not sensitive to changes in the sample, clustering of standard errors, and operationalization of the key variables. The second set consists of additional analyses to rule out alternative explanations (i.e., the effects observed being driven by channels other than our proposed mechanisms of follow-on policy changes affecting firm-level responses to Quota Laws). Unless otherwise stated, the sample and specifications here follow the same format as those of equation (1) in the main text – used to estimate the coefficients reported in Figure 3.

Robustness

Following best practices in RD-inspired approaches that sample firms based on their proximity to a cut-off, we replicated the results reported in Figure 3 in the main text using both wider and narrower bandwidths around the 100-employee cutoff that defines if firms are subject to the quota law. Figures B1.2.1 and B1.2.2 show that the effects associated with firm-level diversity outcomes following the 2012 quota reinforcement and the 2015 non-discrimination law are robust to these changes in the sample of firms around the discontinuity cut-off that we consider in our examination.

A key sample restriction requires contracts to be active at year-end. For Pernambuco (PE) in 2017, the variable indicating this status has missing entries, which causes us to drop approximately 2,000 firm-year observations from that state. Since the issue is confined to a single state-year, it does not affect our conclusions. Yet, as an additional robustness check, Figure B1.2.3 confirms that our baseline results are virtually unchanged when we exclude all PE observations entirely, suggesting that any reporting irregularities in that state do not bias our estimates.

Figure B1.2.1 – Dynamic DiD estimates. Sample: 90-99 employees x 100-110 employees



Beyond robustness to sampling choices, we also checked that the statistical significance of our main results does not depend on the levels at which we cluster the standard errors, or on the precise way in which we operationalize the dependent of firm-level diversity efforts. Figure B1.2.4 shows that our results remain consistent if we cluster standard errors at the level of the firm and the year (instead of only at the firm-level, as in the main specifications). Furthermore, Figure B1.2.5 shows that our conclusions are similar if we use two alternative dependent variables: respectively, a dummy indicating an increase in the number of PwD in a firm’s workforce (left hand-side) and the total share of PwD employed by the focal firm (right hand-side).

Figure B1.2.2 – Dynamic DiD estimates. Sample: 80-99 employees x 100-120 employees

Dynamic Difference-in-Differences - Sample: 80-99 employees *versus* 100-120 employees

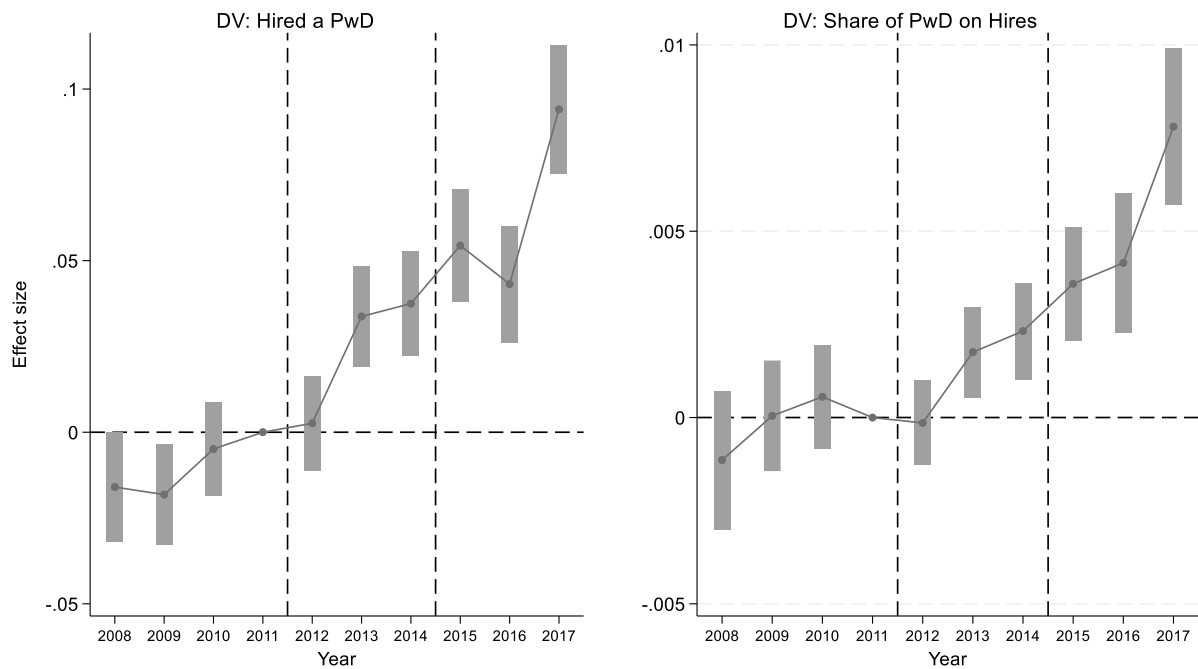


Figure B1.2.3 – Baseline estimates excluding the State of Pernambuco (PE)

Dynamic Difference-in-Differences - Baseline excluding Pernambuco

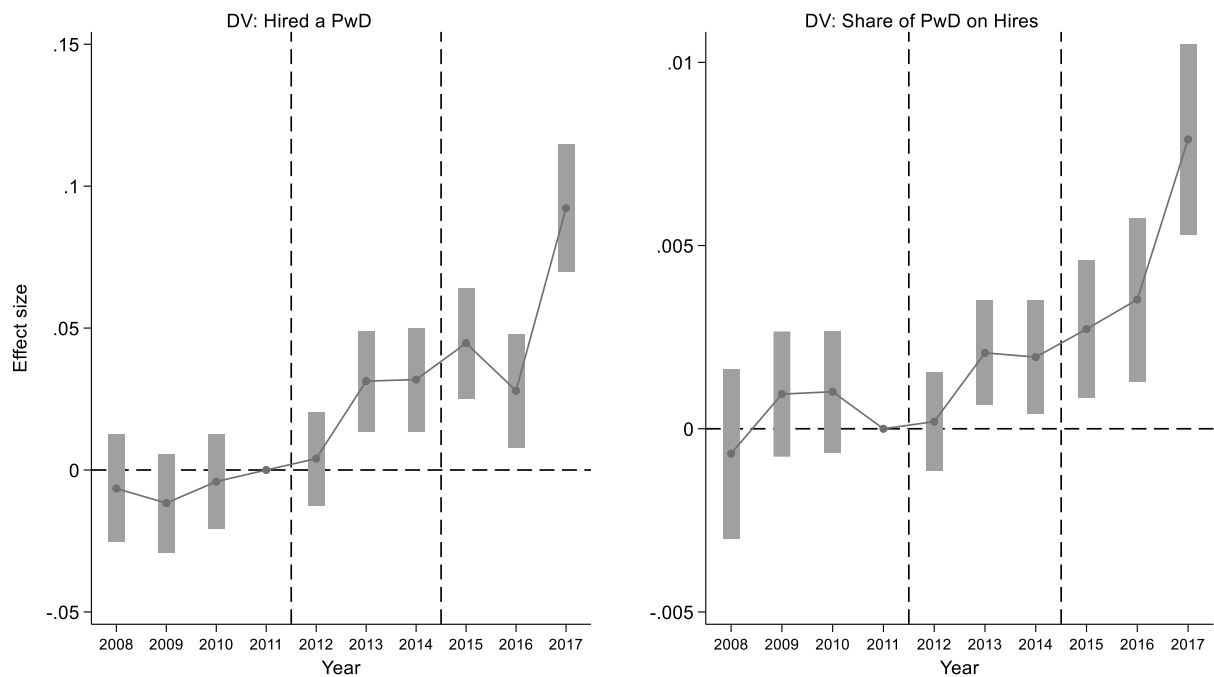


Figure B1.2. 4 – Dynamic DiD estimates double-clustering standard errors at both the firm and year levels

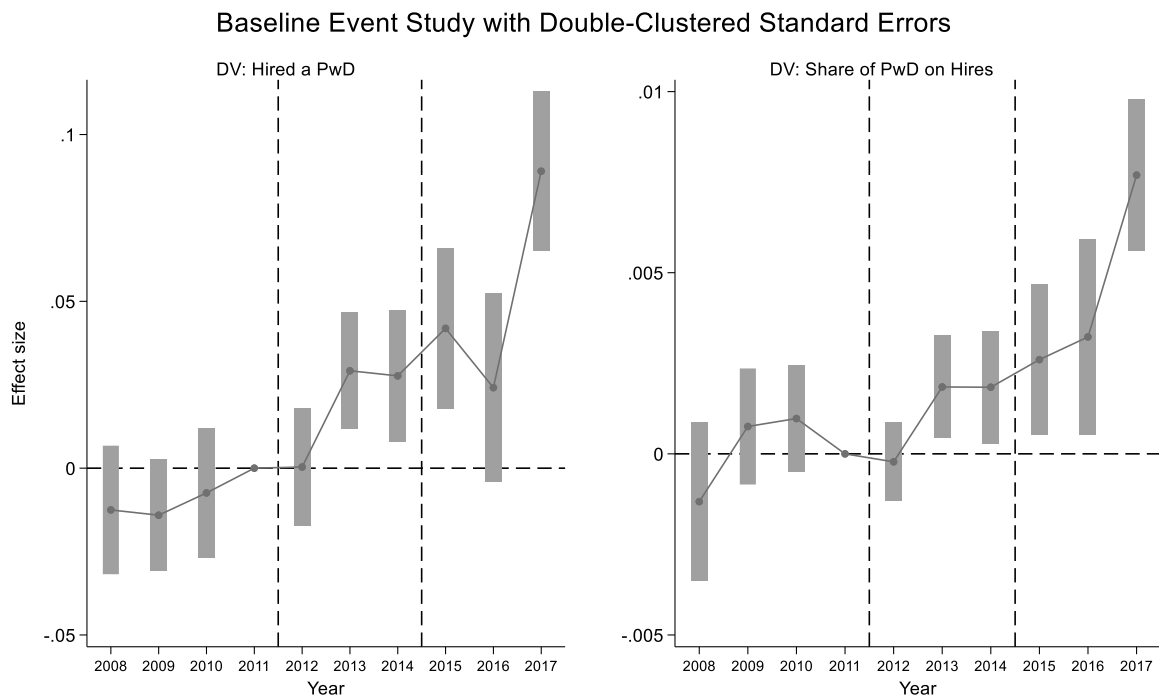
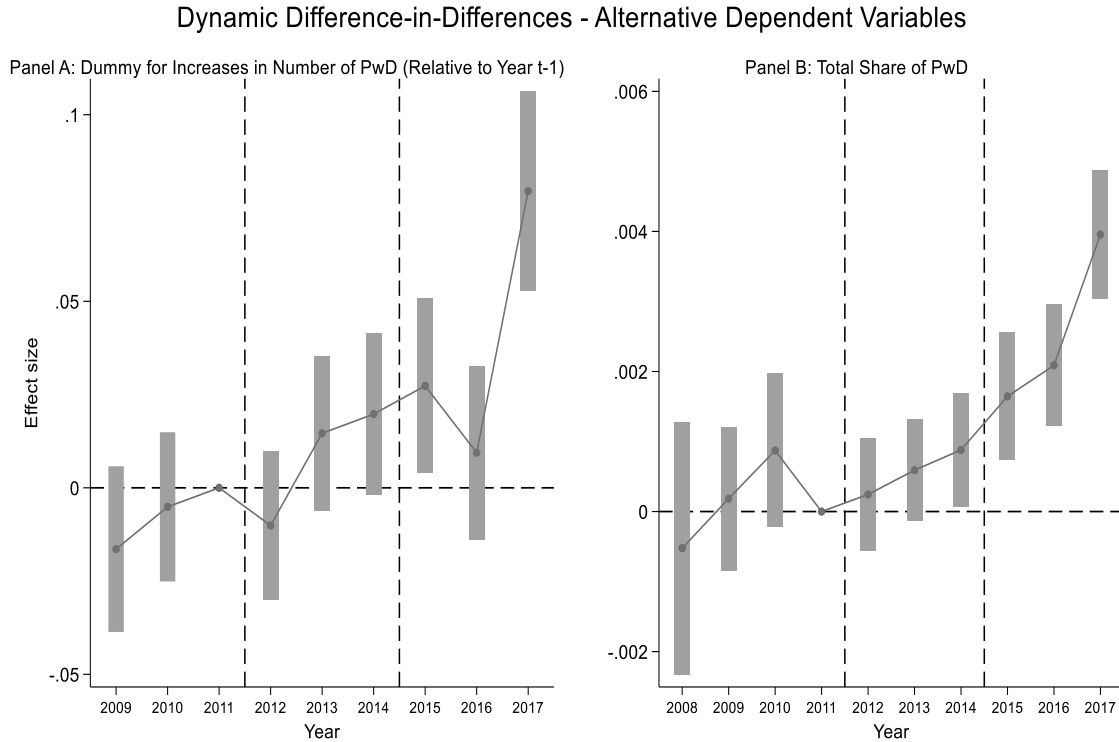


Figure B1.2.5– Dynamic DiD estimates. Alternative dependent variables in the baseline sample.

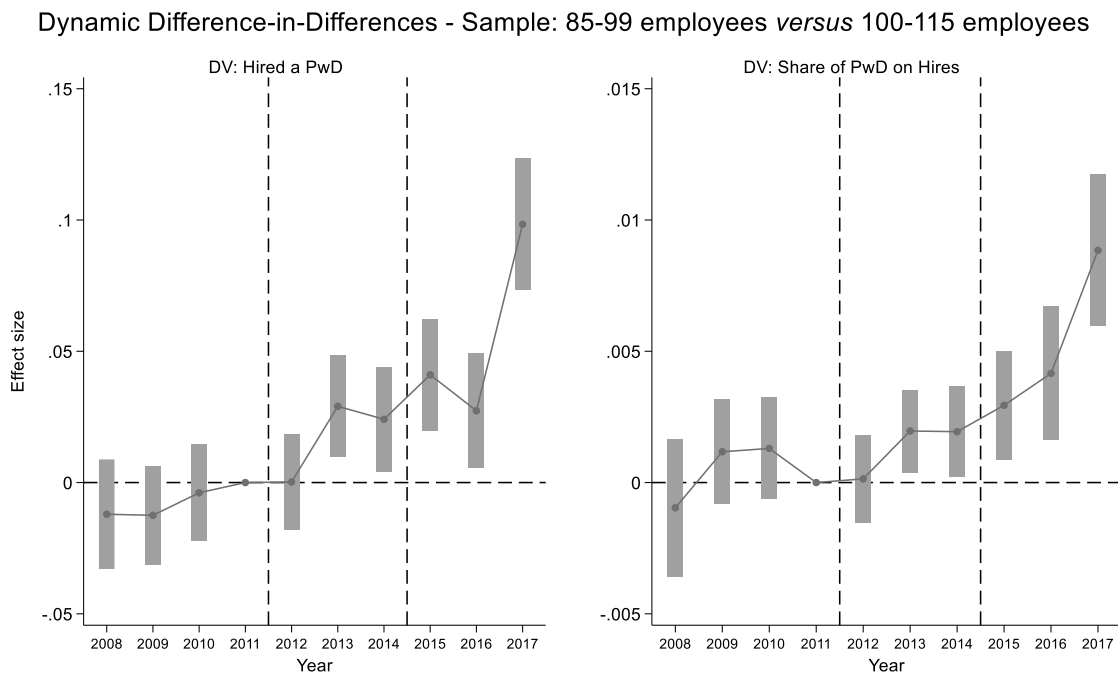


Assessing alternative explanations

We also tested whether the patterns reported in our main paper – which we associate with firm-level responses to the strengthening of quota laws and to the passing of nondiscrimination laws – emerge from other mechanisms that are not accounted for in our framework.

First, one important concern was that regional factors could have simultaneously explained a firms' ability to grow beyond 100 employees (and thus be subject to the quota law) and be associated with how easy it is for firms to hire workers with disability. For instance, larger cities could both create economic conditions for firm growth and have a wider pool of people of disability that could be hired. Although this is a plausible explanation and the main specifications already added firm-level fixed effects, Figure B1.2.6 address this concern directly. It shows that our results after replacing firm-level fixed effects, but adding city-by-year dummies to capture specific conditions within a city-level labor market within a year that could explain the hire of PwD workers (relative to their non-PwD counterparts).

Figure B1.2.6 – Dynamic DiD estimates. Baseline sample including city-by-year fixed effects



Since both being subject to quota target and the number of people with disabilities set as a target are a function of a firm's size, another alternative explanation would be that firms are not necessarily responding to the Quota Law, and our observed patterns simply reflect firm's growth patterns over time. For instance, a downsizing/growth could reduce/increase the number of required PwD workers the firm needs to hire in order to meet its quota target. Furthermore, a reduction in size could also make a firm "switch" from noncompliant in year $t-1$ to exempt in year t , thus creating selection into the sample of noncompliant firms.

We report three different analyses that aim to mitigate concerns that the results are driven by firm size. First, Figure B1.2.7 reports the main specifications controlling for nonlinear size effects with a high level of flexibility. To that end, we replaced the logged number of employees with dummies indicating each of the percentiles of the number of employees in our sample (omitting the lowest percentile and including the remaining 99 dummy variables). The results are robust to these specifications. In addition, Figure B1.2.8 shows that the conclusions from the Dynamic DiD analysis also hold when we exclude those firms that were noncompliant (as of year $t-1$) but became quota-exempt at year t .

Figure B1.2.7 – Dynamic DiD estimates, controlling for nonlinear effects of firm size

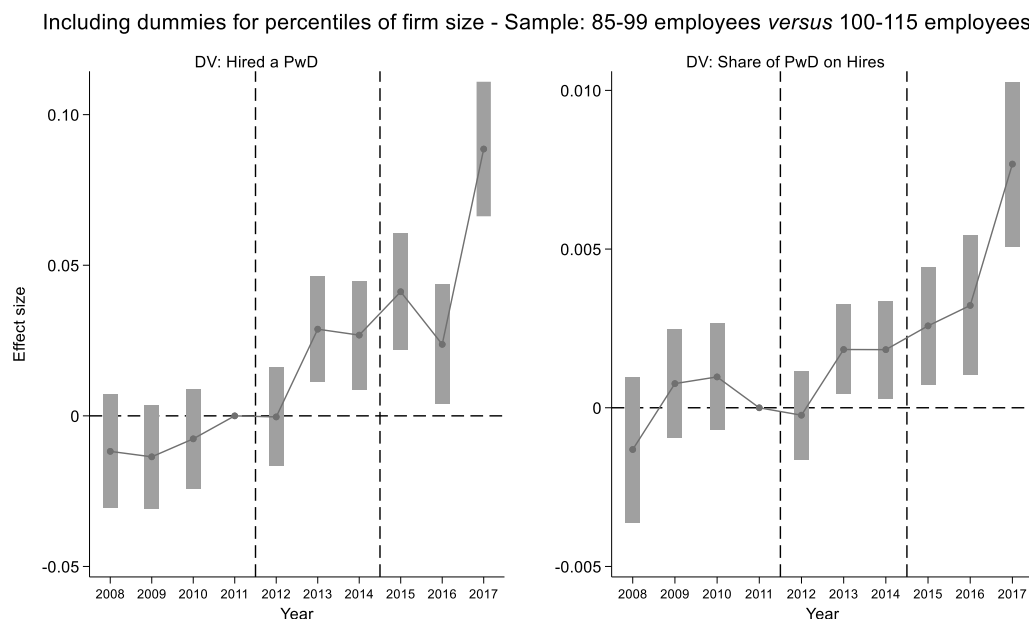
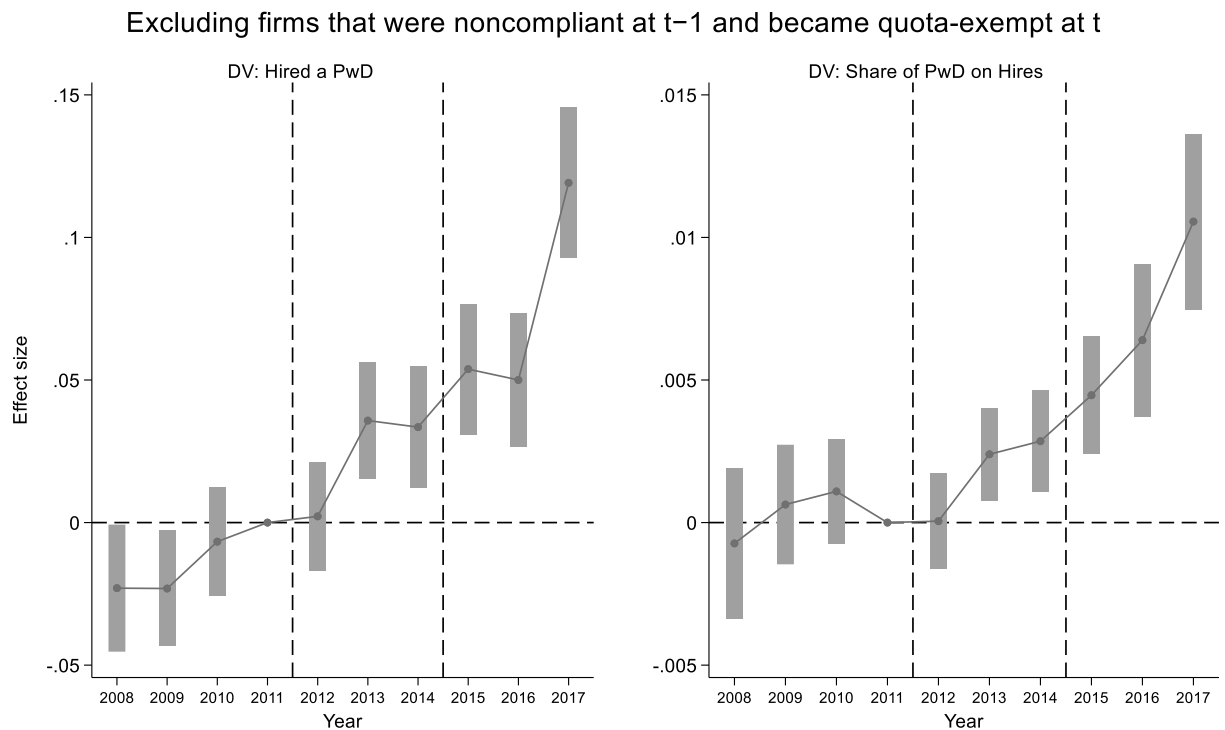


Figure B1.2.8 – Dynamic DiD estimates excluding firms that were noncompliant at t-1 and became quota-exempt at t



A last alternative explanation emerges from the institutional changes enacted by the 2015 Inclusion Law in Brazil. This policy broadened the definition of disability by more clearly characterizing mental disabilities, which could have led to mechanical increases in the share of workers with disabilities in the workplace. For instance, workers previously reported as non-PwD could have simply switched to a PwD status. Indeed, Table B1.2.1 shows that the share of workers with mental and visual disabilities indeed increased in the 2012-2017 period. However, Figures B1.2.9 and B1.2.10 rule out that our main patterns are explained by this “switch” of non-PwD to PwD status.

Figure B1.2.9 demonstrates that the higher presence of PwD in the workforce after 2015 was primarily driven by increases in workers with disability types that are not mental or visual disabilities. This finding holds when considering both the general trends in the share of disability types (left-hand panel, Figure B1.2.9) and the changes over time among firms around the 100-employee threshold (right-hand panel, Figure B1.2.9). In addition, Figure B1.2.10 reports analyses using worker-level data amongst new hires (as defined in subsection 5.3 in the main paper) to show that across successive hires, there is no change

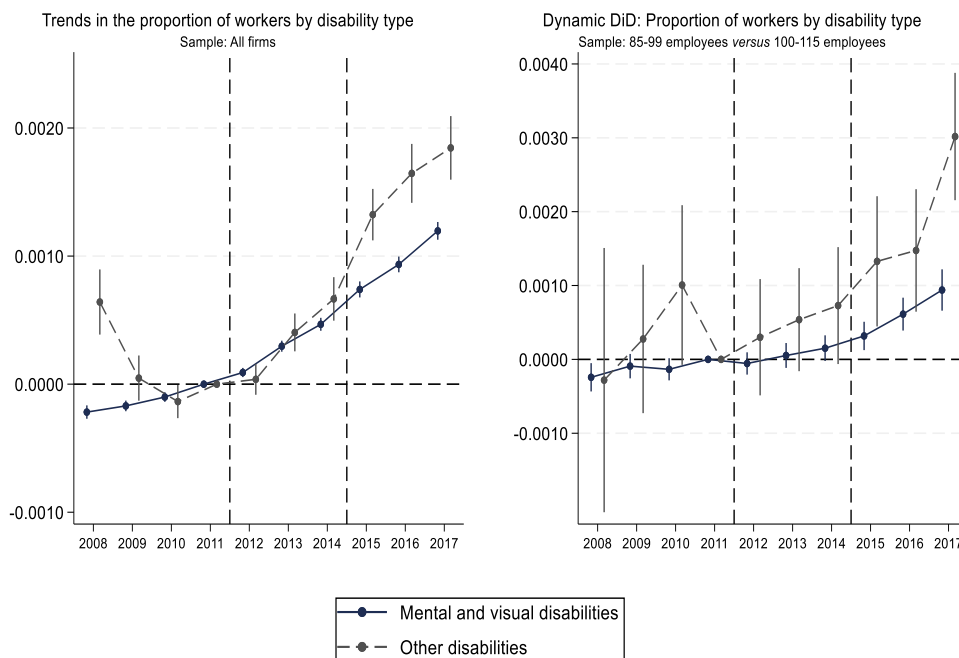
over time (relative to our baseline period of 2011) in the likelihood of individuals who had not been categorized as a PwD to “switch” to a job where the company reports that same employee as workers with a disability.

Table B1.2.1 – Prevalence of each disability type before and after the law changes

	Share of:				
	Physical disabilities	Hearing disabilities	Visual disabilities	Mental disabilities	Other disabilities
2008-2011	52.13%	25.31%	5.40%	5.83%	11.22%
2012-2017	48.78%	22.00%	11.41%	8.88%	8.93%
Variation	-6.41%	-13.08%	111.11%	52.15%	-20.45%

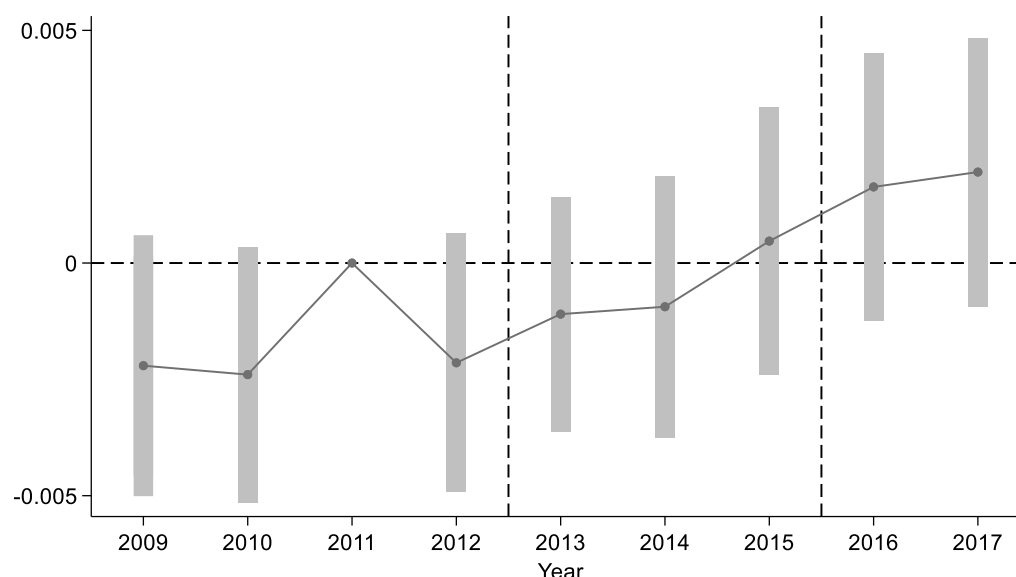
Notes: “Other disabilities” combines multiple disabilities with rehabilitated disabilities.

Figure B1.2.9 – Contrasting the evolution of disability types



Notes: Left panel: Trends from specifications that include control variables and firm fixed effects. Right panel: Dynamic DiD specifications in the baseline sample, including also city-by-year fixed effects. The denominator in both dependent variables—i.e., Proportion of workers with mental and visual disabilities, and Proportion of workers with the other three disability types (physical, hearing, and other)—is the total number of workers.

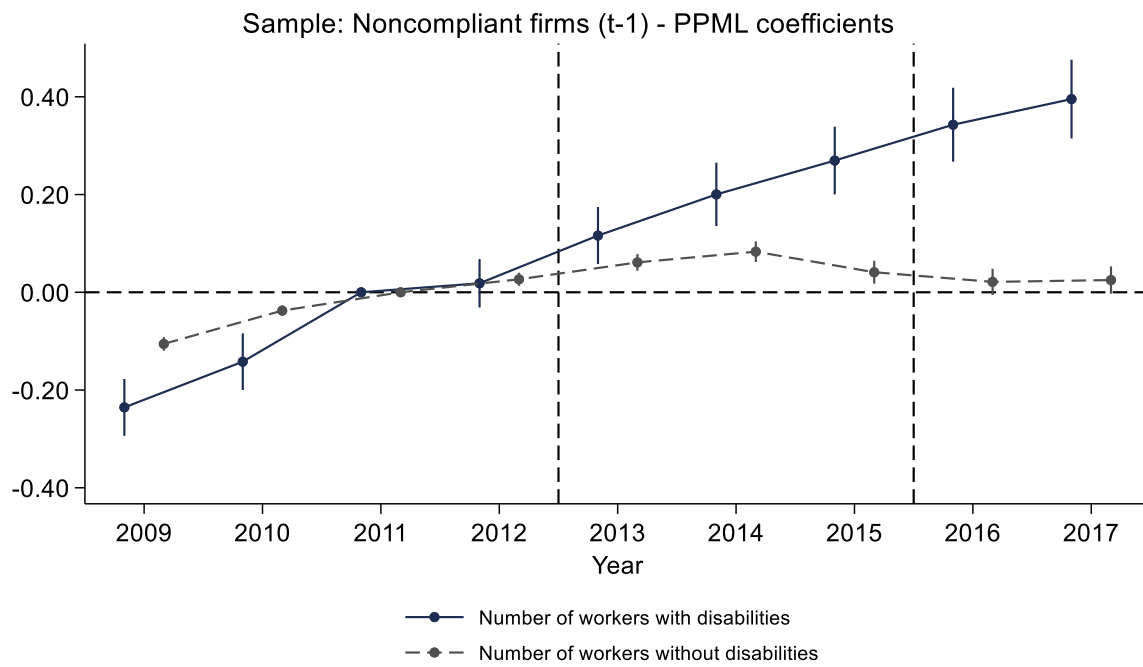
Figure B1.2.10 – Trends in disability “switches”: Probability of acquiring a disability across successive hires



Lastly, we also checked that there is an effective growth in the number of workers with disabilities being hired relative to the growth in workers without disabilities amongst quota non-compliant firms, but not a decrease in the number of workers without disabilities (which would occur if firms simply switched workers’ “types”). Figure B1.2.11 shows that was indeed the case: we do not observe a decrease in the number of workers without disabilities amongst non-compliant firms. Specifically, Figure B1.2.11 reports the results of a Poisson regression model assessing the number of PwD and non-PwD employees in firms that were non-compliant in the previous year. Taking the baseline year as 2011, the analyses show that while there is a relative increase in the number of PwD workers, the number of non-PwD workers is relatively stable.

Taken together, the results reported here rule out that the patterns we report are driven by changes in firms’ size that are unrelated to firms’ responses to the Quota Law, specific characteristics of the city where compliant (versus non-compliant) firms were located, or are due to re-classification of workers between with/without disability status.

Figure B1.2.11 – Trends in the number of workers with and without disabilities



B1.3 – Robustness and Assessing Alternative Explanations: Heterogeneous Effects Based on Distance to the Quota Target

We report two types of additional results to the firm-level analyses about the heterogeneous diversity-related effects of the 2012 and 2015 institutional changes based on how distant firms were from meeting their quotas of PwD within their workforce. These analyses are analogous in structure to those of Appendix B1.2: (1) robustness showing that our results are not sensitive to changes in the sample, specification, clustering of standard errors, and operationalization of key variables outcomes, and (2) additional analyses that aim to rule out alternative explanations. Unless otherwise stated, the specifications use equation (2) in the main text – also used to estimate the coefficients reported in Table 2.

Robustness with respect to sample construction, specification, standard errors, and variable construction

First, our main models reported in Table 2 of the main include city-year fixed effects that allow us to account for shocks to local labor markets (which parallels the analysis in Figure B1.2.6). In our additional analyses, we also assessed that the results hold when excluding such additional set of fixed effects. Corresponding results are reported in Table B1.3.1. Relatedly, we also re-estimated our main analyses restricting our sample to single-establishment firms—a subsample wherein city-by-year fixed effects more adequately account for shocks to local labor markets considering that multi-establishment firms may choose to concentrate their hirings of PwD in specific cities. Table B1.3.2 reports these results, which are aligned with our main findings.

Table B1.3.1 – Baseline heterogeneity analyses excluding city-by-year fixed effects

Dependent Variable	(1) Hired PwD	(2) Share PwD on Hires	(3) Hired PwD	(4) Share PwD on Hires	(5) Hired PwD	(6) Share PwD on Hires	(7) Hired PwD	(8) Share PwD on Hires
Noncompliant (t-1)	0.080*** (0.002)	0.006*** (0.000)	0.032*** (0.002)	0.002*** (0.000)				
Noncompliant:Far (t-1)					0.074*** (0.002)	0.005*** (0.000)	0.015*** (0.002)	0.001*** (0.000)
Noncompliant:Close (t-1)					0.125*** (0.003)	0.007*** (0.000)	0.136*** (0.005)	0.004*** (0.000)
Compliant (t-1)	0.015*** (0.003)	-0.001* (0.000)	0.066*** (0.007)	0.001 (0.001)	0.032*** (0.004)	-0.000 (0.000)	0.083*** (0.007)	0.002 (0.001)
Noncompliant (t-1) x Post 2012			0.057*** (0.002)	0.003*** (0.000)				
Noncompliant (t-1) x Post 2015			0.032*** (0.002)	0.007*** (0.000)				
Noncompliant:Far(t-1) x Post 2012							0.071*** (0.002)	0.003*** (0.000)
Noncompliant:Far(t-1) x Post 2015							0.040*** (0.002)	0.007*** (0.000)
Noncompliant:Close(t-1) x Post 2012							-0.018*** (0.005)	0.000 (0.000)
Noncompliant:Close(t-1) x Post 2015							0.005 (0.005)	0.008*** (0.000)
Compliant (t-1) x Post 2012			-0.039*** (0.008)	-0.005*** (0.001)			-0.042*** (0.008)	-0.005*** (0.001)
Compliant (t-1) x Post 2015			-0.032*** (0.006)	0.004*** (0.001)			-0.035*** (0.006)	0.004*** (0.001)
Controls + Year + Firm f.e.	Y	Y	Y	Y	Y	Y	Y	Y
Number of observations	804,243	758,344	804,243	804,243	804,243	758,344	804,243	758,344
Number of firms	104,477	102,376	104,477	104,477	104,477	102,376	104,477	102,376
Adjusted R-squared	0.41	0.23	0.42	0.42	0.42	0.23	0.42	0.23

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant: Far indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Noncompliant: Close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. Omitted category: smaller firms not subject to the quota in the prior year.. *p < 0.05; **p < 0.01; ***p < 0.001.

Table B1.3.2 – Restricting the sample to single-establishment firms

	(1)	(2)	(3)	(4)
	Sample of single-establishment firms			
Dependent Variable	Hired PwD	Share PwD on Hires	Hired PwD	Share PwD on Hires
Noncompliant (t-1)	0.040*** (0.003)	0.002*** (0.000)		
Noncompliant: Far (t-1)			0.024*** (0.003)	0.002*** (0.000)
Noncompliant: Close (t-1)			0.131*** (0.007)	0.004*** (0.001)
Compliant (t-1)	0.051*** (0.008)	0.001 (0.001)	0.062*** (0.009)	0.001 (0.001)
Noncompliant (t-1) x Post 2012	0.048*** (0.003)	0.003*** (0.000)		
Noncompliant (t-1) x Post 2015	0.035*** (0.003)	0.007*** (0.000)		
Noncompliant: Far (t-1) x Post 2012			0.063*** (0.003)	0.003*** (0.000)
Noncompliant: Far (t-1) x Post 2015			0.044*** (0.003)	0.007*** (0.000)
Noncompliant: Close (t-1) x Post 2012			-0.030*** (0.008)	-0.000 (0.001)
Noncompliant: Close (t-1) x Post 2015			0.008 (0.007)	0.008*** (0.001)
Compliant (t-1) x Post 2012	-0.037*** (0.010)	-0.005*** (0.001)	-0.040*** (0.010)	-0.005*** (0.001)
Compliant (t-1) x Post 2015	-0.031*** (0.008)	0.004*** (0.001)	-0.033*** (0.008)	0.004*** (0.001)
Control variables	Y	Y	Y	Y
City x Year fixed effects	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y
Number of observations	550,537	512,323	550,537	512,323
Number of firms	73,539	71,587	73,539	71,587
Adjusted R-squared	0.35	0.25	0.35	0.25

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant: Far indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Noncompliant: Close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. Sample restricted to single-establishment firms. Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001

Second, we also checked that the significance of our main results remains even if we cluster standard errors at the level of the firm and the year. These are the results reported in Table B1.3.3.

Table B1.3.3 – Robustness check: Replicating Table 2 with standard errors double-clustered at the firm and year levels

Dependent Variable	(1) Hired PwD	(2) Share PwD on Hires	(3) Hired PwD	(4) Share PwD on Hires	(5) Hired PwD	(6) Share PwD on Hires
Noncompliant (t-1)	0.080*** (0.009)	0.006*** (0.001)	0.033* (0.013)	0.002** (0.000)		
Noncompliant: Far (t-1)					0.016 (0.016)	0.001 (0.001)
Noncompliant: Close (t-1)					0.132*** (0.025)	0.003* (0.001)
Compliant (t-1)	0.010 (0.027)	-0.001 (0.002)	0.060 (0.027)	0.001 (0.003)	0.076* (0.028)	0.001 (0.003)
Noncompliant (t-1) x Post 2012			0.057* (0.017)	0.003** (0.001)		
Noncompliant (t-1) x Post 2015			0.035* (0.013)	0.007*** (0.001)		
Noncompliant: Far (t-1) x Post 2012					0.071** (0.016)	0.003*** (0.001)
Noncompliant: Far (t-1) x Post 2015					0.043** (0.012)	0.007*** (0.001)
Noncompliant: Close (t-1) x Post 2012					-0.019 (0.030)	0.000 (0.002)
Noncompliant: Close (t-1) x Post 2015					0.008 (0.038)	0.008** (0.002)
Compliant (t-1) x Post 2012			-0.038 (0.037)	-0.005 (0.003)	-0.042 (0.035)	-0.005 (0.003)
Compliant (t-1) x Post 2015			-0.030 (0.047)	0.004 (0.004)	-0.034 (0.046)	0.004 (0.004)
Controls + City x Year + Firm f.e.	Y	Y	Y	Y	Y	Y
Number of observations	796,412	750,447	796,412	750,447	796,412	750,447
Number of firms	103,710	101,589	103,710	101,589	103,710	101,589
Adjusted R-squared	0.42	0.23	0.42	0.23	0.42	0.23

Notes: Standard errors (in parentheses) double-clustered at the firm and year levels. The constant is omitted. Omitted category: smaller firms not subject to the quota in the prior year. Below but close indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Below and close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. *p < 0.05; **p < 0.01; ***p < 0.001

Thirdly, we assessed the robustness of our results with respect to different operationalizations of how far noncompliant firms were from meeting their quotas. This is an important test since our heterogeneity analyses investigate not only simply whether firms were compliant or not with quota targets, but also dig deeper by decomposing a set of noncompliant firms based on how close they were from their targets. Specifically, we use three different definitions of distance to quota targets, with our results being consistent throughout:

- Table B1.3.4 shows that firms that failed to comply to the quota law by a large margin (*Noncompliant: Far-N*) responded more strongly to the institutional changes even if we redefine distances to the quota threshold using the absolute number of workers with disabilities as the main reference (as opposed to the compliance ratio). We remain, however, cautious, as this approach may render our measures too vulnerable to disparities in firm size.
- Table B1.3.5 provides similar evidence on the strength of firms' responses using the compliance ratio as a continuous measure of "distance to the quota".
- Table B1.3.6 shows that our results are also robust to re-defining our thresholds for the compliance ratio (40 % and 60%, respectively).

Throughout the robustness analyses reported here, the patterns of heterogeneous effects reported in the main text continue to hold: non-compliant firms respond the most to the strengthening of the quota monitoring and to the passing of the non-discrimination law, especially if they are trailing the quota targets by a substantial difference.

Table B1.3.4 – Redefining distance-to-quota-threshold dummies based on the number of workers with disabilities

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Noncompliant: Far - Must Hire More than 3 PwD				Noncompliant: Far - Must Hire More than 8 PwD			
Dependent Variable	All firms Hired PwD	All firms Hired PwD	All firms Share PwD on Hires	All firms Share PwD on Hires	All firms Hired PwD	All firms Hired PwD	All firms Share PwD on Hires	All firms Share PwD on Hires
Noncompliant:Far-N (t-1)	0.099*** (0.002)	0.007*** (0.000)	0.044*** (0.003)	0.003*** (0.000)	0.090*** (0.003)	0.007*** (0.000)	0.037*** (0.004)	0.003*** (0.000)
Noncompliant:Close-N (t-1)	0.074*** (0.002)	0.005*** (0.000)	0.037*** (0.002)	0.002*** (0.000)	0.080*** (0.002)	0.006*** (0.000)	0.034*** (0.002)	0.002*** (0.000)
Compliant-N (t-1)	0.014*** (0.004)	-0.001** (0.000)	0.063*** (0.007)	0.001 (0.001)	0.011** (0.004)	-0.001** (0.000)	0.061*** (0.007)	0.001 (0.001)
Noncompliant:Far-N (t-1) x Post 2012			0.065*** (0.003)	0.003*** (0.000)			0.064*** (0.004)	0.003*** (0.000)
Noncompliant:Far-N (t-1) x Post 2015			0.044*** (0.003)	0.008*** (0.000)			0.036*** (0.004)	0.008*** (0.000)
Noncompliant:Close-N (t-1) x Post 2012			0.045*** (0.003)	0.002*** (0.000)			0.054*** (0.002)	0.003*** (0.000)
Noncompliant:Close-N (t-1) x Post 2015			0.028*** (0.003)	0.006*** (0.000)			0.035*** (0.003)	0.007*** (0.000)
Compliant-N (t-1) x Post 2012			-0.039*** (0.008)	-0.005*** (0.001)			-0.038*** (0.008)	-0.005*** (0.001)
Compliant-N (t-1) x Post 2015			-0.029*** (0.006)	0.004*** (0.001)			-0.030*** (0.006)	0.004*** (0.001)
Controls + City x Year + Firm f.e.	Y	Y	Y	Y	Y	Y	Y	Y
Number of observations	796,412	750,447	796,412	750,447	796,412	750,447	796,412	750,447
Number of firms	103,710	101,589	103,710	101,589	103,710	101,589	103,710	101,589
Adjusted R-squared	0.42	0.23	0.42	0.23	0.42	0.23	0.42	0.23

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant:Close-N indicates firms that needed to hire 3 PwD or less (Models 1-4) or 8 PwD or less (Models 5-8) in the prior year (t-1), in order to fulfill their quota. Noncompliant:Far-N indicates firms needed to hire more than 3 PwD (Models 1-4) or more than 8 PwD (Models 5-8) in the prior year (t-1), in order to fulfill their quota. Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001.

Table B1.3.5 – Using the continuous Compliance Ratio to proxy for distance to the quota thresholds

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms
Dependent Variable	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires
Compliance ratio (t-1)	0.011*** (0.002)	0.005* (0.002)	0.000 (0.001)	-0.000 (0.001)	0.022*** (0.003)	0.016*** (0.003)	0.002 (0.001)	0.001 (0.001)
Compliance ratio (t-1) x Post 2012					-0.022*** (0.004)	-0.024*** (0.004)	-0.004*** (0.001)	-0.004*** (0.001)
Compliance ratio (t-1) x Post 2015					-0.034*** (0.009)	-0.034*** (0.010)	-0.001 (0.001)	-0.001 (0.001)
Control variables	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	N	Y	N	Y	N	Y	N
City x Year fixed effects	N	Y	N	Y	N	Y	N	Y
Firm fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Number of observations	148,559	142,928	148,450	142,818	148,559	142,928	148,450	142,818
Number of firms	17,832	17,256	17,831	17,255	17,832	17,256	17,831	17,255
Adjusted R-squared	0.34	0.36	0.27	0.27	0.34	0.36	0.27	0.27

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Compliance ratio (t-1) is the ratio between the number of PwD in a firm's workforce and the total number mandated by the quota law (lagged by one year). Larger firms correspond to those with at least 100 employees in all sample years *p < 0.05; **p < 0.01; ***p < 0.001

Table B1.3.6 – Different thresholds for the distance-to-the-quota dummies

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Below and far x close: Cutoff at 40%				Below and far x close: Cutoff at 60%			
Dependent Variable	All firms Hired PwD	All firms Hired PwD	All firms Share PwD on Hires	All firms Share PwD on Hires	All firms Hired PwD	All firms Hired PwD	All firms Share PwD on Hires	All firms Share PwD on Hires
Noncompliant:Far-ACR (t-1)	0.074*** (0.002)	0.005*** (0.000)	0.013*** (0.002)	0.001*** (0.000)	0.077*** (0.002)	0.006*** (0.000)	0.021*** (0.002)	0.002*** (0.000)
Noncompliant:Close-ACR (t-1)	0.128*** (0.003)	0.008*** (0.000)	0.134*** (0.005)	0.004*** (0.000)	0.114*** (0.003)	0.006*** (0.000)	0.127*** (0.005)	0.003*** (0.000)
Compliant(t-1)	0.030*** (0.004)	-0.001 (0.000)	0.079*** (0.007)	0.002 (0.001)	0.020*** (0.004)	-0.001** (0.000)	0.071*** (0.007)	0.001 (0.001)
Noncompliant:Far-ACR (t-1) x Post 2012			0.073*** (0.002)	0.003*** (0.000)			0.067*** (0.002)	0.003*** (0.000)
Noncompliant:Far-ACR (t-1) x Post 2015			0.043*** (0.002)	0.006*** (0.000)			0.042*** (0.002)	0.007*** (0.000)
Noncompliant:Close-ACR (t-1) x Post 2012			-0.016*** (0.005)	0.000 (0.000)			-0.021*** (0.006)	-0.000 (0.001)
Noncompliant:Close-ACR (t-1) x Post 2015			0.009* (0.004)	0.009*** (0.000)			0.005 (0.005)	0.008*** (0.000)
Compliant (t-1) x Post 2012			-0.042*** (0.008)	-0.005*** (0.001)			-0.041*** (0.008)	-0.005*** (0.001)
Compliant (t-1) x Post 2015			-0.034*** (0.006)	0.004*** (0.001)			-0.033*** (0.006)	0.004*** (0.001)
Controls + City x Year + Firm f.e.	Y	Y	Y	Y	Y	Y	Y	Y
Number of observations	796,412	750,447	796,412	750,447	796,412	750,447	796,412	750,447
Number of firms	103,710	101,589	103,710	101,589	103,710	101,589	103,710	101,589
Adjusted R-squared	0.42	0.23	0.42	0.23	0.42	0.23	0.42	0.23

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant: Close-ACR indicates firms with compliance ratio above 40% (Models 1-4) or 60% (Models 5-8) in the prior year (t-1). Noncompliant: Far-ACR indicates firms with compliance ratio below 40% (Models 1-4) or 60% (Models 5-8) in the prior year (t-1). Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001.

Assessing alternative explanations

In parallel with the online appendix B1.2, we also conducted a series of analyses to rule out that our patterns of heterogeneous responses to the 2012 strengthening of the Quota Law and the 2015 Inclusion Law emerged simply from changes in firm size – which affect firms’ need to meet quota targets and the targets themselves – or from other firm-level characteristics that affect both their distance to quota thresholds and their responses to new policy shocks.

Starting with considerations about firms’ size, Table B1.3.7 presents analyses showing that analyses that restrict the sample to large firms (i.e., firms that are always subject to the quota law) and using compliers as the reference group yield similar results to those reported in the main text (Table 2, where firms that were not subject to the Quota Law – and thus smaller – were the reference group). Table B1.3.8 also shows that our results remain unchanged when we control for nonlinear size effects by adding dummies for percentiles of the employee count, rather than controlling for the logged number of employees.

In addition, one may also be concerned that firms in our sample may also accumulate experience over time that enables them to hire workers more easily while also developing capabilities to respond to policies more swiftly – both elements that could create heterogeneity in their compliance status with quota mandates and reaction to the policies we study. In Table B1.3.9 we report results that show that the main results are robust to specifications that control for years-since-founding (in addition to firm fixed effects), while removing year-level fixed effects.

Our final concern related to firm-level features that could confound our heterogeneity estimates. In particular distance from quota achievement itself is time-varying at the firm-level and thus it may be difficult to disentangle the potential heterogeneous effects to institutional changes from other firm-level choices related to meeting quota requirements. To reduce concerns that the results are driven by these choices to meet the quota requirements over time, instead of by new policy shocks, Table B1.3.10 reports analyses that focus on a subsample of firms that *never* moved across the distance-to-the-quota-target categories (i.e., Noncompliant: Far, Noncompliant: Close, and Compliant). This subsample comprises roughly 50% of the firms in our main sample. The direction and interpretation of the results are similar to those reported in Table 2 of the manuscript.

Table B1.3.7 – Restricting the sample to larger firms (100 employees or more)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms	Larger firms
Dependent Variable	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires
Noncompliant: Far (t-1)	0.026*** (0.005)	0.046*** (0.006)	0.009*** (0.000)	0.011*** (0.001)	-0.085*** (0.009)	-0.058*** (0.009)	0.002 (0.001)	0.003** (0.001)
Noncompliant: Close (t-1)	0.076*** (0.005)	0.083*** (0.005)	0.009*** (0.000)	0.010*** (0.000)	0.042*** (0.009)	0.051*** (0.009)	0.004*** (0.001)	0.005*** (0.001)
Noncompliant: Far (t-1) x Post 2012					0.100*** (0.010)	0.091*** (0.011)	0.008*** (0.001)	0.007*** (0.001)
Noncompliant: Far (t-1) x Post 2015					0.083*** (0.009)	0.088*** (0.009)	0.003*** (0.001)	0.005*** (0.001)
Noncompliant: Close (t-1) x Post 2012					0.009 (0.011)	0.006 (0.012)	0.003** (0.001)	0.003* (0.001)
Noncompliant: Close (t-1) x Post 2015					0.046*** (0.009)	0.049*** (0.010)	0.006*** (0.001)	0.006*** (0.001)
Control variables	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	N	Y	N	Y	N	Y	N
City x Year fixed effects	N	Y	N	Y	N	Y	N	Y
Firm fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Number of observations	148,559	142,928	148,450	142,818	148,559	142,928	148,450	142,818
Number of firms	17,832	17,256	17,831	17,255	17,832	17,256	17,831	17,255
Adjusted R-squared	0.34	0.36	0.27	0.28	0.35	0.36	0.28	0.28

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant: Far indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Noncompliant: Close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. Larger firms correspond to those with at least 100 employees in all sample years. Omitted category: firms above the quota threshold in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001

Table B1.3.8 – Accounting for nonlinear firm-size effects

Dependent Variable	(1) Hired PwD	(2) Share PwD on Hires	(3) Hired PwD	(4) Share PwD on Hires	(5) Hired PwD	(6) Share PwD on Hires	(7) Hired PwD	(8) Share PwD on Hires
Noncompliant (t-1)	0.045*** (0.002)	0.006*** (0.000)	-0.011*** (0.002)	0.001*** (0.000)				
Noncompliant: Far (t-1)					0.040*** (0.002)	0.005*** (0.000)	-0.028*** (0.002)	0.001*** (0.000)
Noncompliant: Close (t-1)					0.088*** (0.003)	0.007*** (0.000)	0.086*** (0.005)	0.003*** (0.000)
Compliant (t-1)	-0.010** (0.003)	-0.002*** (0.000)	0.021** (0.006)	0.001 (0.001)	0.006 (0.004)	-0.001* (0.000)	0.036*** (0.007)	0.001 (0.001)
Noncompliant (t-1) x Post 2012			0.058*** (0.002)	0.003*** (0.000)				
Noncompliant (t-1) x Post 2015			0.052*** (0.002)	0.007*** (0.000)				
Noncompliant: Far (t-1) x Post 2012							0.072*** (0.002)	0.004*** (0.000)
Noncompliant: Far (t-1) x Post 2015							0.060*** (0.002)	0.007*** (0.000)
Noncompliant: Close (t-1) x Post 2012							-0.018*** (0.005)	0.000 (0.000)
Noncompliant: Close (t-1) x Post 2015							0.027*** (0.004)	0.008*** (0.000)
Compliant (t-1) x Post 2012			-0.033*** (0.008)	-0.005*** (0.001)			-0.037*** (0.008)	-0.005*** (0.001)
Compliant (t-1) x Post 2015			-0.005 (0.006)	0.004*** (0.001)			-0.009 (0.006)	0.004*** (0.001)
Controls + City x Year + Firm F.E.	Y	Y	Y	Y	Y	Y	Y	Y
Number of observations	796,412	750,447	796,412	750,447	796,412	750,447	796,412	750,447
Number of firms	103,710	101,589	103,710	101,589	103,710	101,589	103,710	101,589
Adjusted R-squared	0.43	0.23	0.43	0.23	0.43	0.23	0.43	0.23

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant: Far indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Noncompliant: Close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. Omitted category: smaller firms not subject to the quota in the prior year. This table presents results in which percentile dummies for the number of employees are used as controls, instead of the logged number of employees. All variables are defined as above. *p < 0.05; **p < 0.01; ***p < 0.001.

Table B1.3.9 – Controlling for years-since-founding

	(1)	(2)	(3)	(4)
Dependent Variable	Hired PwD	Share PwD on Hires	Hired PwD	Share PwD on Hires
Post 2012	-0.023*** (0.001)	-0.002*** (0.000)	-0.022*** (0.001)	-0.002*** (0.000)
Post 2015	-0.020*** (0.001)	-0.001*** (0.000)	-0.019*** (0.001)	-0.001*** (0.000)
Noncompliant (t-1)	0.027*** (0.002)	0.002*** (0.000)		
Noncompliant: Far (t-1)			0.013*** (0.002)	0.001*** (0.000)
Noncompliant: Close (t-1)			0.130*** (0.005)	0.003*** (0.000)
Compliant (t-1)	0.058*** (0.007)	0.001 (0.001)	0.078*** (0.007)	0.001 (0.001)
Noncompliant (t-1) x Post 2012	0.061*** (0.002)	0.003*** (0.000)		
Noncompliant (t-1) x Post 2015	0.035*** (0.002)	0.007*** (0.000)		
Noncompliant: Far (t-1) x Post 2012			0.073*** (0.002)	0.003*** (0.000)
Noncompliant: Far (t-1) x Post 2015			0.041*** (0.002)	0.006*** (0.000)
Noncompliant: Close (t-1) x Post 2012			-0.013* (0.005)	0.000 (0.000)
Noncompliant: Close (t-1) x Post 2015			0.008 (0.005)	0.008*** (0.000)
Compliant (t-1) x Post 2012	-0.032*** (0.008)	-0.005*** (0.001)	-0.038*** (0.008)	-0.005*** (0.001)
Compliant (t-1) x Post 2015	-0.027*** (0.006)	0.005*** (0.001)	-0.031*** (0.006)	0.004*** (0.001)
Control variables	Y	Y	Y	Y
Years-since-founding dummies	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y
Number of observations	804,102	758,204	804,102	758,204
Number of firms	104,459	102,358	104,459	102,358
Adjusted R-squared	0.42	0.23	0.42	0.23

Notes: Standard errors clustered at the firm level. The constant is omitted. Noncompliant: Far indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Noncompliant: Close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001

Table B1.3.10 – Restricting the sample to firms that never switch quota categories

	(1)	(2)	(3)	(4)
	Firms that never switch among quota categories			
Dependent Variable	Hired PwD	Share PwD on Hires	Hired PwD	Share PwD on Hires
Noncompliant: Far (t-1)	0.036***	0.001***	0.036***	0.001***
x Post 2012	(0.005)	(0.000)	(0.005)	(0.000)
Noncompliant: Far (t-1)	0.023***	0.002***	0.024***	0.002***
x Post 2015	(0.005)	(0.000)	(0.005)	(0.000)
Noncompliant: Close (t-1)	-0.010	-0.003*	-0.008	-0.003*
x Post 2012	(0.015)	(0.001)	(0.015)	(0.001)
Noncompliant: Close (t-1)	-0.018	0.005***	-0.017	0.005***
x Post 2015	(0.015)	(0.001)	(0.015)	(0.001)
Compliant (t-1)	-0.027	0.000	-0.032	0.001
x Post 2012	(0.030)	(0.006)	(0.029)	(0.006)
Compliant (t-1)	-0.082*	-0.007	-0.079*	-0.008
x Post 2015	(0.035)	(0.005)	(0.035)	(0.005)
Control variables	Y	Y	Y	Y
Year fixed effects	Y	Y	N	N
City x Year fixed effects	N	N	Y	Y
Firm fixed effects	Y	Y	Y	Y
Number of observations	420,232	386,516	412,366	378,615
Number of firms	56,101	54,170	55,261	53,317
Adjusted R-squared	0.40	0.28	0.39	0.28

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Noncompliant: Far indicates firms whose number of PwD in the workforce corresponded to less than 50% of their minimum mandated quota in the prior year (t-1). Noncompliant: Close indicates firms whose number of PwD in the workforce was above 50% of their minimum mandated quota (at year t-1) but still below the quota. Sample restricted to firms that never switch among the quota categories (i.e., not subject to the quota, Compliant, Noncompliant: Far and Noncompliant: Close). Omitted category: smaller firms never subject to the quota. *p < 0.05; **p < 0.01; ***p < 0.001

Furthermore, Table B1.3.11 shows that firms trailing their quotas increased the share of workers across all disability types, while Figure A3.4 (Appendix A3) suggests that within-worker changes in disability status following the Inclusion Law are unlikely to meaningfully impact our results.

Table B1.3.11 – Heterogeneous responses by disability type

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	Share of Physical Disabilities	Share of Hearing Disabilities	Share of Visual Disabilities	Share of Mental Disabilities	Share of Other Disabilities
Noncompliant (t-1)	-0.0002* (0.000)	-0.0002*** (0.000)	-0.0003*** (0.000)	-0.0002*** (0.000)	-0.0002*** (0.000)
Compliant (t-1)	0.0064*** (0.001)	0.0026*** (0.000)	0.0003*** (0.000)	0.0007*** (0.000)	0.0040*** (0.001)
Noncompliant (t-1) x Post 2012	0.0011*** (0.000)	0.0005*** (0.000)	0.0004*** (0.000)	0.0003*** (0.000)	0.0003*** (0.000)
Noncompliant (t-1) x Post 2015	0.0017*** (0.000)	0.0005*** (0.000)	0.0008*** (0.000)	0.0003*** (0.000)	0.0002*** (0.000)
Compliant (t-1) x Post 2012	-0.0025*** (0.001)	-0.0008* (0.000)	0.0005*** (0.000)	0.0002 (0.000)	-0.0036*** (0.001)
Compliant (t-1) x Post 2015	0.0016*** (0.000)	0.0005 (0.000)	0.0013*** (0.000)	0.0005*** (0.000)	0.0003 (0.000)
Controls + City x Year + Firm f.e.	Y	Y	Y	Y	Y
Number of observations	796,412	796,412	796,412	796,412	796,412
Number of firms	103,710	103,710	103,710	103,710	103,710
Adjusted R-squared	0.48	0.48	0.48	0.41	0.48

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Omitted category: smaller firms not subject to the quota in the prior year. “Share of other disabilities” aggregates multiple disabilities and a category known as “rehabilitated”. All variables are defined as above. *p < 0.05; **p < 0.01; ***p < 0.001

B1.4 – Assessing the role of the external labor market on diversity outcomes: labor market-tightness

While our theoretical framework focuses on firm-level responses, we acknowledge that external market-level conditions may not only change due to the policy shocks, but also critically shape firm-level responses. As a result, we report here additional results showing how our main results interact with the tightness of the local labor market – a critical market-level condition that shapes the ability of firms to hire new workers with disabilities, and thus promote diversity outcomes. Labor market tightness is critical not only because it represents the supply of potential workers to be hired at any given time, but also because policy shocks that increase the potential demand for these workers may also intensify competition in these markets – thus having a potential effect of making it more difficult for firms to hire new workers with disabilities.

In summary, the results we report here show how relative lower availability of workers with disabilities in a labor market reduces firm-level responses to the institutional changes studied in the paper, i.e., for firms to react to strengthening of quota mandates and non-discrimination laws in terms of increasing diversity outcomes, the external supply of workers with disability (and potential competition for then) must be sufficiently high (low).

Specifically, we used data from the 2010 Brazilian Census to calculate the total population of working-age PwD across Brazilian cities. We then created a proxy for the total compliance-implied number of jobs for PwD by summing, at the city level, the minimum number of PwD that firms would need to hire to comply with the Quota Law (as of 2010). Using these data, we computed Quota tightness in 2010 as the ratio of this minimum hiring requirement to the total PwD working-age population. Higher values of quota tightness indicate cities where firms would have a lower relative supply of PwD to hire from, compared with the number of hires defined by the Quota Law.

Tables B1.4.1 to B1.4.3 show that firms based in cities with a tighter labor market for PwD responded less positively to the follow-on institutional changes over the 2012-2017 period, that is, stronger firm-level responses in terms of diversity outcomes depend on weaker external constraints on the supply side.

Table B1.4.1 - Accounting for the supply-side of the labor market: quota tightness at the municipality level

	(1)	(2)	(3)	(4)	(5)	(6)
	High tightness	Lower tightness	All firms	High tightness	Lower tightness	All firms
Dependent Variable	Hired PwD	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires	Share PwD on Hires
Noncompliant (t-1)	0.022*** (0.003)	0.040*** (0.003)	0.039*** (0.003)	0.001*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Compliant (t-1)	0.071*** (0.010)	0.043*** (0.009)	0.045*** (0.009)	0.003* (0.002)	-0.001 (0.001)	-0.001 (0.001)
Noncompliant (t-1) x Post 2012	0.059*** (0.003)	0.053*** (0.003)	0.053*** (0.003)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
Noncompliant (t-1) x Post 2015	0.022*** (0.003)	0.054*** (0.003)	0.054*** (0.003)	0.006*** (0.000)	0.009*** (0.000)	0.008*** (0.000)
Compliant (t-1) x Post 2012	-0.063*** (0.011)	-0.012 (0.011)	-0.014 (0.011)	-0.009*** (0.002)	-0.001 (0.001)	-0.001 (0.001)
Compliant (t-1) x Post 2015	-0.027** (0.009)	-0.033*** (0.009)	-0.034*** (0.009)	0.006*** (0.001)	0.003** (0.001)	0.003** (0.001)
High quota tightness in 2010 x Noncompliant			-0.017*** (0.004)			-0.001 (0.000)
High quota tightness in 2010 x Compliant			0.027* (0.013)			0.005* (0.002)
Noncompliant (t-1) x Post 2012 x High quota tightness in 2010			0.006 (0.004)			-0.000 (0.000)
Noncompliant (t-1) x Post 2015 x High quota tightness in 2010			-0.032*** (0.004)			-0.002*** (0.000)
Compliant (t-1) x Post 2012 x High quota tightness in 2010			-0.049** (0.016)			-0.008*** (0.002)
Compliant (t-1) x Post 2015 x High quota tightness in 2010			0.006 (0.013)			0.003* (0.001)
Controls & City x Year + Firm fix. eff.	Y	Y	Y	Y	Y	Y
Number of observations	369,440	389,336	760,658	348,767	366,842	717,464
Number of firms	48,963	51,990	98,753	47,929	50,815	96,785
Adjusted R-squared	0.44	0.41	0.42	0.25	0.22	0.24

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. High quota tightness in 2010 indicates firms in the upper quartiles of "Quota tightness in local labor markets in 2010," which is defined as the ratio between the expected number of positions for workers with disabilities in a given municipality (implied by the quota law) and the number of people with disabilities at work age in the same municipality, both calculated in 2010. Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001

Table B1.4.2 – Accounting for the supply-side of the labor market: measuring quota tightness as a continuous variable

	(1)	(2)	(3)	(4)
Moderator: Logged or Unlogged	Logged	Unlogged	Logged	Unlogged
Dependent Variable	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires
Noncompliant (t-1)	0.031*** (0.004)	0.032*** (0.003)	0.002*** (0.000)	0.002*** (0.000)
Compliant (t-1)	0.083*** (0.013)	0.047*** (0.009)	0.004* (0.002)	-0.000 (0.001)
Noncompliant (t-1) x Post 2012	0.052*** (0.004)	0.058*** (0.003)	0.002*** (0.000)	0.003*** (0.000)
Noncompliant (t-1) x Post 2015	0.011** (0.004)	0.052*** (0.003)	0.006*** (0.000)	0.008*** (0.000)
Compliant (t-1) x Post 2012	-0.075*** (0.016)	-0.015 (0.011)	-0.011*** (0.002)	-0.002* (0.001)
Compliant (t-1) x Post 2015	-0.030* (0.013)	-0.035*** (0.009)	0.007*** (0.001)	0.003*** (0.001)
Quota tightness in 2010 x Noncompliant	0.001 (0.002)	-0.004 (0.007)	0.000 (0.000)	0.000 (0.001)
Quota tightness in 2010 x Compliant	0.016* (0.007)	0.039 (0.021)	0.002* (0.001)	0.004 (0.002)
Noncompliant (t-1) x Quota tightness in 2010 x Post 2012	-0.003 (0.002)	-0.008 (0.007)	-0.000 (0.000)	-0.001* (0.001)
Noncompliant (t-1) x Quota tightness in 2010 x Post 2015	-0.016*** (0.002)	-0.048*** (0.007)	-0.001*** (0.000)	-0.003*** (0.001)
Compliant (t-1) x Quota tightness in 2010 x Post 2012	-0.023** (0.008)	-0.079** (0.027)	-0.004*** (0.001)	-0.010*** (0.003)
Compliant (t-1) x Quota tightness in 2010 x Post 2015	0.000 (0.006)	0.017 (0.023)	0.002** (0.001)	0.005* (0.002)
Controls & City x Year + Firm fixed effects	Y	Y	Y	Y
Number of observations	760,658	773,929	717,464	729,337
Number of firms	98,753	100,517	96,785	98,469
Adjusted R-squared	0.42	0.42	0.24	0.23

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Quota tightness in 2010 is logged in models 1 and 3, and unlogged in models 2 and 4. Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001

Table B1.4.3 – Additional robustness check: Distances-from-the-quota and labor market supply

	(1)	(2)	(3)	(4)
Dependent Variable	Hired PwD	Hired PwD	Share PwD on Hires	Share PwD on Hires
Sample	High quota tightness in 2010	Low quota tightness in 2010	High quota tightness in 2012	Low quota tightness in 2012
Noncompliant: Far (t-1)	0.006 (0.003)	0.022*** (0.003)	0.001** (0.000)	0.002*** (0.000)
Noncompliant: Close (t-1)	0.123*** (0.007)	0.133*** (0.007)	0.004*** (0.001)	0.002*** (0.001)
Compliant (t-1)	0.089*** (0.010)	0.057*** (0.009)	0.004* (0.002)	-0.002 (0.001)
Noncompliant: Far (t-1) x Post 2012	0.072*** (0.003)	0.067*** (0.003)	0.003*** (0.000)	0.004*** (0.000)
Noncompliant: Far (t-1) x Post 2015	0.028*** (0.003)	0.066*** (0.004)	0.006*** (0.000)	0.008*** (0.000)
Noncompliant: Close (t-1) x Post 2012	-0.016* (0.007)	-0.019** (0.007)	-0.001 (0.001)	0.001 (0.001)
Noncompliant: Close (t-1) x Post 2015	-0.002 (0.006)	0.021** (0.007)	0.007*** (0.001)	0.009*** (0.001)
Compliant (t-1) x Post 2012	-0.067*** (0.011)	-0.017 (0.011)	-0.009*** (0.002)	-0.001 (0.001)
Compliant (t-1) x Post 2015	-0.030** (0.009)	-0.036*** (0.009)	0.005*** (0.001)	0.003** (0.001)
Controls + City x Year + Firm f.e.	Y	Y	Y	Y
Number of observations	796,412	796,412	750,447	750,447
Number of firms	48,963	51,990	47,929	50,815
Adjusted R-squared	0.41	0.41	0.36	0.23

Notes: Standard errors (in parentheses) clustered at the firm level. The constant is omitted. Omitted category: smaller firms not subject to the quota in the prior year. *p < 0.05; **p < 0.01; ***p < 0.001

B1.5 – Newly Hired Workers and Additional Diversity Outcomes

In this subsection of the Appendix, we report supporting analyses and extensions pertaining to the analyses that study the composition and differences between newly hired workers with and without disabilities, as reported in section 5.4 in the main text. These additional analyses focus specifically on: (1) descriptive evidence about the composition of new hires, and (2) robustness of the results reported in Figures 4 and 5 in the main text pertaining to the differences in the entry-level wages and characteristics of newly hired workers with disabilities relative to their counterparts. Throughout, the sample of new workers is the same as one that is described in section 5.3 in the main text. The econometric specifications follow equation (3) in the main text.

The goal of these analyses is to provide further understanding about the substance of the firm-level diversity outcomes by answering the question: who were the “marginal hires” as the new policies led firms to increase their diversity efforts?

Descriptive evidence about the composition of new hires with and without disabilities

Table B1.5.1 reports descriptive statistics with respect to the profile of newly hired workers with and without disabilities. Specifically, each panel investigates how differences in occupation, age, entry-level salaries, and education of PwD and non-PwD hires within our sample varied across the study’s three time periods (2008-2011, 2012-2014, and 2015-2017). Our analyses consider both the full new hires sample and the subsample focused on workers with less (recent) experience in a formal job.

A descriptive pattern that emerged was that firms seemed increasingly likely to hire PwD workers with less favorable employment profiles (relative to non-PwD hires). In particular, firms increased their relative hiring of new PwD workers for lower-skilled occupations (i.e. occupations requiring a lower level of formal education (“level 2”) based on the Brazilian Occupation Classification Code), workers who were older, and workers with a lower entry-level salary in the post-2012 years (panels A, B, and C, respectively). Interestingly, no particular pattern emerged in terms of increasing or decreasing the fraction of individuals being hired with only elementary school education (panels D/E).

Table B1.5.1 – Differences in newly hired workers' characteristics over time

Panel A		Hired in lower-skilled occupations					
		Less experience in the formal labor market			All new hires		
		Hired in:			Hired in:		
		2008-2011	2012 - 2014	2015-2017	2008-2011	2012 - 2014	2015-2017
(a) Non-PwD	Mean	0.9108	0.9116	0.9015	0.8656	0.8665	0.8595
	S.E.	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002
(b) PwD	Mean	0.9391	0.9489	0.9512	0.9121	0.9179	0.9249
	S.E.	0.0009	0.0009	0.0014	0.0010	0.0008	0.0010
(a) - (b)	Mean	-0.0283	-0.0373	-0.0496	-0.0465	-0.0514	-0.0654
Panel B		Age					
		Less experience in the formal labor market			All new hires		
		Hired in:			Hired in:		
		2008-2011	2012 - 2014	2015-2017	2008-2011	2012 - 2014	2015-2017
(a) Non-PwD	Mean	28.4395	27.6519	26.6183	32.8489	33.4266	34.3511
	S.E.	0.0035	0.0040	0.0073	0.0032	0.0031	0.0052
(b) PwD	Mean	29.3839	28.9162	28.2256	33.0526	34.2930	35.4420
	S.E.	0.0355	0.0409	0.0657	0.0310	0.0274	0.0376
(a) - (b)	Mean	-0.9444	-1.2644	-1.6073	-0.2037	-0.8665	-1.0909
Panel C		Wage (nominal, Brazilian Reais)					
		Less experience in the formal labor market			All new hires		
		Hired in:			Hired in:		
		2008-2011	2012 - 2014	2015-2017	2008-2011	2012 - 2014	2015-2017
(a) Non-PwD	Mean	941.1450	1258.5180	1579.1680	1415.1940	1830.9110	2168.9480
	S.E.	0.3727	0.5366	1.2261	0.6363	0.6996	1.3870
(b) PwD	Mean	798.2828	1075.9900	1328.2440	1121.5180	1391.1750	1618.5720
	S.E.	2.3447	2.8570	3.9775	4.2508	4.0293	5.8202
(a) - (b)	Mean	142.8622	182.5280	250.9240	293.6760	439.7360	550.3760

Table B1.5.1 (cont.) – Differences in newly hired workers' characteristics over time

Panel D		Less educated workers (only elementary school)					
		Less experience in the formal labor market			All new hires		
		Hired in:			Hired in:		
		2008-2011	2012 - 2014	2015-2017	2008-2011	2012 - 2014	2015-2017
(a) Non-PwD	N.	7,916,504	6,149,331	1,606,616	8,540,384	9,697,702	3,266,839
	Mean	0.1157	0.0868	0.0579	0.1169	0.0886	0.0637
	S.E.	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001
(b) PwD	N.	78,502	65,611	24,770	87,203	119,324	63,630
	Mean	0.1227	0.0995	0.0710	0.0928	0.0765	0.0606
	S.E.	0.0012	0.0012	0.0016	0.0010	0.0008	0.0009
(a) - (b)	Mean	-0.0070	-0.0127	-0.0131	0.0241	0.0121	0.0031
Panel E		More educated workers (attended college for at least one period)					
		Less experience in the formal labor market			All new hires		
		Hired in:			Hired in:		
		2008-2011	2012 - 2014	2015-2017	2008-2011	2012 - 2014	2015-2017
(a) Non-PwD	Mean	0.0844	0.0897	0.1241	0.1266	0.1319	0.1599
	S.E.	0.0001	0.0001	0.0003	0.0001	0.0001	0.0002
(b) PwD	Mean	0.0639	0.0708	0.0892	0.1047	0.1162	0.1292
	S.E.	0.0009	0.0010	0.0018	0.0010	0.0009	0.0013
(a) - (b)	Mean	0.0205	0.0189	0.0349	0.0219	0.0157	0.0307

Motivated by the differences reported in Panel A – about relative differences in the hiring of PwD workers in occupation that require less skills - Tables B1.5.2 and B1.5.3 answer the question: which occupations are being filled by workers with disabilities? Specifically, they provide evidence on potential relative changes in the occupations of newly hired PwD when compared to non-PwD workers over time.

We note that there is substantial overlap between the top-5 occupations for workers with and without disabilities. Specifically, we consistently see that four out of the five top occupations are common among workers with and without disabilities over time. Thus, we do not observe large disparities in the occupations for which people with and without disabilities are hired. Furthermore, the top five occupations were constant over time for PwD hires: administrative assistant, retail operator or salesperson, production line feeder, building maintenance, and packing and labeling. Four of these occupations also overlapped with

the top five occupations for non-PwD hires (administrative assistant, retail operator or salesperson, production line feeder, building maintenance).

However, despite the overlap in the most frequent occupations, the top five occupations represent a larger share for PwD relative to non-PwD workers: the top five occupations comprise 41–50% of total PwD hires, compared to only 31–40% of non-PwD hires, all of which are characterized as low-skill occupations due to them not requiring higher education. Thus, new PwD hires were generally concentrated in more specific occupations compared with their non-PwD counterparts throughout the entire sample (2008-2017). Furthermore, across all periods, the average wages of workers with disabilities are lower than those of non-PwD workers, *even within the same occupation*. This is true both for the full new hires sample and for the subsample focusing on workers with less job experience in recent years. Thus, we observe a persistent disability-wage-gap amongst new hires even within these low-skill occupations. We interpret these results as suggestive that differences across occupations are unlikely to be the only explanation for the observed wage gaps in the new hires analysis, and that disability wage gaps the time of hiring are likely driven by shifts in the profiles of new hires, but not due to changes in the relative occupations where new PwD and non-PwD hires occupy.

Table B1.5.2 – Ranking the five most common occupations across worker profiles and over time: Workers with less formal job experience

Panel A: Workers <i>without</i> disabilities, less experience in the formal labor market since 2003								
Hired in 2008-2011			Hired in 2012-2014			Hired in 2015-2017		
Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage
retail operator, salesperson	8.28%	883.36	retail operator, salesperson	10.38%	1,212.37	retail operator, salesperson	12.89%	1,504.40
construction helper	7.21%	739.80	building maintenance	6.61%	885.57	administrative assistant	6.59%	1,545.59
administrative assistant	6.23%	953.60	administrative assistant	6.40%	1,252.75	production line feeder	6.58%	1,389.00
production line feeder	5.31%	805.13	construction helper	6.13%	1,043.29	building maintenance	6.51%	1,178.20
building maintenance	5.20%	569.64	production line feeder	5.82%	1,097.57	cashiers and ticket sellers	6.15%	1,348.65
Panel B: Workers <i>with</i> disabilities, less experience in the formal labor market since 2003								
Hired in 2008-2011			Hired in 2012-2014			Hired in 2015-2017		
Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage
administrative assistant	14.54%	795.75	administrative assistant	16.63%	1,073.82	administrative assistant	15.45%	1,330.67
retail operator, salesperson	8.34%	739.05	retail operator, salesperson	11.10%	1,039.75	retail operator, salesperson	13.76%	1,292.29
production line feeder	7.56%	769.40	packaging and labeling	7.51%	870.81	packaging and labeling	8.60%	1,095.70
building maintenance	7.29%	601.67	building maintenance	7.03%	884.79	building maintenance	7.76%	1,142.15
packaging and labeling	6.03%	611.53	production line feeder	6.91%	1,083.40	production line feeder	7.21%	1,374.25

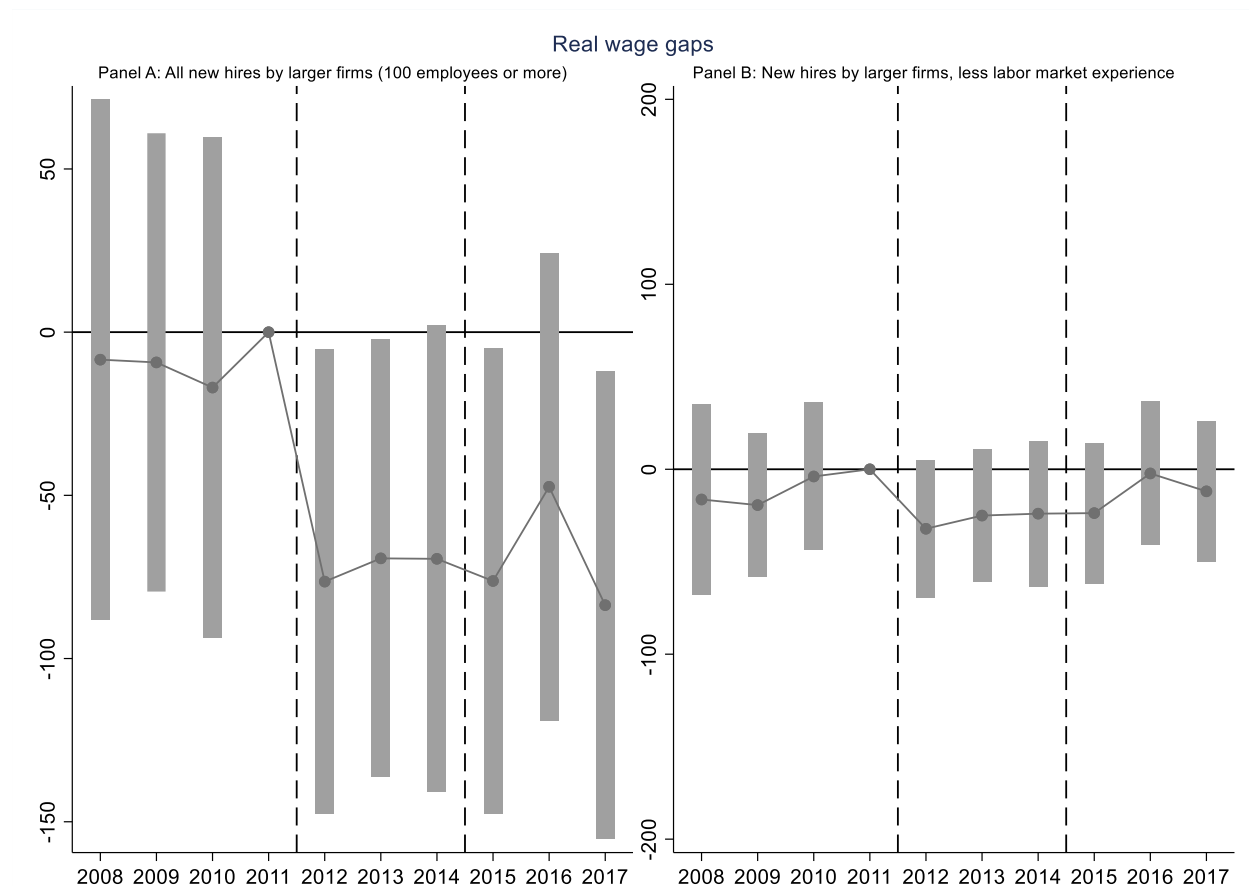
Table B1.5.3 – Ranking the five most common occupations across worker profiles and over time: all new hires

Panel A: Workers <i>without</i> disabilities, all new hires								
Hired in 2008-2011			Hired in 2012-2014			Hired in 2015-2017		
Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage
retail operator, salesperson	6.74%	1,188.82	retail operator, salesperson	7.95%	1,532.49	retail operator, salesperson	10.37%	1,799.25
administrative assistant	6.04%	1,272.28	administrative assistant	5.83%	1,603.81	building maintenance	6.16%	1,226.22
construction helper	4.39%	786.65	building maintenance	4.56%	951.13	administrative assistant	5.22%	1,886.39
production line feeder	4.38%	944.90	production line feeder	4.44%	1,244.69	production line feeder	4.87%	1,528.97
security guard, watchmen	3.10%	1,077.47	construction helper	4.17%	1,109.35	cashier and ticket sellers	3.43%	1,403.80
Panel B: Workers <i>with</i> disabilities, all new hires								
Hired in 2008-2011			Hired in 2012-2014			Hired in 2015-2017		
Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage	Occupation	Freq.	Av. Wage
administrative assistant	18.59%	982.58	administrative assistant	21.50%	1,301.12	administrative assistant	18.23%	1,515.31
production line feeder	7.61%	915.89	retail operator, salesperson	7.78%	1,161.57	retail operator, salesperson	11.32%	1,502.08
retail operator, salesperson	5.74%	940.77	production line feeder	6.93%	1,220.93	production line feeder	7.53%	1,356.20
building maintenance	4.82%	656.18	storekeeper, warehouseperson	5.12%	1,212.64	building maintenance	7.33%	1,417.60
storekeeper, warehouseperson	3.52%	919.07	building maintenance	5.11%	934.56	storekeeper, warehouseperson	6.06%	1,172.58

Additional analyses about disability wage gaps between new hires

The main analyses investigating the disability wage gaps at the time of hiring (reported in section 5.4 in the main paper) use nominal wages. We were careful to assess the robustness of these results to using variables real wages. These results are reported in Figure B1.5.1.

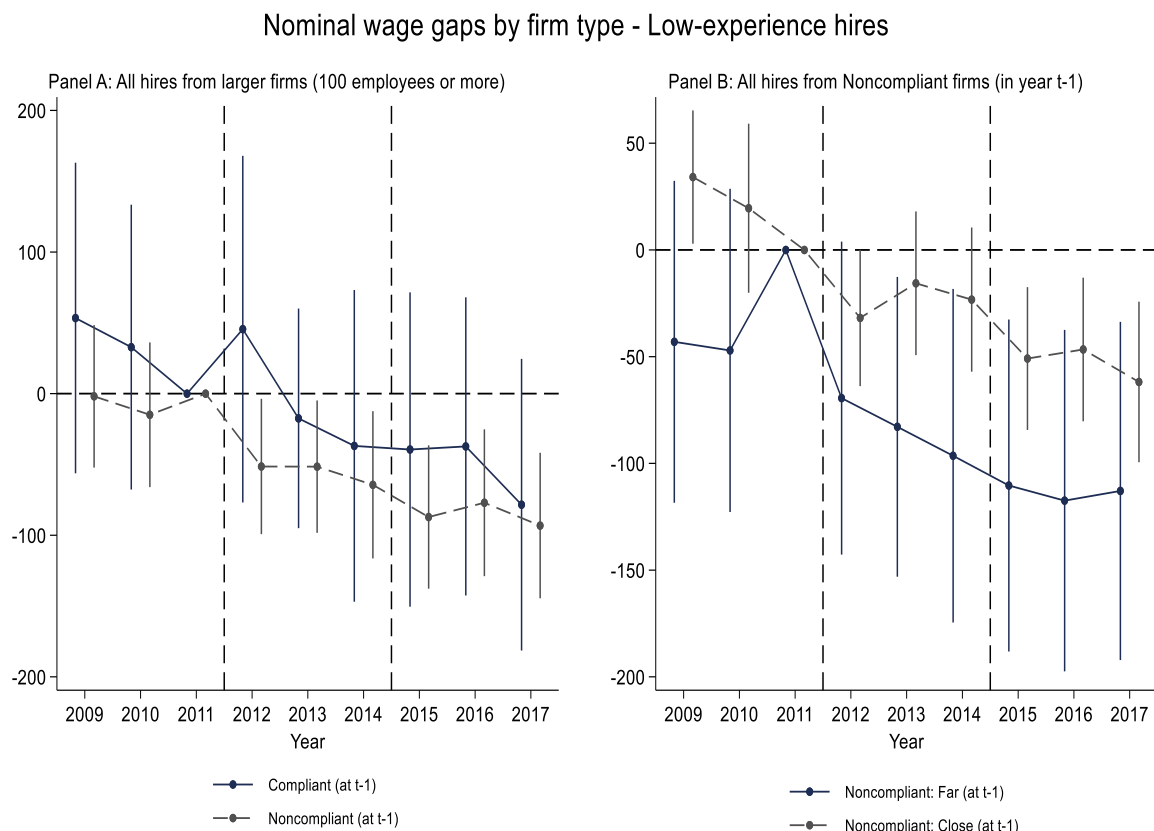
Figure B1.5.1 – Differences in the real wage of newly hired workers



Furthermore, we also assessed that the results pertaining to the heterogeneity across firms in their response to policy shocks in terms of hiring new PwD workers also are consistent with the pattern of wages at the time of hiring. Specifically, given the pattern reported previously that noncompliant firms that were further from their quota targets responded most strongly to the 2012 and 2015 policy shocks, and given that diversity outcomes seem to be triggered by an expansion of the labor market and thus associated with the hiring of more disenfranchised workers (e.g., older workers with disabilities) and in low-skill occupations, we expect that firms further from quotas would also see a widening of the disability wage gap amongst new

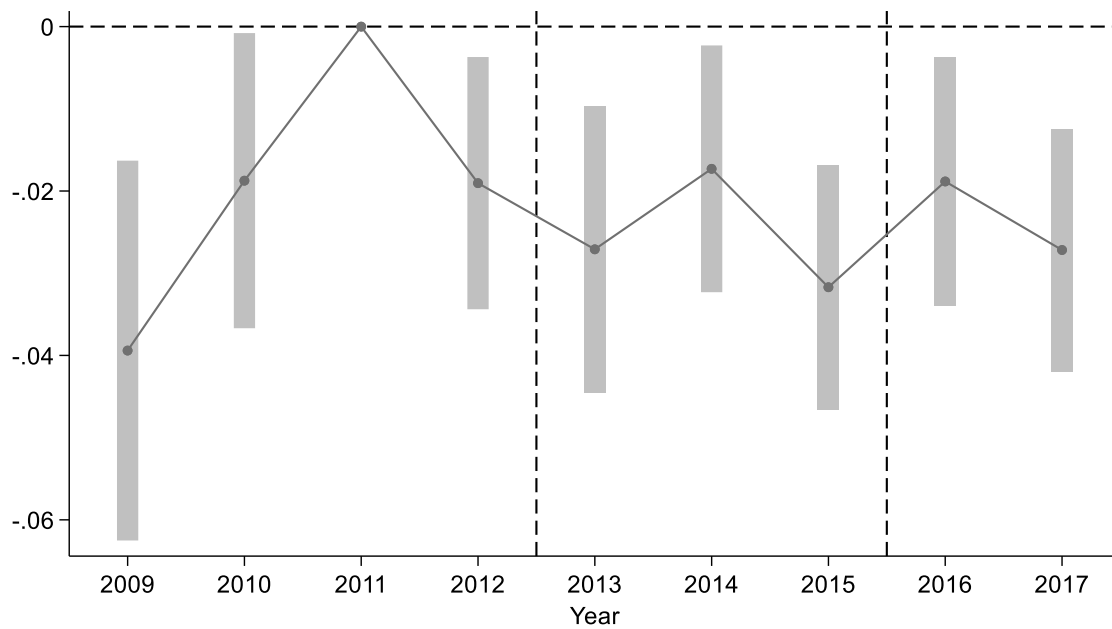
hires relative to other firms. Our data is consistent with this prediction, and results are reported in Figure B1.5.2. Panel A shows that noncompliant firms had a steeper trend in terms of increasing the disability wage gap amongst new hires relative to compliant firms over time (when using the pre-policy year as the baseline year). Furthermore, Panel B shows that amongst noncompliant firms, those that were further from the quota are the ones where the increase in the disability wage gap is most pronounced (relative to noncompliant firms close to their quotas). These results align with the previous patterns of noncompliant firms further from the quota being the most responsive to the subsequent policies.

Figure B1.5.2 – Nominal wage gaps by firm type (workers with less formal job experience)



Lastly, Figure B1.5.3 shows that, while workers without disabilities were more likely to move to higher-paying jobs than PwD, this gap did not increase following the institutional changes.

Figure B1.5.3 – Differences in the likelihood of moving to a higher-wage job in a different firm (workers with less formal labor market experience)



Appendix B2 – Inclusion Outcomes: Analyses on Incumbent Workers

We report two sets of additional results focusing on the inclusion-related outcomes of incumbent PwD (versus non-PwD workers) following the 2012 strengthening of the Quota Law and the 2015 passing of the Inclusion Law. The first set consists of robustness tests to show that our results are not sensitive to changes in the clustering of standard errors and matching approaches. The second set consists of additional analyses expanding on the heterogeneity of the results across quota-compliant and quota-noncompliant firms and analyses that aim to rule out alternative explanations of our findings. Unless otherwise stated, the sample and specifications here follow the same pattern as those of equation (4) in the main text – used to estimate the coefficients reported in Figures 7 through 9.

Robustness

First, Figures B2.1 and B2.2 compare the main characteristics of incumbent PwD workers relative to non-PwD incumbent workers for the main samples used in the main analyses reported in section 6 of the manuscript. Incumbency was assessed in 2011, as described in section 6.1 in the manuscript. Figure B2.1 showcases the importance of the matching approach reported in the main text. PwD incumbent workers received lower wages, were less educated, were younger, more likely to be female and more likely to be in lower-skilled occupations than their non-PwD counterparts. Figure B2.2 shows, however, that after matching incumbent PwD and non-PwD workers using the steps described in the main text, the matched sample results in the set of incumbent workers with similar characteristics.

Figure B2.1 – Workers with disabilities versus workers without disabilities in the full sample (kernel densities and histograms)

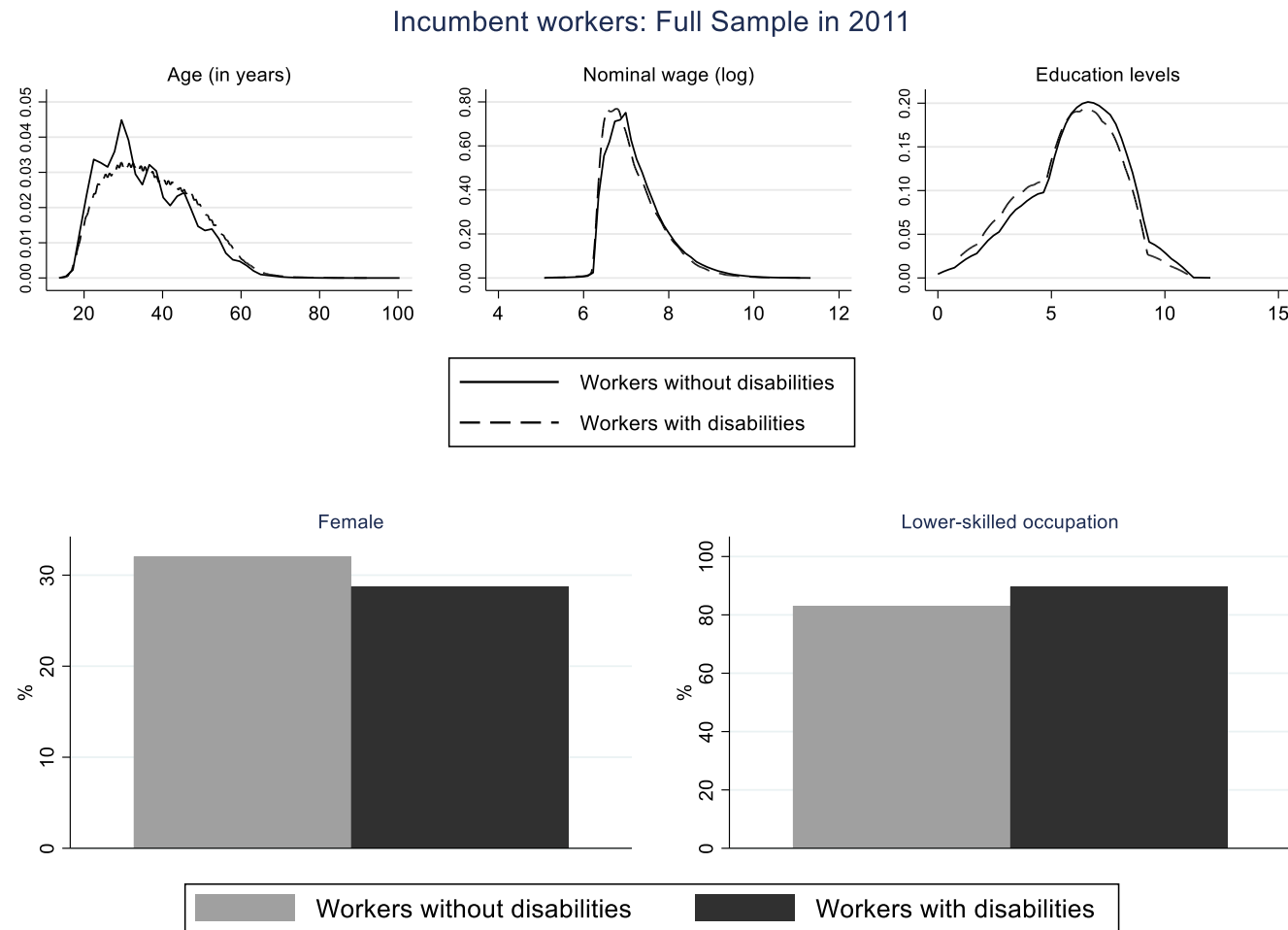
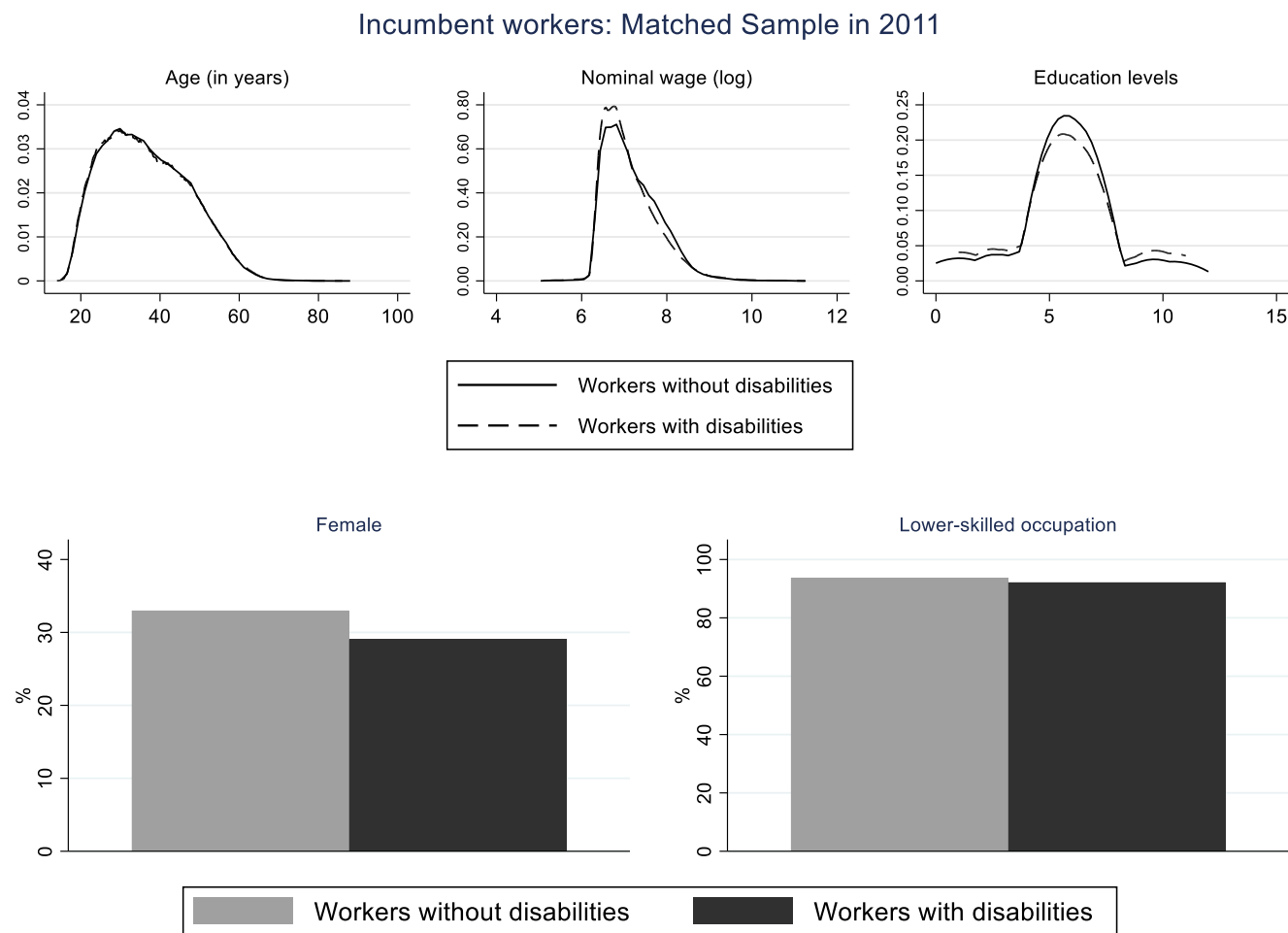


Figure B2.2 – Workers with disabilities versus workers without disabilities in the matched sample (kernel densities and histograms)



Second, Figures B2.3 and B2.4 show that the results reporting an increasing disability wage gap in nominal wages amongst incumbent workers (Figure 7), and predominantly amongst non-compliant firms (Figure 8) is robust using models that rely on real wages instead.

Figure B2. 3 – Real wage trajectories, comparing workers with and without disabilities

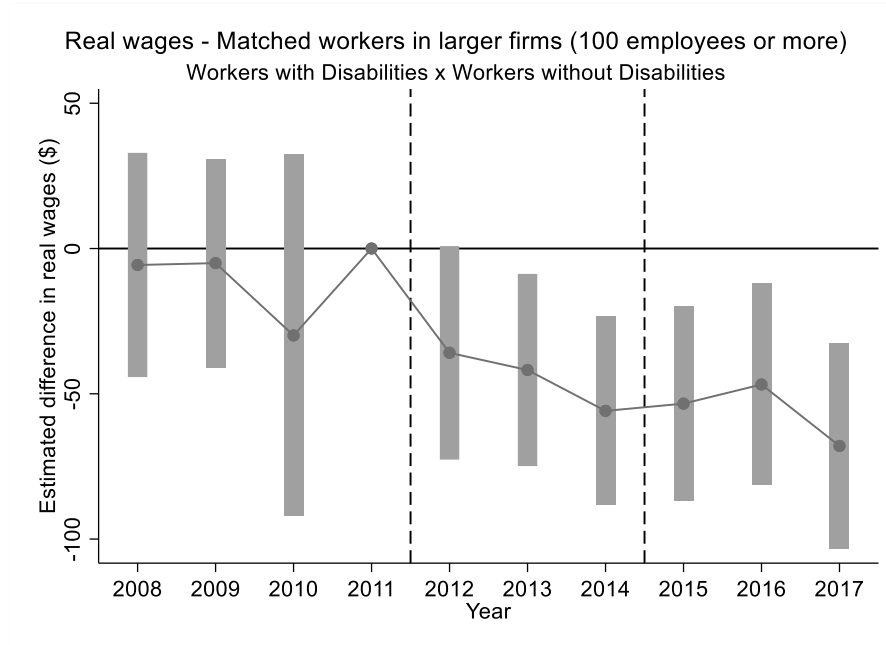
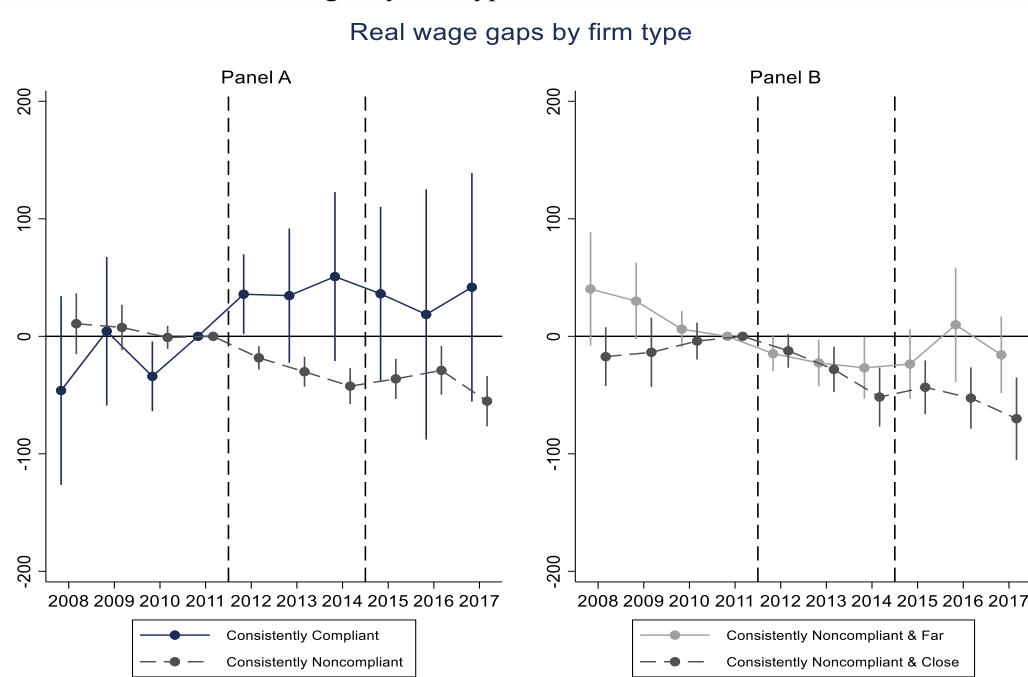


Figure B2.4 – Differences in real wages by firm type



Third, Figures B2.5 and B2.6 also show that the main patterns of results associated with increased job stability and decreased relative career progression for incumbent PwD workers (relative to their non-PwD counterparts) are also mostly driven by quota-noncompliant firms. These results align with those about diversity outcomes, where noncompliant firms are those responding the most to the 2012 and 2015 policy changes.

Figure B2.5 - Likelihood of contract termination by firm type

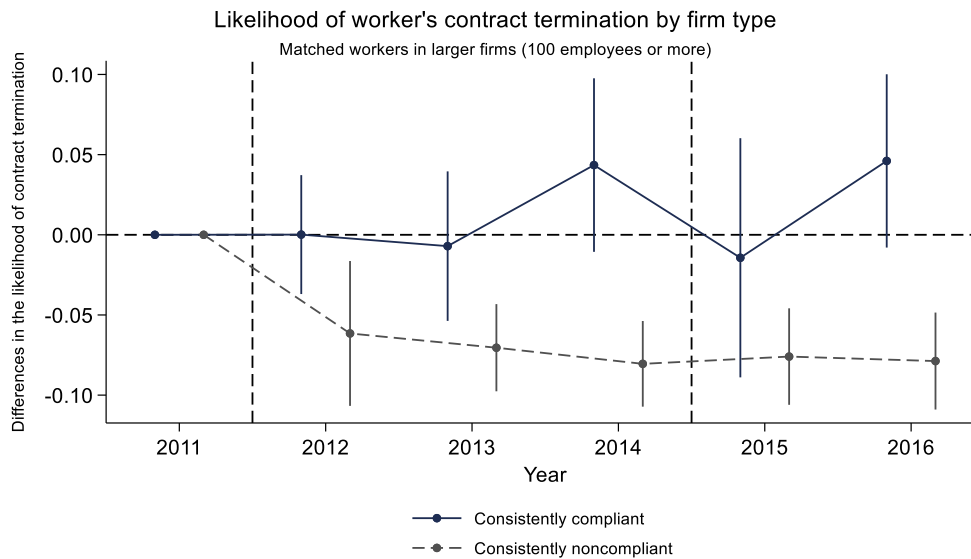
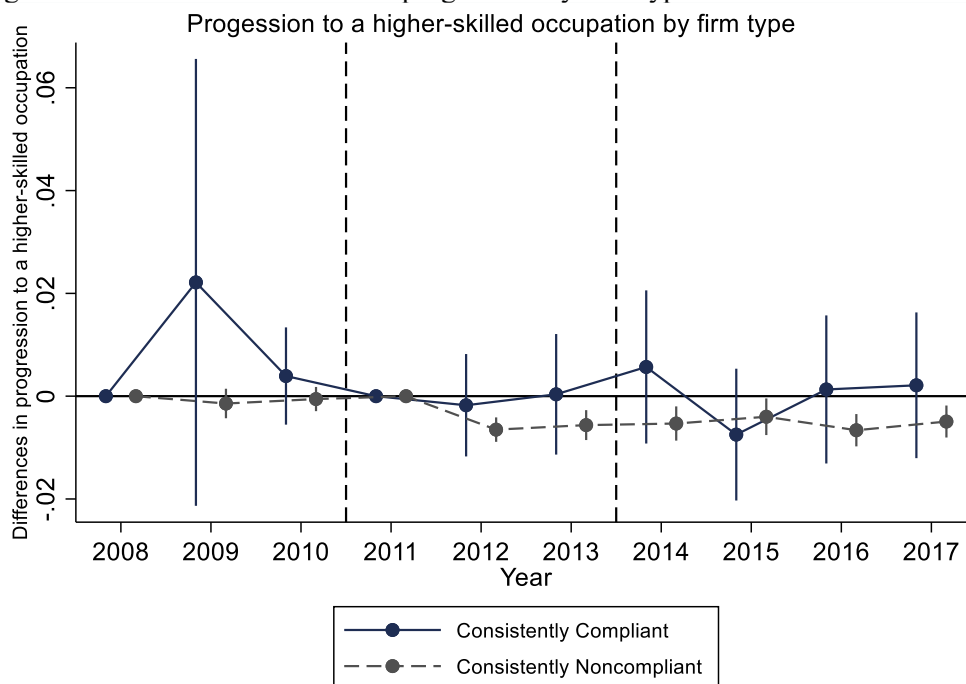


Figure B2.6 – Differences in career progression by firm type



Fourth, as in the robustness analyses reported in section 5, we assessed that the patterns of statistical significance reported in the main text are robust to two-way clustering of the standard errors. Here, we cluster standard errors at both the firm and matched-pair levels to better account for variation that occurs at the level of the matched-pair, considering matched workers have a similar background, and thus variation in their wages, career progression, and job stability may be correlated. Figures B2.7-B2.11 show that our results remain nearly identical when re-estimating the models using this clustering procedure.

Figure B2.7 – Nominal wages - Double-clustering standard errors at both the firm and the matched-pair levels

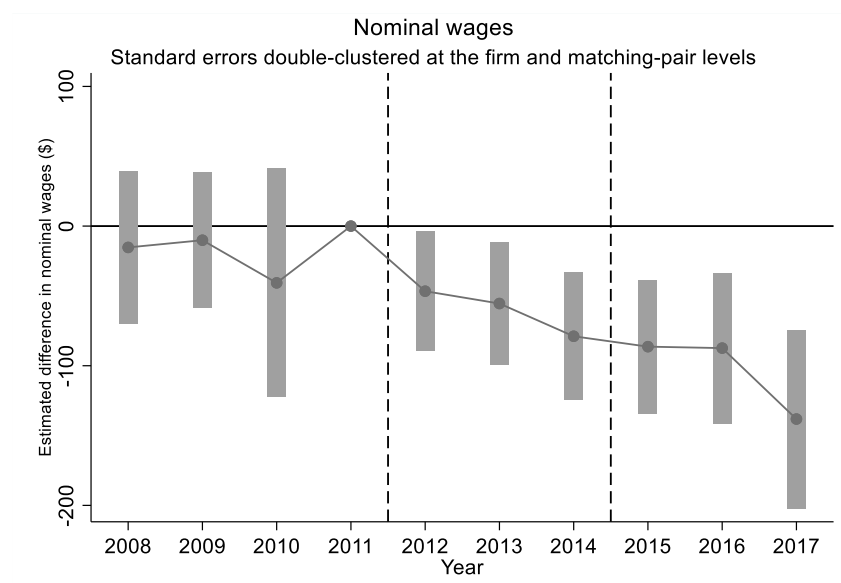


Figure B2.8 – Real wages - Double-clustering standard errors at both the firm and the matched-pair levels

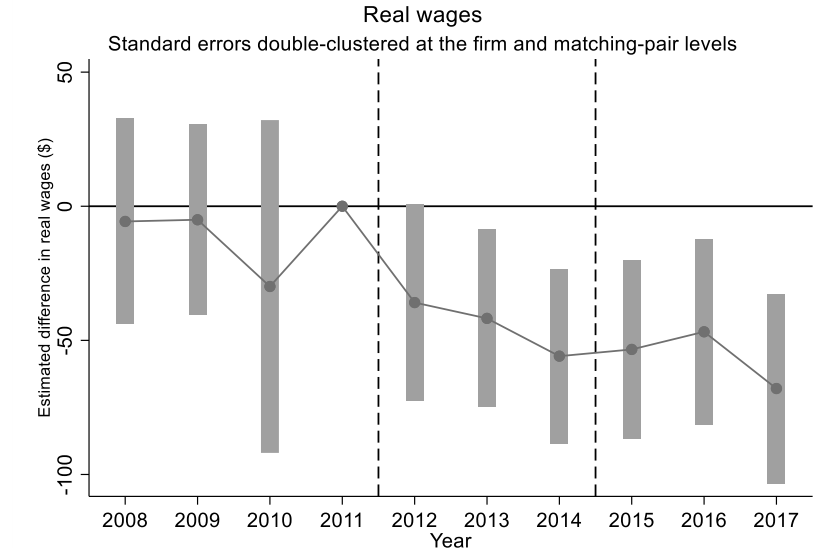


Figure B2.9 – Nominal wage by firm type - Double-clustering standard errors at both the firm and the matched-pair levels

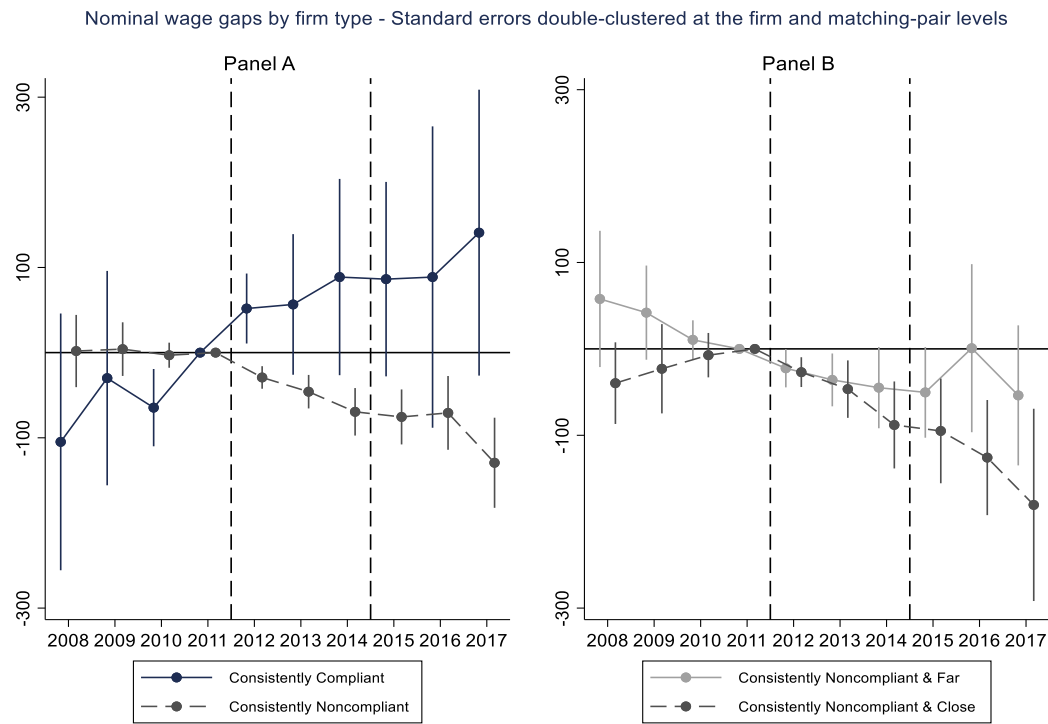


Figure B2.10 –Career progression - Double-clustering standard errors at both the firm and the matched-pair levels

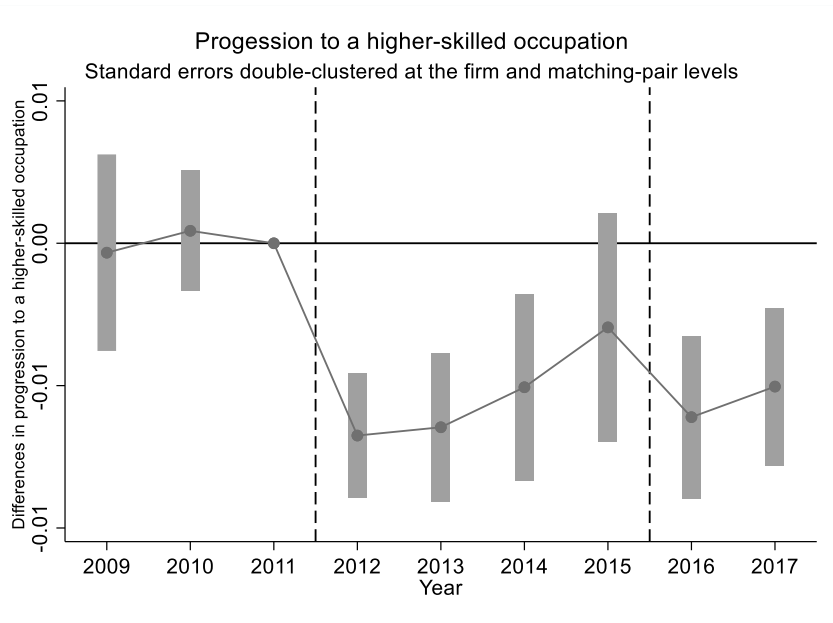
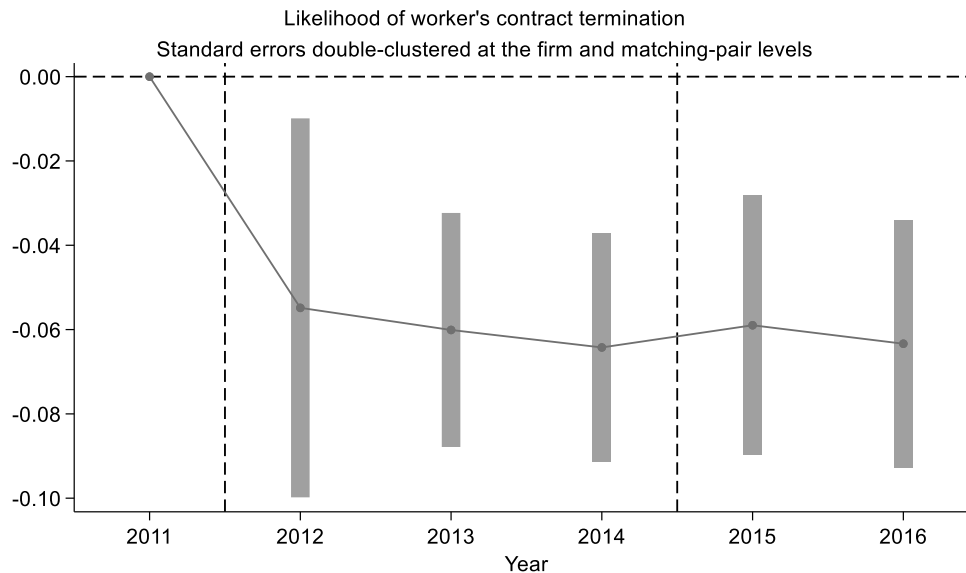


Figure B2.11 – Contract termination likelihood - Double-clustering standard errors at both the firm and the matched-pair levels



Lastly, we assessed whether our main results are robust to two other approaches to match incumbent PwD workers to their non-PwD counterparts.

- Figures B2.12-B2.16 present results from an alternative matched sample, where the first exact-matching stage is based only on firm, occupation (2-digit), and admission year, while the second stage (nearest neighbor) remains unchanged. Although this alternative sample is substantially larger, comprising of 112,873 workers with disabilities (and the same number of matches without disabilities), the results closely mirror our baseline findings.
- We also tested the sensitivity of our results to using the baseline exact-matching procedure but varying the nearest-neighbor matching stage to retain multiple matches (i.e., all workers without disabilities matched to a worker with disabilities). Figures B2.17-B2.21 confirm that our results are highly consistent in this alternative sample.

Figure B2.12 – Nominal wage - Less restrictive exact matching (on firm, occupation and admission year, only)

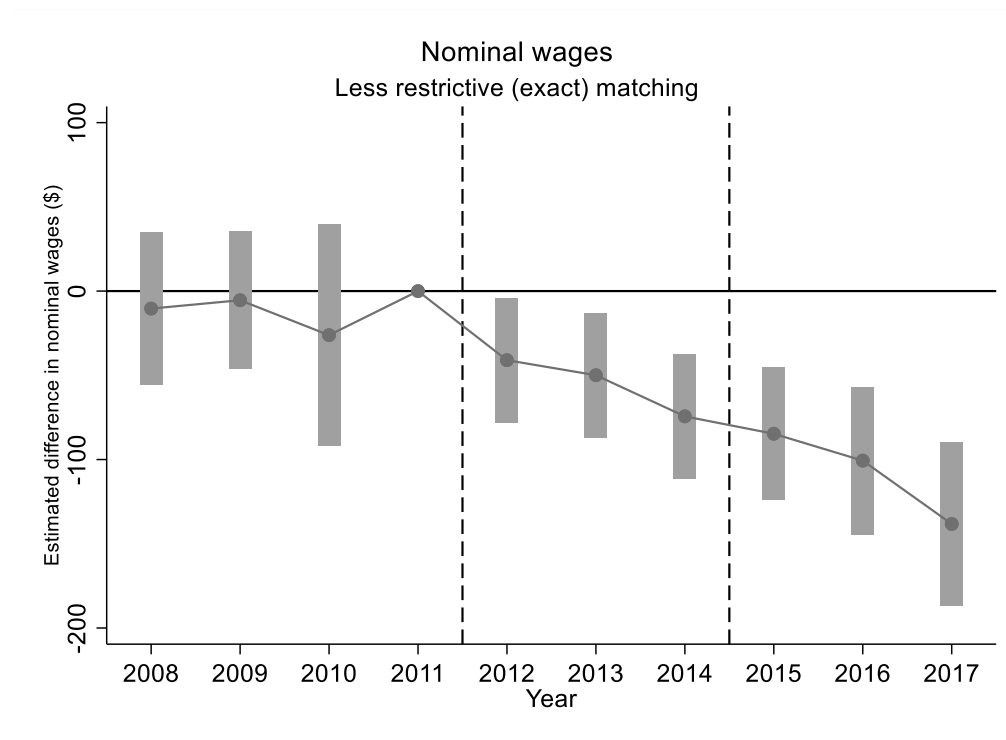


Figure B2.13 – Real wages - Less restrictive exact matching (on firm, occupation and admission year, only)

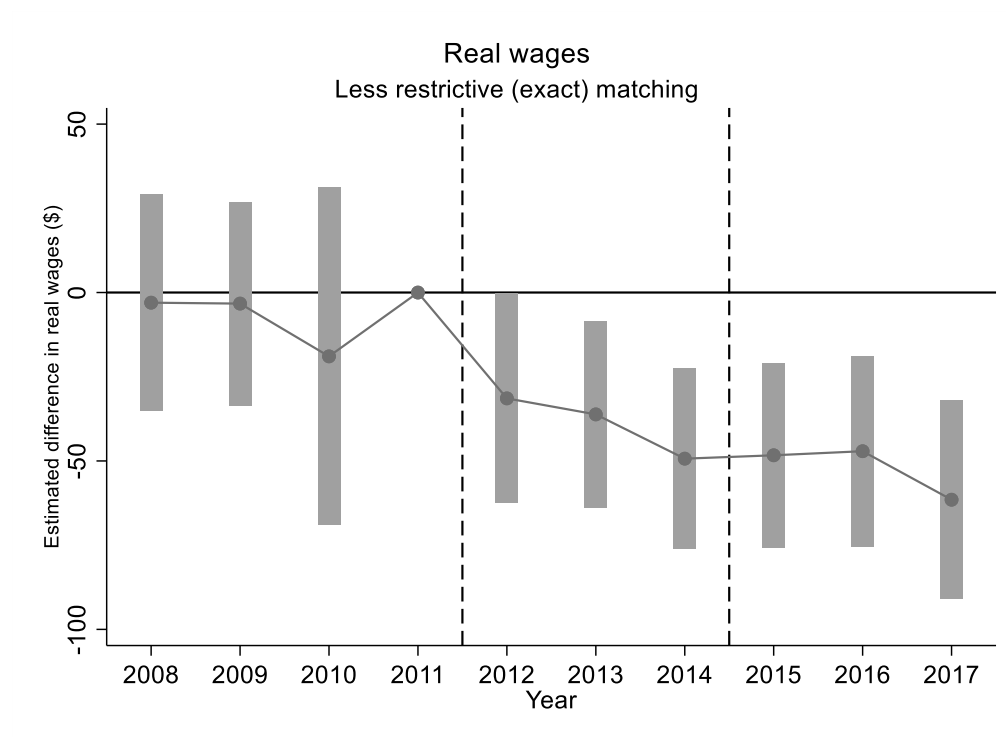


Figure B2.14 – Nominal wage by firm type - Less restrictive exact matching (on firm, occupation and admission year, only)

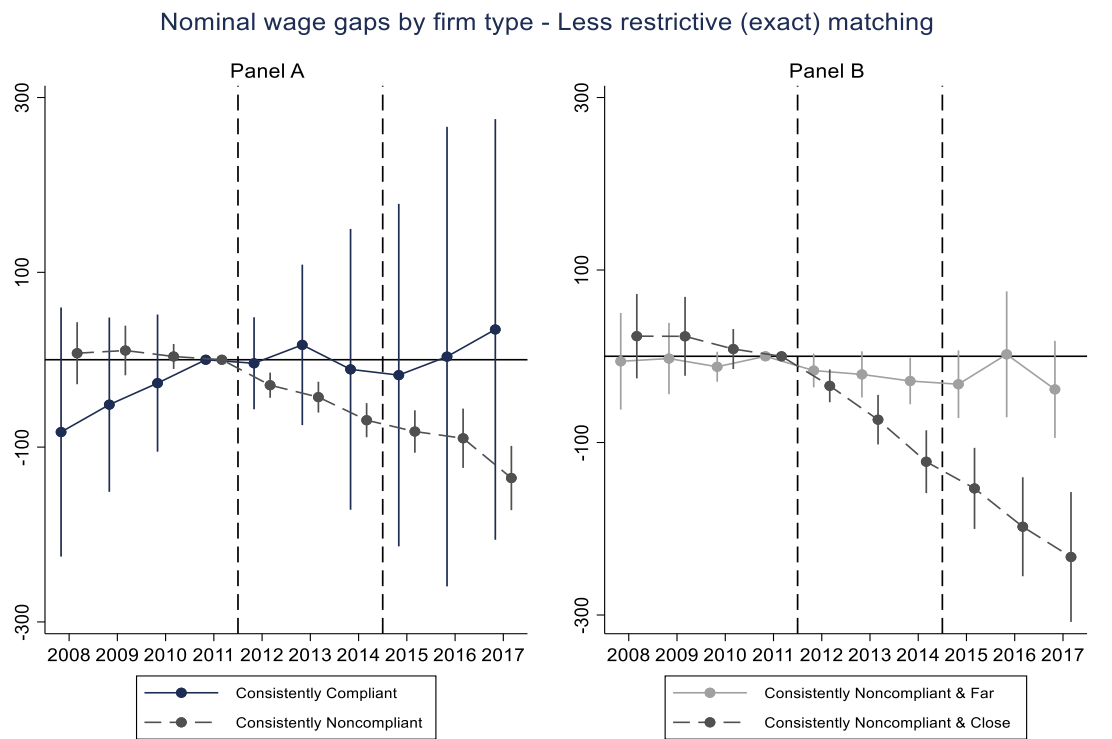


Figure B2.15 – Career progression - Less restrictive exact matching (on firm, occupation and admission year, only)

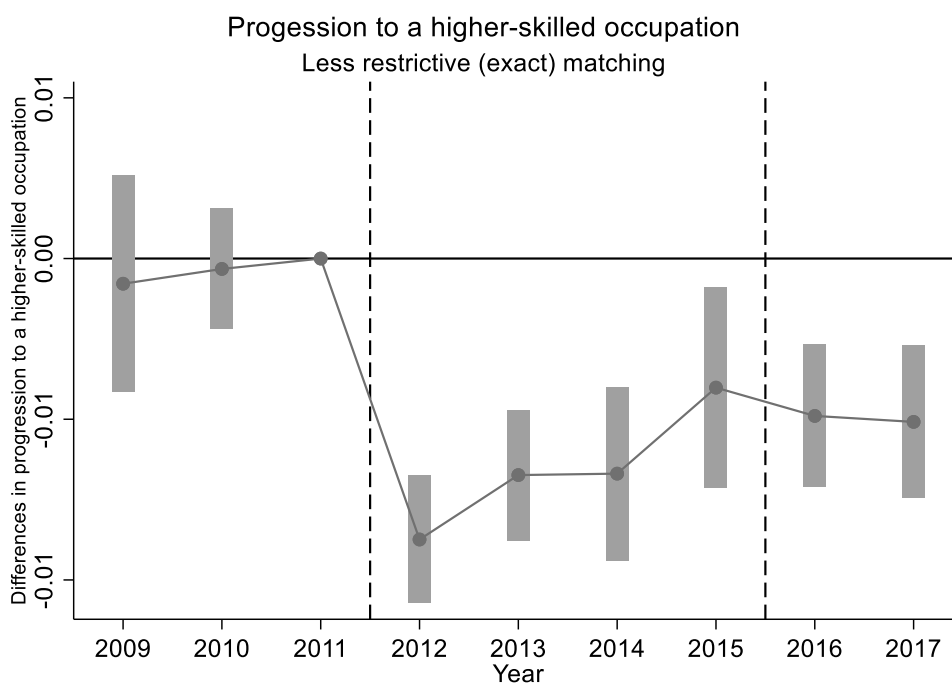


Figure B2.16 – Contract termination likelihood - Less restrictive exact matching (on firm, occupation and admission year, only)

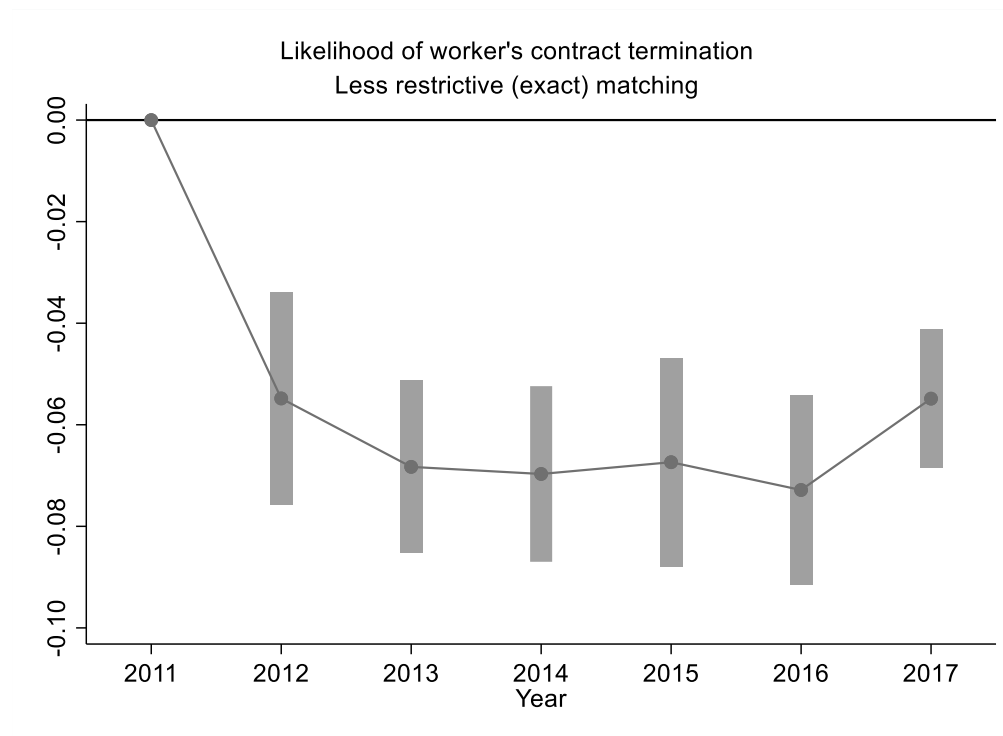


Figure B2.17 – Nominal wages - Restrictive exact matching (as in the baseline), but allowing for multiple matches in the propensity score stage

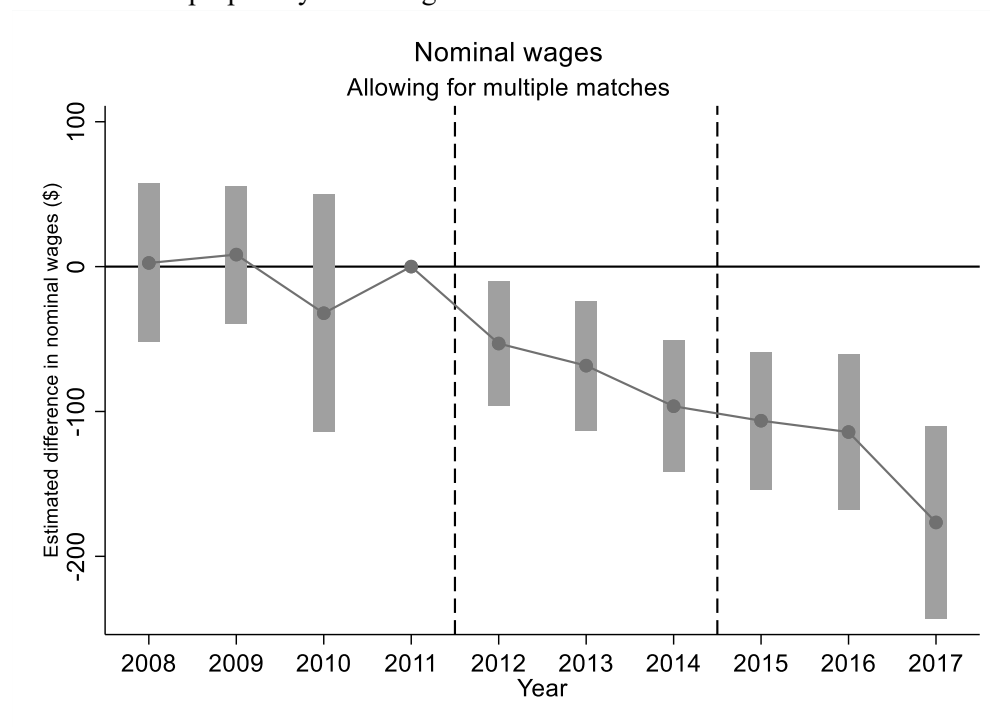


Figure B2.18 – Real wages - Restrictive exact matching (as in the baseline), but allowing for multiple matches in the propensity score stage

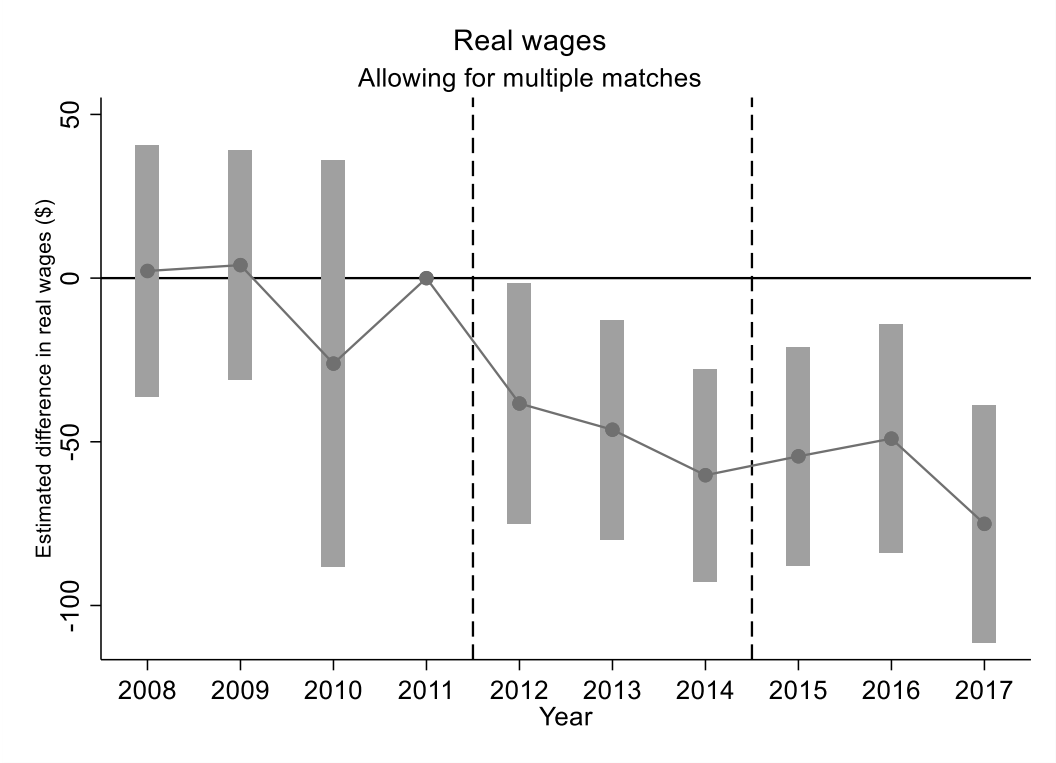


Figure B2.19 – Nominal wage by firm type - Restrictive exact matching (as in the baseline), but allowing for multiple matches in the propensity score stage

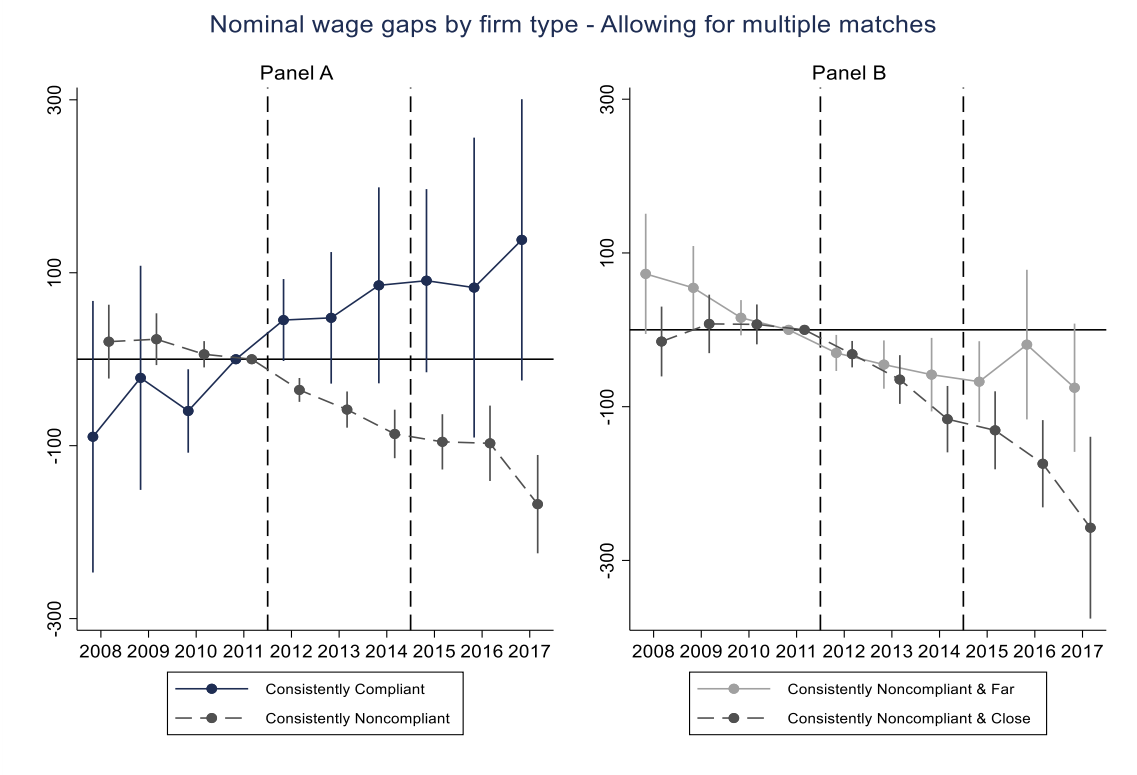


Figure B2.20 – Career progression - Restrictive exact matching (as in the baseline), but allowing for multiple matches in the propensity score stage

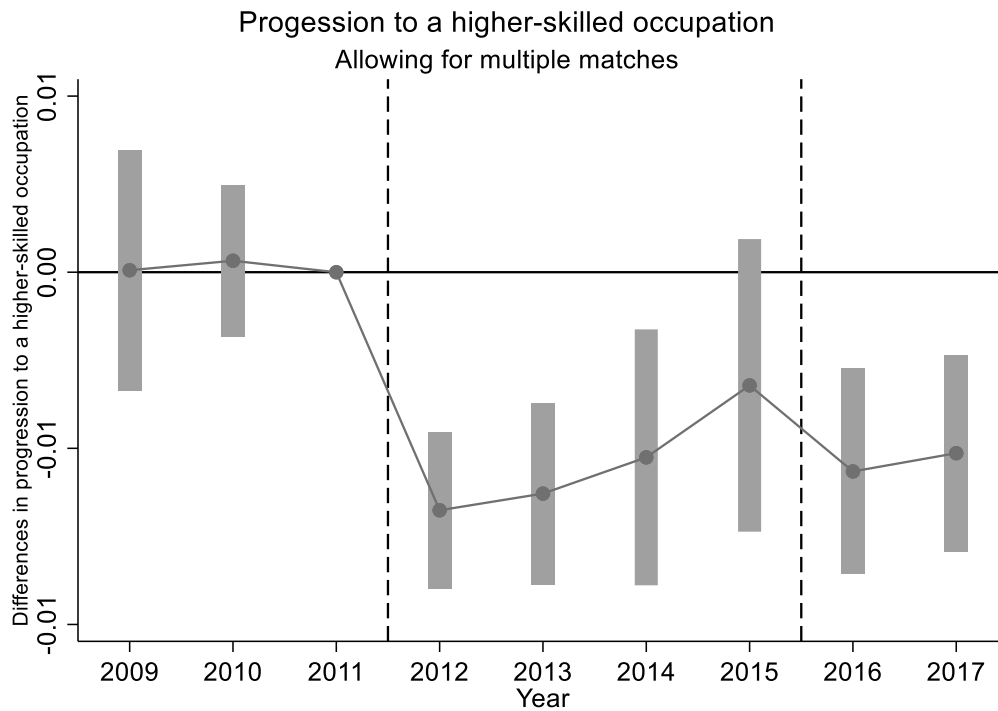
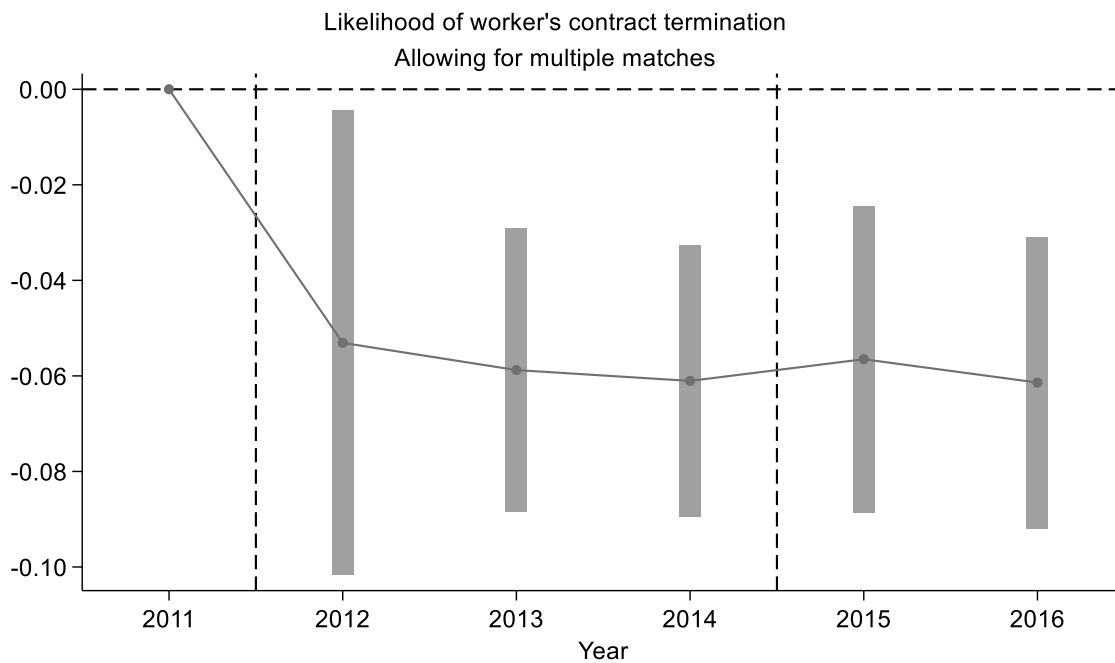


Figure B2.21 – Contract termination likelihood - Restrictive exact matching (as in the baseline), but allowing for multiple matches in the propensity score stage

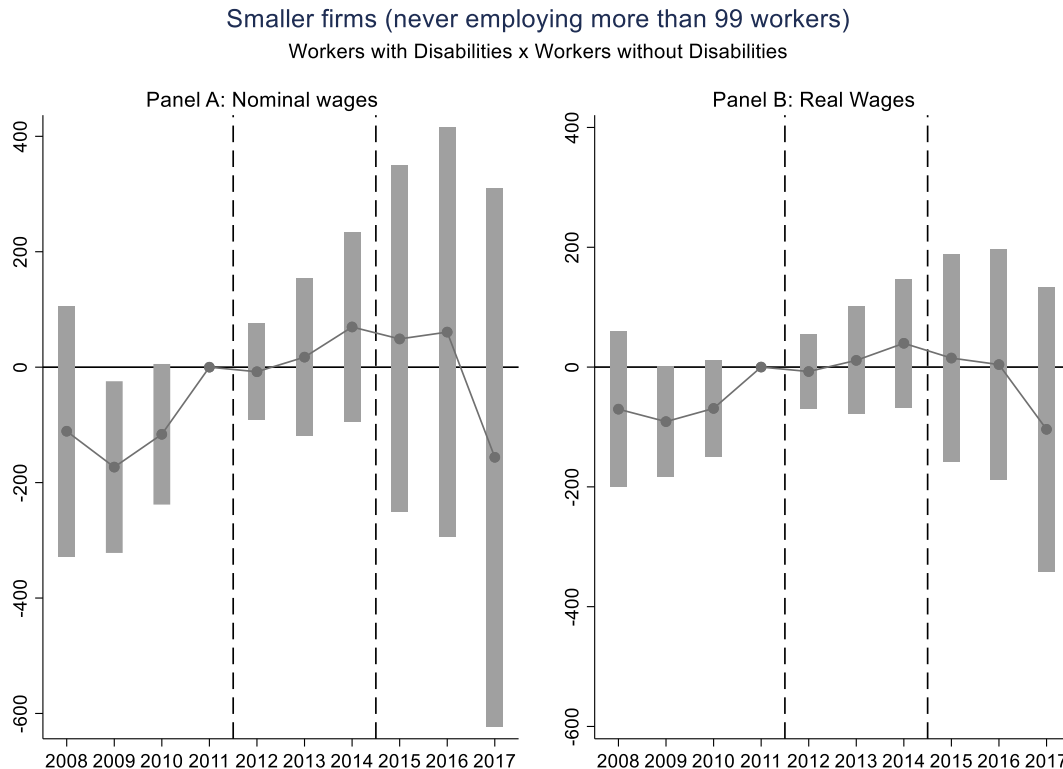


Assessing alternative explanations

In parallel with the online appendix B1, we also conducted a series of analyses to rule out several alternative explanations to our interpretation that wage, career, and job stability relative patterns between incumbent PwD and non-PwD workers were driven by the 2012 strengthening of the Quota Law and the 2015 Inclusion Law.

A first concern – particularly regarding the increasing disability wage gap amongst incumbents – is that our results simply reflect a generalized trend of increasing disability wage gap that is unrelated to the policies we study. Figure B2.19 addresses this concern as it shows that there is no increase in the disability wage gap when studying workers from firms that were always below the 100-employee threshold within our sample, and thus never subject to the quota law. We interpret this result as suggesting that the main patterns we observe following the 2012 are likely to be driven by policy change rather than indicative of trends that were unrelated to the Quota Law enforcement.

Figure B2.19 – Wage trajectories in small firms never subject to the disability quota



A second concern with our results regarding the wages and career progression amongst incumbent workers is that observed patterns may be driven by workers with disabilities having an inherently lower likelihood of changing jobs—and therefore, a higher likelihood of staying in our sample. Yet, as shown in figures B2.20-B23, the main results are consistent if we restrict the sample further to workers that never leave our sample once their labor contract starts.

Figure B2.20 –Nominal wage - Restricting the sample to workers that never drop off from the sample after their initial appearance

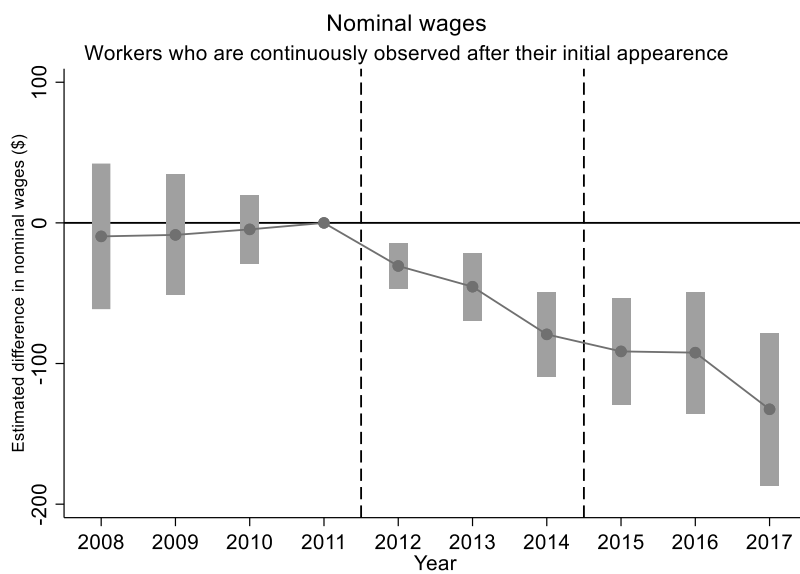


Figure B2.21 – Real wage - Restricting the sample to workers that never drop off from the sample after their initial appearance

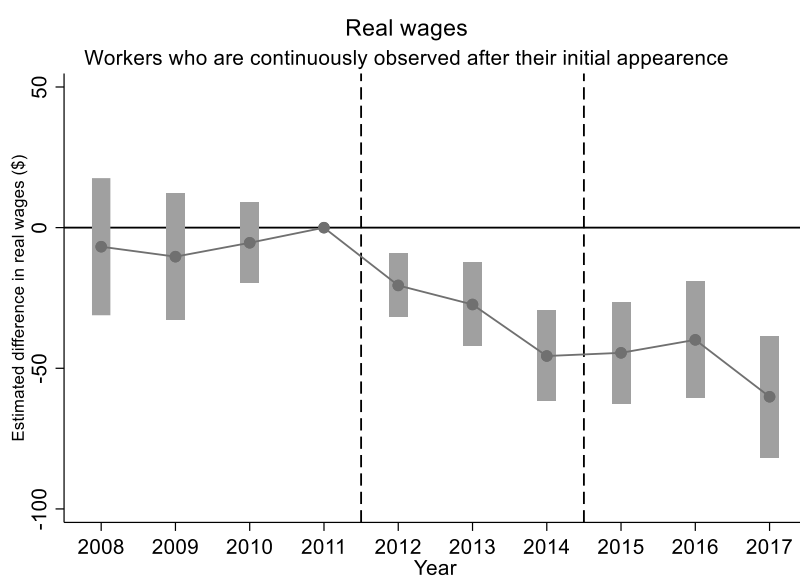


Figure B2.22 – Nominal wage by firm type - Restricting the sample to workers that never drop off from the sample after their initial appearance

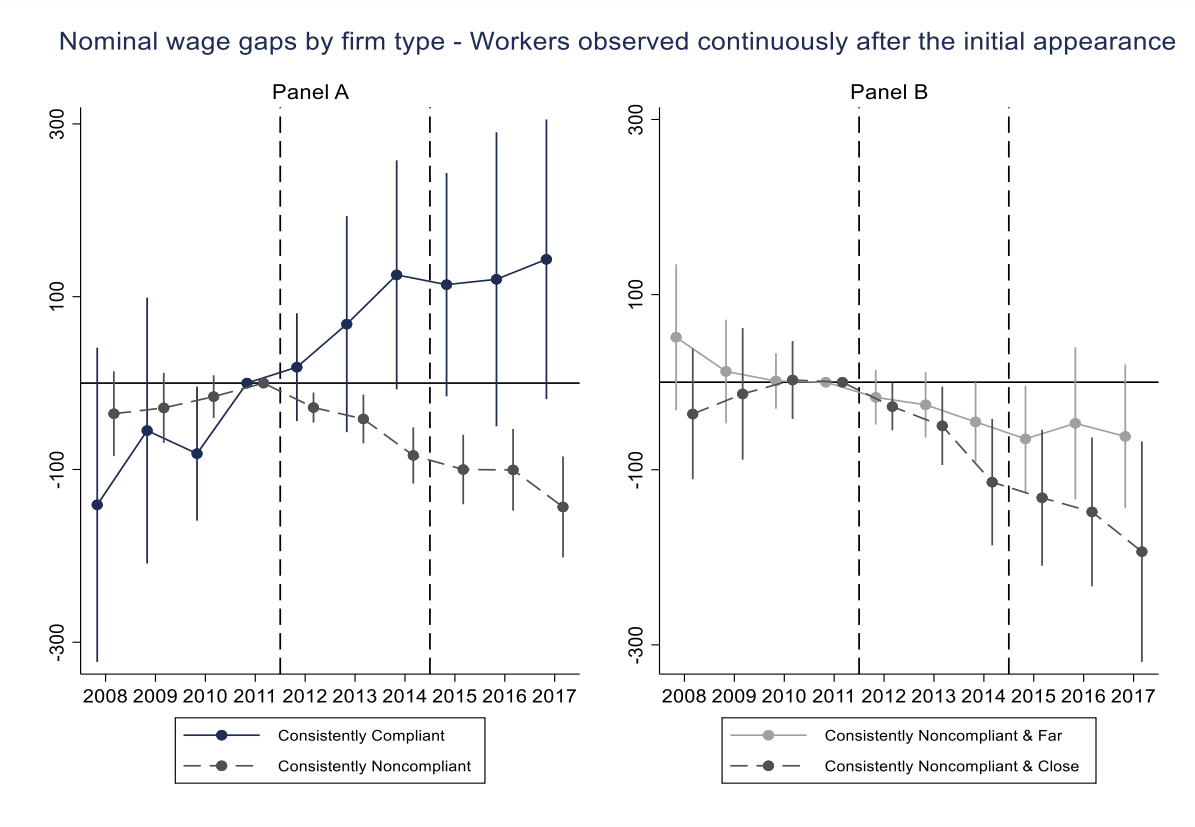
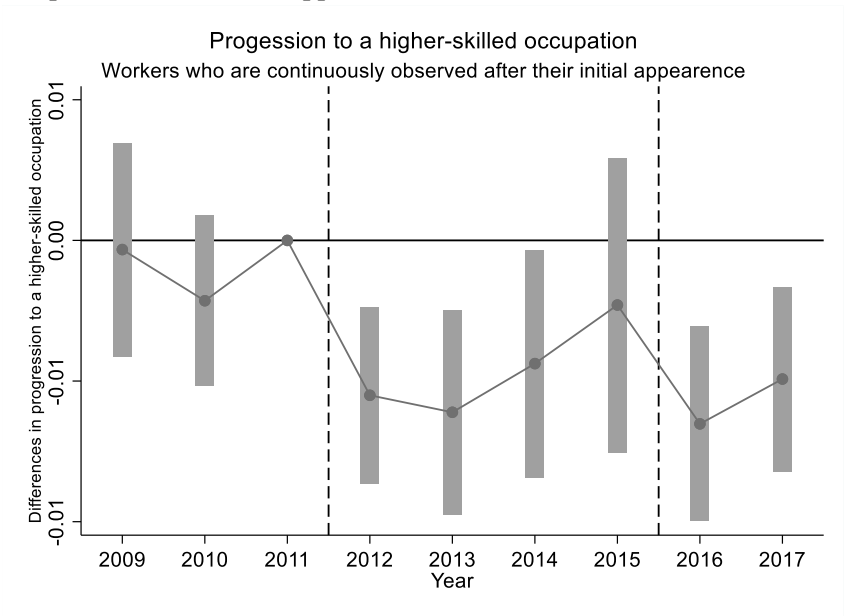


Figure B2.23 – Career progression - Restricting the sample to workers that never drop off from the sample after their initial appearance



Another potential concern relates to switches in disability status. As described above, our baseline analysis considers the disability status that is fixed as of 2011 (the matching year). However, figures B2.24 through B2.28 show that our conclusions are unchanged if we restrict the matched sample to workers with disability that never change disability status after 2011.

Figure B2.24 – Contract termination likelihood – Only retaining matched pairs where workers with disability never changes their disability status from 2011 onwards

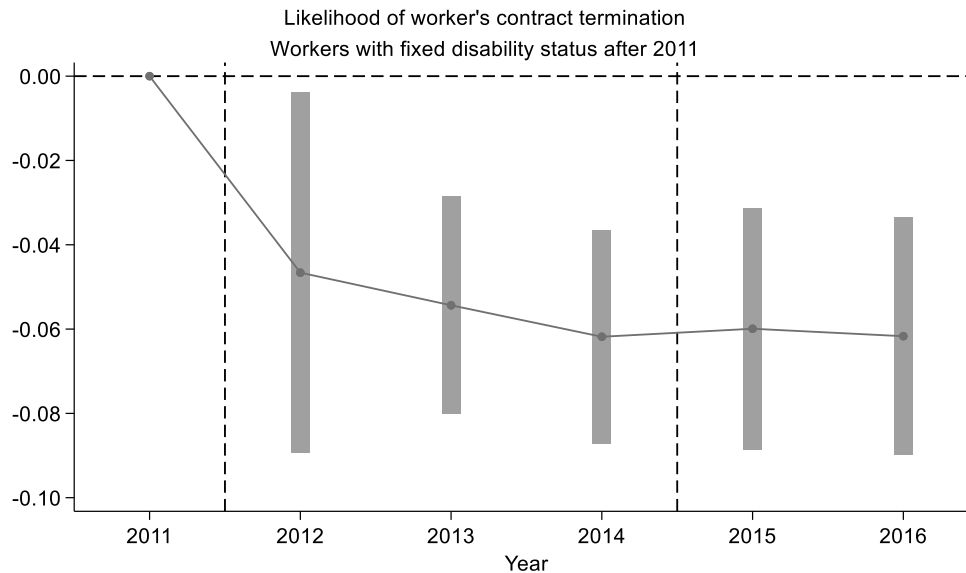


Figure B2.25 – Nominal wages – Only retaining matched pairs where workers with disability never changes their disability status from 2011 onwards

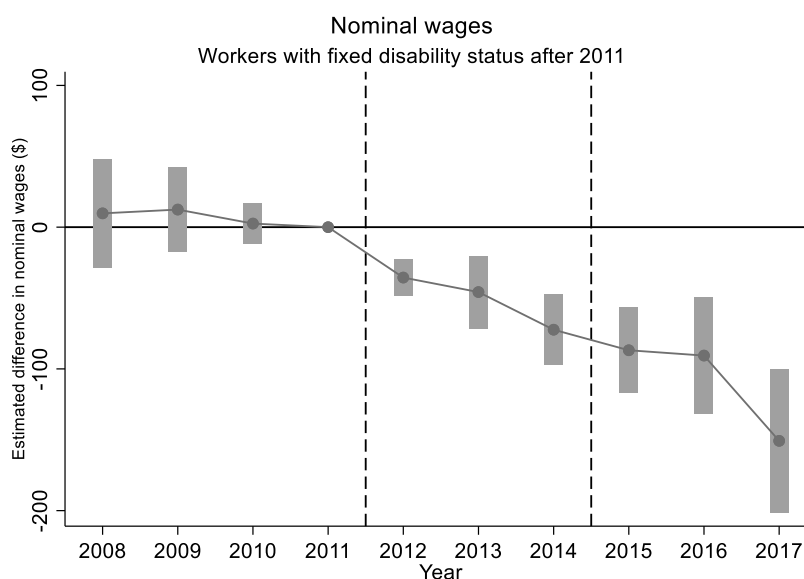


Figure B2.26 – Real wages – Only retaining matched pairs where workers with disability never changes their disability status from 2011 onwards



Figure B2.27 – Nominal wages by firm types – Only retaining matched pairs where workers with disability never changes their disability status from 2011 onwards

Nominal wage gaps by firm type - Workers with fixed disability status after 2011

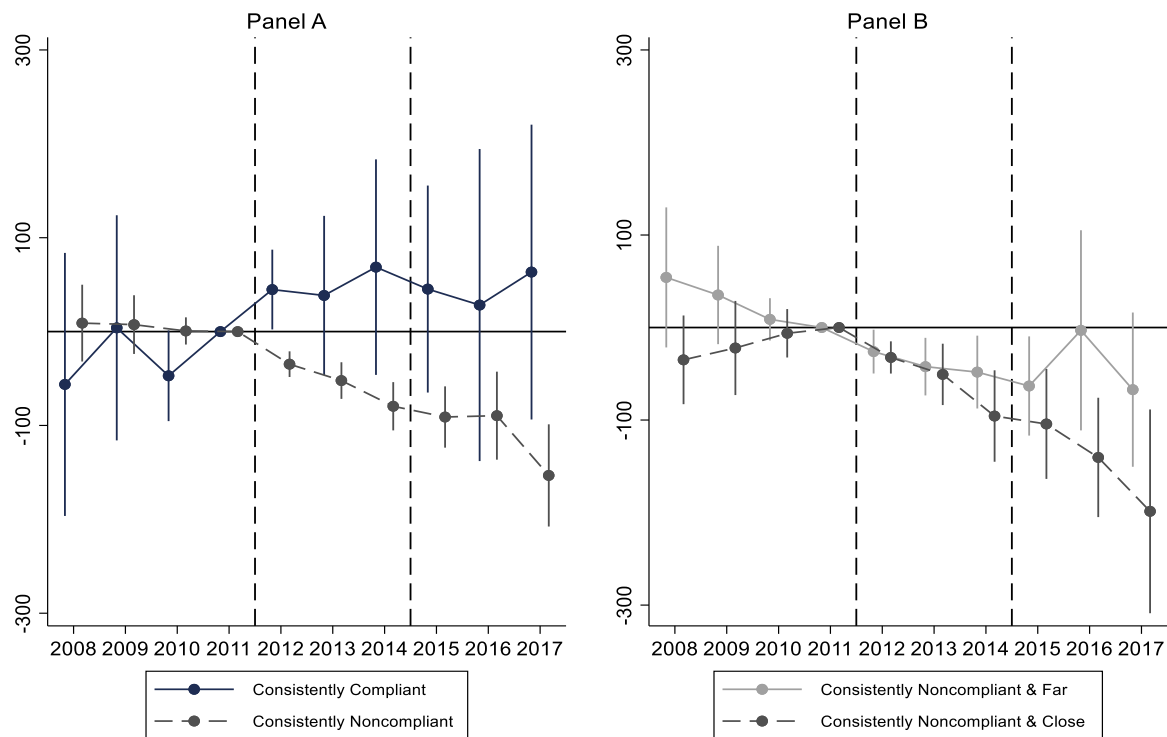
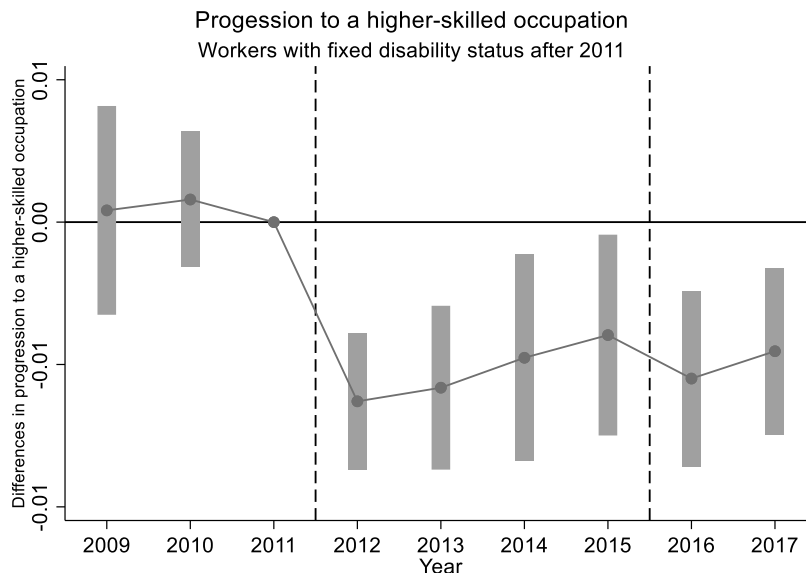


Figure B2.28 – Career progression – Only retaining matched pairs where workers with disability never changes their disability status from 2011 onwards



Lastly, after ruling out the main alternative explanation listed above, we provide below the analyses showcasing that widening disability wage gaps amongst incumbent workers seem to be driven by PwD with arguably better career prospects, proxied by higher education levels and a younger age at baseline. This is important because it highlights the group of employees that bears the highest cost arising from the inclusion versus diversity trade-off documented in our study: essentially, incumbent workers with disabilities that would have otherwise had better career prospects. Specifically, we interpret the observed penalty for higher-educated PwD both in terms of a widening disability wage gap vis-à-vis their non-PwD peers (Figures B2.29 and B2.30) and in terms of career progression (Figure B2.31) as consistent with a shift of managerial attention toward compliance-driven hiring rather than toward enhancing career trajectories of incumbent PwD. This is amplified by the fact that incumbent PwD workers do not experience a reduction in their wages, but rather experience a diminished wage growth. Specifically, Figure B2.32 illustrates the point that the nominal wages of both PwD and non-PwD workers increase over time, but the growth rate relative to the pre-legislation period is stronger for non-PwD workers. Thus, the penalty arises from differential wage growth rather than wage declines for PwD.

Figure B2.29 – Differences in nominal wages according to worker traits

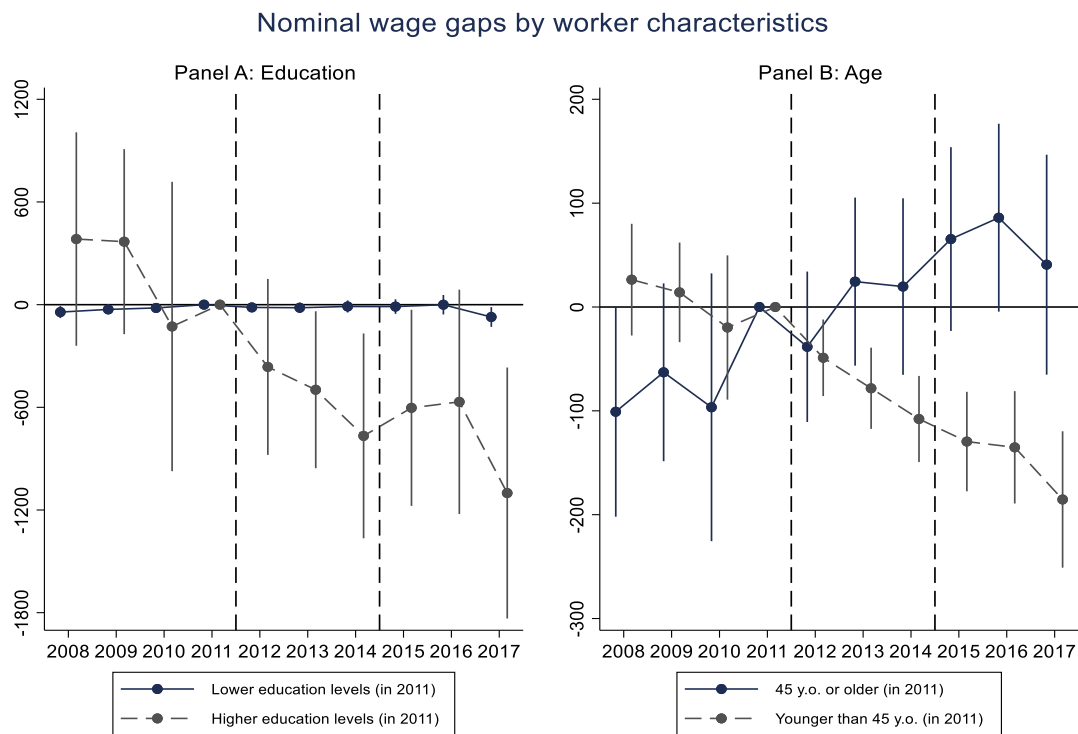


Figure B2.30– Differences in real wages according to worker traits

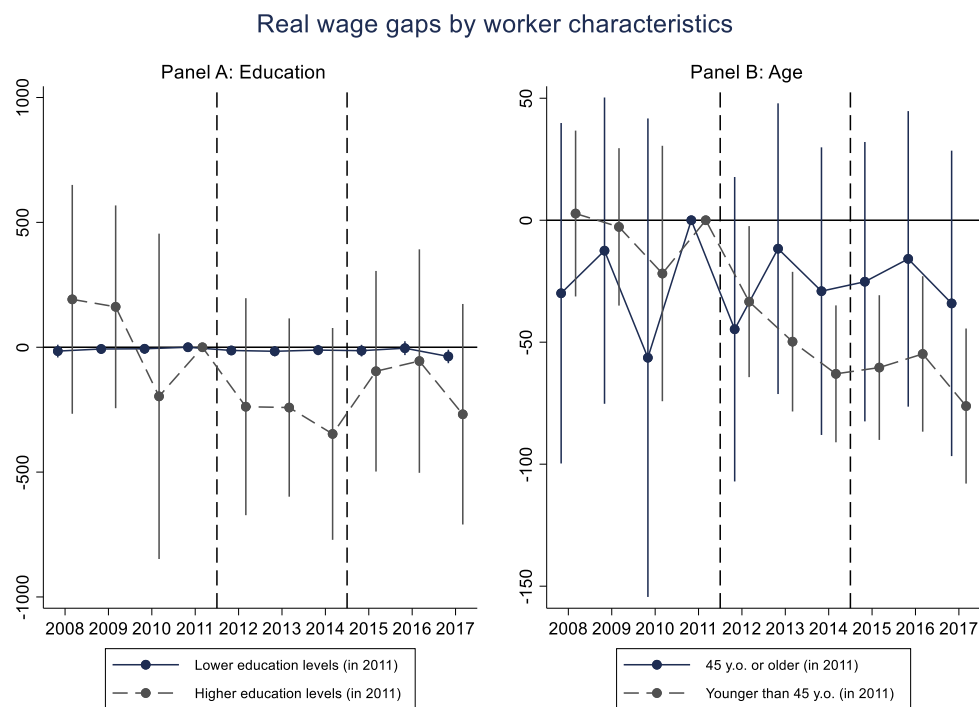
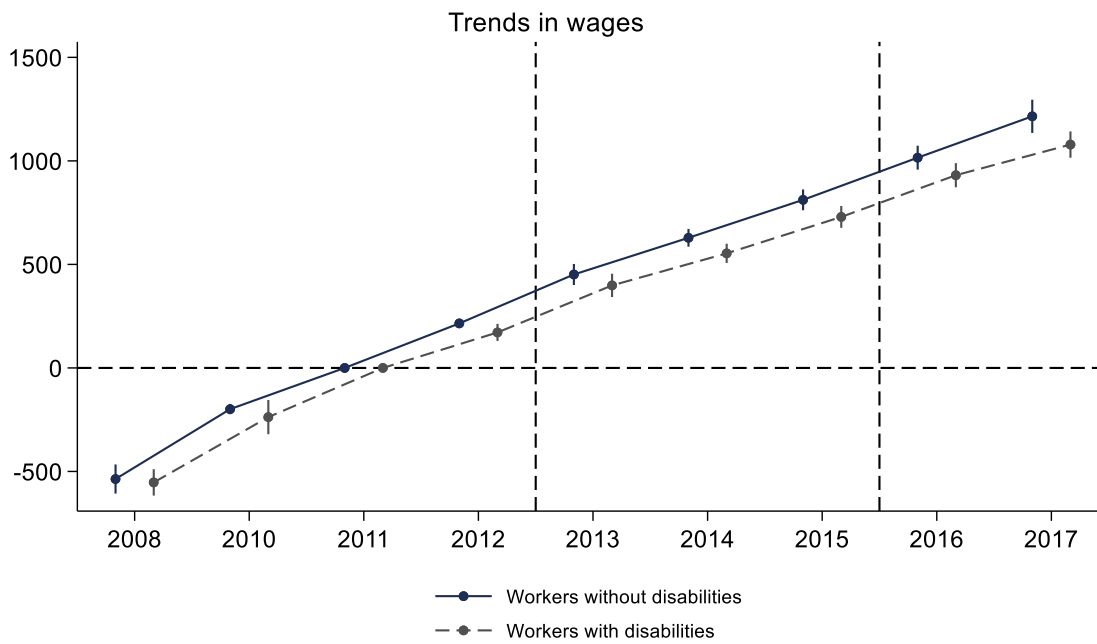
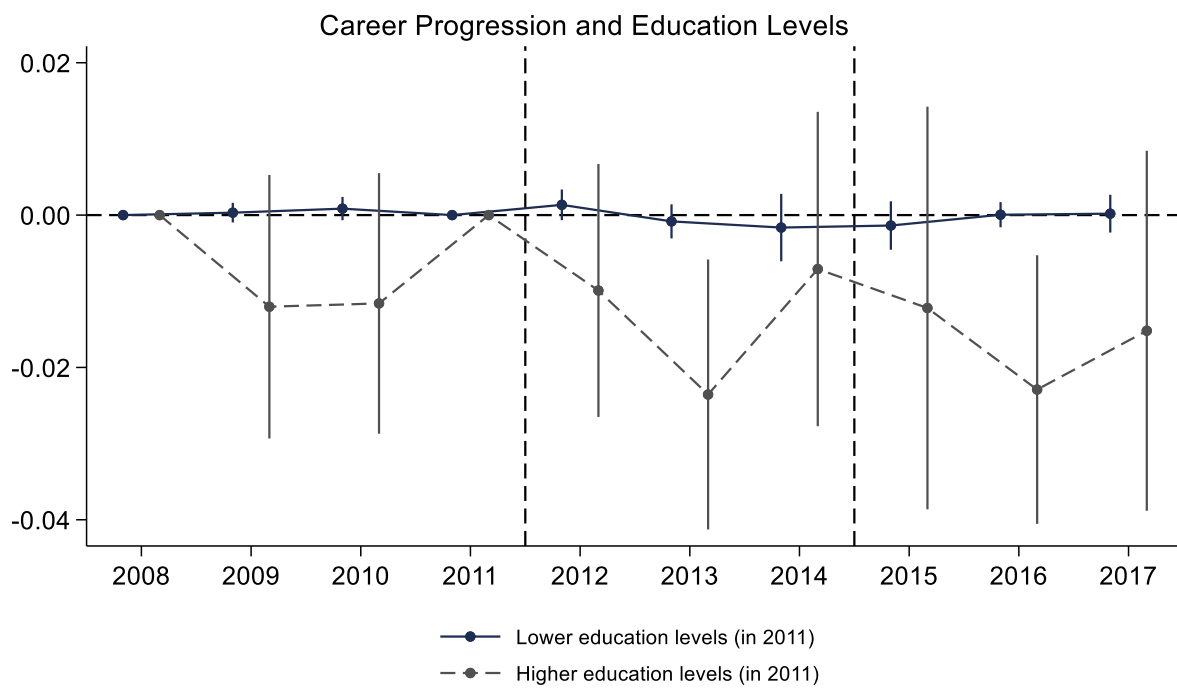


Figure B2.31 – Trends in nominal wages for workers with and without disabilities



Notes: All regressions control for firm size and include worker fixed effects.

Figure B2.32 – Career progression across education levels



Appendix C – Qualitative Insights from Interviews with Specialists on Disability Employment Policies in Brazil

To complement the quantitative analysis and illuminate how policy reforms were understood by those directly involved in their implementation or affected by them, we conducted semi-structured interviews with twelve specialists on disability inclusion and labor market regulation in Brazil. The interviews were designed to triangulate multiple perspectives on the drivers, deterrents, and unintended consequences of the country's Quota Law and its subsequent institutional reinforcements in 2012 and 2015. To triangulate common perceptions about the context and ensuing potential drivers (or deterrents) of efforts towards diversity and inclusiveness of workers with disability in Brazilian firms, the pool of interviewees had a varied background, including labor auditors, leaders of advocacy groups, consultants, and managers of private firms. We conducted all interviews in Fall/2021, with interviews lasting 45 to 60 minutes each. Interviews were conducted in Portuguese and were not recorded. Reports come from interview notes. All interviewees were asked to describe the main institutional and firm-level drivers of actions taken towards diversity and inclusion of PwD in Brazilian firms. Each interview began with a brief explanation of the study's objective and the assurance of anonymity. Interviewers prompted respondents to identify what they perceived as the main institutional drivers of diversity and inclusion of PwD in firms, and to comment on changes over time in the institutional environment associated with this topic in Brazil.

A dominant theme across all interviews was the centrality of enforcement in determining whether firms comply with the Quota Law. Every respondent, irrespective of affiliation, emphasized that strong control mechanisms and credible sanctions were essential for compliance. As one labor auditor summarized, without the risk of fines, compliance would quickly fall back to zero. Several respondents also noted that enforcement intensity has historically varied widely across states and sectors. Before 2012, audits were infrequent and loosely coordinated, leading many firms to regard the law as symbolic. The two labor auditors explained that the Normative Instruction 98/2012 standardized procedures, clarified calculation methods for determining quota targets, and—crucially—allowed regional inspection offices to act autonomously while sharing information through a centralized database.

Consultants and HR professionals corroborated this view from the demand side. Three described a sharp increase in corporate demand for advisory services on disability hiring after 2012. In their experience, large firms that had long deferred compliance suddenly sought technical assistance to locate and recruit PwD to avoid penalties. The expansion of the diversity consulting market in the early 2010s was thus perceived as a by-product of enhanced enforcement rather than of a spontaneous commitment to inclusion.

Despite the consensus on enforcement effectiveness, a second, more critical theme emerged regarding the limited capacity of the quota system to foster genuine inclusion. Nine interviewees, especially those from advocacy organizations and consultancies, argued that compliance was primarily instrumental: firms aimed to meet numerical targets with minimal organizational change. The interviewees identified several structural and attitudinal barriers. First, employers often perceived PwD as costly to hire due to accommodation expenses, productivity stereotypes, and the administrative burden of certification. Second, the labor supply of qualified PwD remained constrained by barriers in education and transportation. These factors, they argued, lead many firms either to outsource quota fulfillment to subsidiaries or to concentrate PwD in low-status, low-wage positions. A consultant recalled that, while serving as an HR manager in a large manufacturing firm, their company had repeatedly opted to litigate and pay fines rather than reorganize production lines to integrate workers with disabilities.

Such accounts suggest a disconnect between diversity (the presence of PwD) and inclusion (their meaningful participation). They also help interpret our quantitative results showing increased hiring but persistent disparities in wages and promotions: stronger enforcement expanded access to jobs but did not transform organizational practices that shape long-term equity.

Most respondents recognized the 2015 Inclusion Law as a symbolic advance that consolidated disability rights and elevated public awareness. Labor auditors and advocacy leaders highlighted that the law criminalized discrimination against PwD in hiring and other domains, codifying a moral and legal norm of equal opportunity. However, nearly all interviewees described its effects on firm behavior as modest. Unlike the 2012 Normative Instruction, the 2015 law did not introduce new inspection tools or incentives for compliance. Consultants observed that some firms used the 2015 legislation as a communication

opportunity—launching awareness campaigns or accessibility training—but these actions rarely translated onto structural changes in recruitment, promotion, or retention.

Taken together, the interviews reveal a progressive shift in organizational focus. Whereas earlier debates about disability employment emphasized workplace adaptation and the retention of incumbent workers with disabilities, the post-2012 compliance environment redirected managerial attention toward hiring new PwD to meet legal quotas. Managers and consultants alike acknowledged that this reorientation often came at the expense of career development programs for existing employees. This pattern of reactive compliance is consistent with our statistical evidence that the strongest effects of the reforms occurred on the extensive margin of employment. Interviewees' descriptions of firms "hiring at the periphery" or creating isolated positions for PwD mirror the limited integration observed in quantitative indicators of wage progression and tenure stability.