

THE EFFECTS OF SUPPRESSING COMPANY UNIONS: EVIDENCE FROM MEXICO

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January 29, 2026

ABSTRACT. This paper studies how firms with company unions respond to the threat of worker-aligned unionization, leveraging the introduction of a four-year CBA legitimization process imposed by a major labour reform in Mexico in 2019. We combine matched employer-employee data with web-scraped union data and use a matching DID design, comparing outcomes in firms whose CBAs were not legitimized to those successfully legitimized, before and after 2019. Our main results show a 6% increase in wages five years post-reform, concentrated in the lower part of the within-firm wage distribution, accompanied by a 10% reduction in employment. Average worker quality and firm-specific pay premiums also increased during the analyzed period, indicating productivity gains and an improvement in workers' bargaining power within treated firms.

KEYWORDS. Unions, Collective Bargaining, Firms.

JEL CLASSIFICATION: J31, J33, J41, J51, J52, J58.

We are grateful to David Green, Thomas Lemieux, Raffaele Saggio, Heather Sarsons, Sam Norris, Claudio Ferraz, Lorenzo Lagos, Kevin Song, Raymundo Campos, Jorge Pérez Pérez, Carla Srebot, Pierre-Loup Beauregard, Pascuel Plotkin, Raquel Badillo, Uyseok Lee, Daniel Guzmán and participants at the 30th LACEA Annual Meeting, UBC PhD Labour Group and VSE empirical lunches for their insightful comments and suggestions. All remaining errors are our own. This research was supported by funding from the Center for Innovative Data in Economics Research (CIDER) and the Stone Centre on Wealth and Income Inequality of the Vancouver School of Economics at UBC. We thank Marco Ramos for his excellent research assistance. The IMSS data used in this paper are confidential and were made available through the EconLab at Banco de México. Inquiries regarding the terms under which the data can be accessed should be directed to econlab@banxico.org.mx.

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1. Introduction

Standard literature on the economic impacts of unionization assumes that unions internalize workers' preferences and represent the interests of their members during the bargaining process. When this condition is met, unions can negotiate better working conditions and generate positive spillovers in non-unionized sectors ([Card et al., 2020](#); [Farber et al., 2021](#); [Green et al., 2023](#)). However, when unions lack democratic systems and workers have limited or no say in their unions' decision-making processes, the potential benefits of unionization may be severely undermined. In such cases, even in the presence of unions, workers' collective bargaining power is weakened, contributing to low wage growth and persistent inequality in the labour market. A prominent example of this occurs when firms and company unions jointly determine contractual conditions without the knowledge or consent of workers. Usually, company unions respond to employer's interests and firms use them to forestall the threat of a worker-controlled union entering their workplace.¹

This paper investigates how firms with company unions react to the threat of worker-aligned unionization by leveraging an exogenous increase in workers' capacity to influence union decision-making. We focus on Mexico, where the union system has long been characterized by limited internal democracy, and company unions (also known as *sindicatos charros*) have historically dominated labour relations by maintaining contracts without meaningful worker input ([Sadka, 2016](#); [Banco de México, 2019](#)). We exploit a unique labour reform enacted in 2019, which aimed to suppress company unions and their pro-employer contracts by requiring all unions to submit their existing collective bargaining agreements (CBA) to a vote within a four-year period. CBAs that were not legitimized by workers were cancelled, opening the door for genuinely democratic unions to emerge. We consider non-legitimized CBAs as pro-employer contracts linked to company unions because their workers preferred them worse than individual bargaining. The fact that, for the first time, thousands of workers had the chance to vote their collective agreements through a secret ballot, abruptly increased their bargaining power, challenged the legitimacy of employer-aligned unions, and created a credible threat of independent unionization.²

¹Company unions have been documented in several institutional settings. In France, for instance, they are referred to as *yellow unions*, in contrast to independent worker-led *red unions*. In Mexico, the most prevalent form of these unions are called *sindicatos charros*, which are also typically associated with political parties and state influence. Company unions were also present in the US, but they were banned in 1935 by the National Labor Relations Act. Canada, China, Japan, and Guatemala have reported similar pro-employer practices too.

²From the perspective of a firm with a company union, the threat of losing control over the workforce and facing a genuinely independent union following the non-legitimation of the CBA can trigger a range of responses. On one hand, it may lead to positive wage effects, where firms with company unions emulate wages in firms with truly representative unions in order to fend off the threat of worker-aligned unionization ([Green et al., 2023](#)). On the other hand, it may result in adverse outcomes, including unjustified dismissals or workforce restructuring. Additionally, suppressing a company union could provide firms with greater flexibility, freeing up resources previously allocated to managing union relations, which may then be reallocated toward capital investment or other labour strategies.

We employ a matching Difference-in-Differences (DID) design to estimate firms' responses to the threat of a truly representative union, comparing outcomes between firms with employer-aligned CBAs that were not legitimized (treated group) and firms with democratic-oriented CBAs that were successfully legitimized (control group), before and after the 2019 reform. We combine this strategy with a novel dataset linking the confidential matched employer-employee data from Mexico's Social Security Institute (IMSS) with web scraped data containing rich information on unions and CBAs. We use IMSS data from May of each year between 2016 and 2024, restricting the sample to a balanced panel of firms with at least 20 workers in May 2018. Treated and control firms are matched using a combination of caliper and exact matching based on pre-reform characteristics, including firm size, industry, region, and exporter status. To address potential confounding factors from contemporaneous policies—such as minimum wage increases and the 2021 outsourcing reform—we also match on low-paid employment and include controls for firms exhibiting worker flows of more than 20 workers between May and August 2021 ([Casco et al., 2024](#)).³

Our results indicate that the threat of facing a worker-aligned union after the enactment of the 2019 reform led to significant changes in wages and employment among firms with pro-employer unions. Five years post-reform, mean log daily wages increased by approximately 6%, with larger gains concentrated in the lower percentiles. This wage effect is halved when we focus exclusively on workers who remained at the same firm throughout the period of analysis, highlighting that part of the wage effects are driven by compositional changes. In terms of employment, treated firms exhibit a 10% decline five years after 2019, relative to their average employment level in May 2018 (a decrease equivalent to 13 fewer employees per firm). This reduction is particularly pronounced among low-paid positions and is primarily driven by an initial decrease in hirings while keeping separation rates constant.

Two complementary insights are drawn from regressions using AKM's time-varying firm fixed effects and average worker fixed effects as dependent variables. First, we find that the average worker ability in treated firms increased. And secondly, after controlling for workforce composition, the wage premium in treated firms also rose, suggesting improvements in productivity and bargaining power. Furthermore, our heterogeneity analysis shows that non-exporting firms, as well as those in the service and manufacturing sectors, experienced larger wage gains. In contrast, we find little variation in wage effects when splitting treated firms by region or union confederation. Notably, firms where workers voted to reject the CBA do not exhibit significant changes in wages or employment, whereas firms where the union did not call for the voting by the May 2023 deadline display wage increases and employment reductions similar to our main results.

This article contributes to three main strands of the literature. First, it complements the long-standing research on how firms respond to the union threat ([Taschereau-Dumouchel](#),

³Low-paid workers are defined as those earning less than twice the federal minimum wage in 2024.

2020; Fortin *et al.*, 2021; Green *et al.*, 2023; Dodini *et al.*, 2023), by documenting significant post-reform compositional changes and wage increases in firms with pro-employer contracts. A key distinction of our study from existing work lies in the initial bargaining setting: whereas most studies assume individual bargaining as the initial state prior to unionization, the context of company unions involves workers starting already covered by a collective agreement but entirely excluded from negotiations, relying instead on the extent to which union leaders and firms internalize their preferences. Secondly, our paper contributes to the broader literature on the effects of workers' bargaining power (Card, 1996; Dinardo and David, 2004; Frandsen, 2021; Rubio, 2024), by analyzing a novel institutional setting in which workers' bargaining power is increased through a unique CBA legitimization process aimed to suppress company unions and their pro-employer contracts. Finally, our work also speaks to the literature on union heterogeneity (de Pinto and Michaelis, 2019; Corradini *et al.*, 2022; Derenoncourt *et al.*, 2025; Beauregard *et al.*, 2025), where, to the best of our knowledge, it is the first time that the difference between worker-aligned and company-aligned unions is highlighted.

The rest of the paper is organized as follows. In section 2, we describe the Mexican union system and provide institutional details of the labour reform in 2019. Section 3 describes the data. Section 4 explains our empirical strategy and section 5 presents our main results. Lastly, section 6 concludes. Appendices A and B include supplementary material.

2. Institutional Context

For a long time, most collective bargaining processes and elections of union leaders in Mexico were characterized by a lack of transparency and accountability (Sadka, 2016; Banco de México, 2019). In particular, extortion from external unions and the absence of a verification mechanism during CBAs' initial deposit led to the proliferation of pro-employer unions in which employers and union leaders determined the terms and conditions of CBAs without the knowledge or consent of workers. Prior to 2019, the Mexican Labour Department estimated that around 85% of all CBAs were of this type.⁴ Moreover, these contracts favoured firms by depriving workers of their collective bargaining rights, raising questions about whether these unions truly advocated for better wages and working conditions for their members.⁵

Figure 1 illustrates the downturn of the unionized sector in Mexico over the past two decades. Panel (a) shows a steady decline in the unionization rate within the formal sector between 2005 and 2018, dropping from 31% in 2005 to 22.1% in 2018 (an 8.9 pp drop). This decline also appears in both the formal-public and formal-private sectors, with a slightly

⁴See Contratos de protección, el gran desafío para la reforma laboral y el T-MEC.

⁵The process of replacing a company union with a genuinely representative one was risky and complex. Workers usually had to initiate a long proceeding to determine which union had the majority approval, facing threats and unjustified layoffs derived from exclusion restrictions written in the contract (de Buen Unna, 2013).

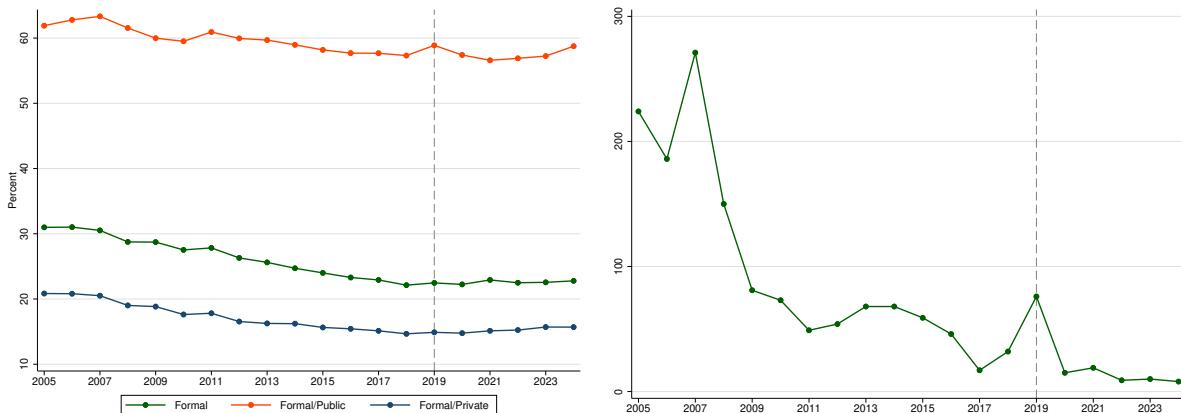


FIGURE 1. Union membership and strikes in Mexico.

Notes: In panel (a), the universe is paid workers aged 15-65. In panel (b), strikes refer to strikes that actually happened. Source: ENOE, INEGI, and CFCRL.

larger drop in the latter (a 6.2 pp drop).⁶ As a reference, OECD data indicates that union membership in the US and Canada fell by only 1.9 and 1.8 pp, respectively, during this period. In line with this pattern, panel (b) shows a significant decrease in the number of strikes, dropping from 224 in 2005 to 32 in 2018 (an 86% fall).

During the negotiation of the USMCA in 2018, the US and Canada expressed their concern about the deterioration of the union system and wage stagnation in Mexico. The three countries agreed to include a labour chapter (Chapter 23) in the new trade agreement in order to guarantee the fundamental labour rights established by the International Labour Organization and improve the working conditions for all workers. Annex A of Chapter 23 was the prelude of the 2019 Labour Reform, which detailed the legal changes that Mexico committed to adopt to effectively enforce the right to collective bargaining and freedom of association. Importantly, this labour clause not only responded to Mexico's need to restructure its union system but also reflected the interest of the US and Canada in raising Mexican wages to create an even field in terms of labour costs for investment attraction.

The Mexican labour reform enacted in May 2019 introduced significant changes in two crucial aspects of the Mexican labour market: union democracy and the labour justice system ([Cámara de Diputados del H. Congreso de la Unión, 2024](#)).⁷ In terms of union democratization, the reform required that the election of union leaders, as well as the approval of new CBAs and their subsequent revisions, must be carried out through a personal, free, direct and secret vote of union members. In addition, all unions with existing CBAs before the reform (also called historical CBAs) were required to legitimize them through a majority

⁶The unionization rate in Mexico is calculated using data from the National Survey of Occupation and Employment (ENOE), which relies on self-reported information. In a scenario where workers are not aware of the presence of a company union (which won't be surprising since they are excluded from all kinds of collective bargaining), this measure will underestimate the actual unionization rate.

⁷The reform included additional adjustments to prevent workplace discrimination and improve the rights of agricultural and domestic workers, but the major changes focused on union regulations.

vote of their members in a four-year period ending on May 1, 2023. Historical CBAs that were not called for a vote by May 2023, or where workers voted against the legitimization, got cancelled. In that case, unionized workers kept their benefits, but the bargaining paradigm shifted to individual bargaining, opening the door for a genuinely democratic union to emerge. Unions also modified their guidelines to prevent indefinite terms for union leaders and ensure accountability to workers. In terms of labour justice, the local and federal institutions previously responsible for resolving labour disputes (known as Juntas de Conciliación y Arbitraje) were replaced by labour courts. The goal of this new institutional framework was to promote conciliation and speed up legal proceedings to reduce costs for workers and employers ([Banco de México, 2019](#)).

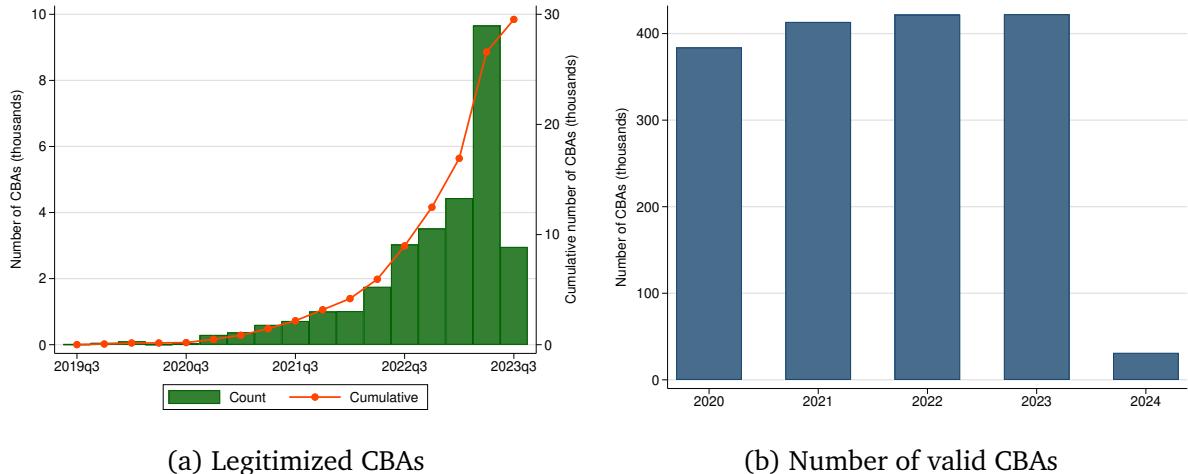
Additionally, a decentralized institution called Centro Federal de Conciliación y Registro Laboral (CFCRL) was created in order to manage the registry of new unions and CBAs, mediate labour conciliations, invigilate democratic procedures of unions, and issue certificates of representativity that enable unions to negotiate new collective agreements. Importantly for our research project, all the data collected by CFCRL was made public in November 2023 through a website called [Repositorio de Información del Registro Laboral \(RIRL\)](#). Furthermore, under the new labour provisions of the USMCA, the US created the Rapid Response Labor Mechanism, allowing for enforcement actions from abroad against firms who fail to uphold domestic freedom of association and collective bargaining laws. Suspension of preferential tariffs and denial of entry of goods are examples of actions that could be taken against such firms.⁸

All these changes were designed to strengthen workers' labour rights, with a particular focus on their freedom of association and collective bargaining. By guaranteeing an accountable, transparent, and democratic union system, the reform fights against company unions and pro-employer contracts, providing a unique opportunity to enhance workers' welfare ([Banco de México, 2019](#)).

3. Data

To analyze how firms with company unions react to the threat of worker-aligned unions after the 2019 reform, we combined two primary data sources. The first is a novel web-scraped dataset from RIRL, which includes information on historical and legitimized CBAs, and the second is the confidential matched employer-employee data for the entire universe of private formal workers in Mexico from IMSS. Each of these sources is described in the following subsections.

⁸To date, this mechanism has addressed a total of 31 cases (see [USMCA cases](#)).



(a) Legitimized CBAs

(b) Number of valid CBAs

FIGURE 2. Legitimized CBAs across time and valid CBAs.

Notes: In panel (a), legitimized CBAs refer to those existing contracts that were validated through the vote of unionized workers between 2019q3 and 2023q3. In panel (b), we report the total number of CBAs recognized by the government in April of each year. *Source:* RIRL.

3.1. Data on Historical and Legitimized CBAs

RIRL website is a significant improvement in terms of transparency and accountability in the Mexican union system. It contains all information regarding the registration of associations, elections of union committees, new, historical, and legitimized CBAs, internal work regulations, and the list of members of each union in Mexico. With this tool, all collective bargaining processes are now subject to public scrutiny.

We web-scraped and downloaded all data related to legitimized, historical, and new contracts from RIRL. For new and legitimized contracts, we have information on the event date, the name of the union that called for CBA voting, the firm's name and tax ID (RFC), state of origin, number of workers who voted, and the economic sector. The information for historical contracts includes the registration date, state of origin, the firm's name (called *razón social*) and address, and the name of the union that deposited the CBA.

Figure 2 depicts the policy bite of the reform. Panel (a) indicates that around 30,000 CBAs were legitimized between 2019 and 2023, with most voting events occurring close to the deadline.⁹ Panel (b) shows a sharp decrease in the number of valid contracts between April 2023 and April 2024, going from 400,000 to 30,000 (an approximate decrease of around 92%). Interestingly, most of the CBAs that became invalid after April 2023 did so because their unions did not call for the voting at all, so they got cancelled on May 1, 2023.¹⁰ Our data also suggest that voting for existing CBAs gathered nearly 5 million workers, corresponding to 23% of the formal private labour force in that period. Geographically, the center and north-center regions exhibit the highest number of legitimized CBAs, whereas the sectors leading CBA validation are manufacturing and retail/wholesale trade.

⁹May 2023 was taken as the deadline for the registration of CBA legitimization, but there were a few cases where the vote itself took place afterward.

¹⁰According to our data, less than 600 CBAs were rejected through the vote of the workers.

Compared to the volume of historical or legitimized CBAs, the number of new CBAs after the reform is relatively small: less than 2,000 new CBAs were created between 2019q3 and 2024q2. Most of them correspond to firms that had never had a union and whose workers decided to unionize after the reform, while the rest correspond to cases where workers rejected the historical CBA and negotiated a new one.

3.2. IMSS Data

We access the confidential matched employer-employee data from IMSS via Banxico's EconLab. These monthly administrative data provide a complete record of the wage and tenure history for the universe of formal employment relationships ([Samaniego de la Parra and Fernández Bujanda, 2024](#)). More precisely, for employers, IMSS data contains information about their geographical location and industry. For workers, it includes their employer, daily wages, gender, age, and type of contract (temporary or permanent). More importantly, EconLab is able to link our web-scraped data from RIRL with IMSS records using either the tax ID (RFC) or name (*razón social*) of the firm.¹¹ However, two limitations of IMSS data are that it does not directly capture the dynamics of the informal sector and does not include balance sheet data.¹²

Our sample consists of a balanced panel of firms constructed from the linked data RIRL-IMSS, with information for each May between 2016 and 2024, covering 3 pre-treatment and 6 post-treatment periods. We only consider firms that have previously engaged with unions (i.e., that have a historical CBA), have 20 or more employees in 2018, and are always present in IMSS data during our period of analysis. Firm-level stats are computed using workers aged 15-65 whose daily wages are at least the federal minimum wage of that year. Columns 1 and 2 in Table 1 show summary stats for the initial sample of all firms in May 2018. Notice that firms where the union did not legitimize its CBA are on average 3 times smaller, tend to pay 5.6% less, and employ a larger share of low-paid workers than firms with a legitimized CBA. Moreover, they are more likely to be located in the center region of Mexico and be in the construction and wholesale/retail trade sectors, but are less likely to be exporters than firms who did legitimize their CBA.¹³ In the next section, we present our empirical strategy and discuss the summary stats for the matched sample used in our baseline regressions.

¹¹IMSS assigns an additional, more granular firm identifier called *registro patronal*, which categorizes workers according to the risk profile of their daily tasks. Thus, an employer with a single RFC can have more than one *registro patronal* in the IMSS data. Our treatment variable is matched using RFC and *razón social* rather than *registro patronal*.

¹²For instance, we can follow a formal worker if she changes from one formal job to another, but she disappears from the database if she moves to an informal job.

¹³Trade data is also accessed via EconLab.

TABLE 1. Summary stats, May 2018.

	All firms			Matched sample		
	Hist/No Legitimized (T)	Legitimized (C)	Diff.	Hist/No Legitimized (T)	Legitimized (C)	Diff.
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Sample characteristics</i>						
Employment	63.483 (268.138)	200.730 (753.686)	-137.247	128.172 (322.057)	135.575 (310.339)	-7.404
Female	0.379 (0.265)	0.367 (0.253)	0.012	0.380 (0.237)	0.369 (0.235)	0.011
Age	38.937 (5.995)	37.471 (5.584)	1.466	37.489 (4.604)	37.393 (4.694)	0.096
Log daily wage	5.383 (0.605)	5.688 (0.622)	-0.305	5.395 (0.525)	5.523 (0.489)	-0.128
Entrant rate	0.435 (3.503)	0.467 (6.427)	-0.032	0.569 (5.998)	0.472 (4.550)	0.097
Separation rate	0.275 (0.214)	0.260 (0.188)	0.015	0.304 (0.170)	0.284 (0.159)	0.020
Share low-paid	0.797 (0.284)	0.658 (0.338)	0.139	0.800 (0.243)	0.756 (0.250)	0.045
Exporters	0.123 (0.329)	0.305 (0.460)	-0.182	0.196 (0.397)	0.196 (0.397)	0.000
<i>Panel B: Regional distribution</i>						
North	0.227 (0.419)	0.222 (0.415)	0.005	0.214 (0.410)	0.214 (0.410)	0.000
North Center	0.239 (0.427)	0.290 (0.454)	-0.050	0.265 (0.441)	0.265 (0.441)	0.000
Center	0.453 (0.498)	0.360 (0.480)	0.092	0.441 (0.497)	0.441 (0.497)	0.000
South	0.081 (0.274)	0.128 (0.334)	-0.047	0.081 (0.272)	0.081 (0.272)	0.000
<i>Panel C: Industry composition</i>						
Agriculture/Forestry/Fishing	0.008 (0.088)	0.018 (0.132)	-0.010	0.014 (0.118)	0.014 (0.118)	0.000
Extractive	0.003 (0.058)	0.006 (0.077)	-0.003	0.002 (0.048)	0.002 (0.048)	0.000
Manufacturing	0.210 (0.407)	0.268 (0.443)	-0.058	0.288 (0.453)	0.288 (0.453)	0.000
Construction	0.115 (0.318)	0.028 (0.165)	0.086	0.040 (0.197)	0.040 (0.197)	0.000
Utilities	0.001 (0.025)	0.006 (0.078)	-0.005	0.001 (0.029)	0.001 (0.029)	0.000
Retail/Wholesale trade	0.340 (0.474)	0.311 (0.463)	0.029	0.289 (0.453)	0.289 (0.453)	0.000
Transportation/Communication	0.071 (0.257)	0.083 (0.276)	-0.012	0.082 (0.275)	0.082 (0.275)	0.000
Services F/P/HH	0.178 (0.383)	0.212 (0.409)	-0.034	0.211 (0.408)	0.211 (0.408)	0.000
Social/Communal services	0.075 (0.263)	0.067 (0.250)	0.008	0.073 (0.260)	0.073 (0.260)	0.000
Observations	32,992	20,001		6,983	6,983	

Note: Mean and std. dev. in parenthesis. Services F/P/HH stands for Services for Firms, People, and Households. Source: RIRL and IMSS.

4. Empirical Strategy

We exploit the CBAs' legitimization process introduced by the 2019 reform in our empirical analysis, which was designed to suppress pro-employer contracts signed by company unions. We define treatment at the firm level and classify a firm as treated if it has a historical but not legitimized CBA, while those firms with a legitimized CBA are labelled as untreated. To construct a control group, we combine one-to-one caliper matching ([Stepner](#)

and Garland, 2017) with exact matching using pre-treatment variables of firm size, industry, region, and exporter status. We also include the number of low-paid workers in the matching algorithm to alleviate confounding effects derived from minimum wage increases during the post-treatment period.¹⁴

Columns 4 and 5 in Table 1 present summary stats for the matched sample of firms in May 2018. Our matched sample consists of a balanced panel of almost 14 thousand firms, half of which are treated and the other half are control firms. After matching, we get a considerable reduction (of around 95%) in the average employment gap between treated and control firms. Similarly, the wage gap and the difference in the share of low-paid workers are reduced. As a result of exact matching, both groups of firms have the same proportion of exporters (19.6%), are more likely to be located in the center part of the country (44.1%) and be in the manufacturing or retail/wholesale trade sectors (57.7%).

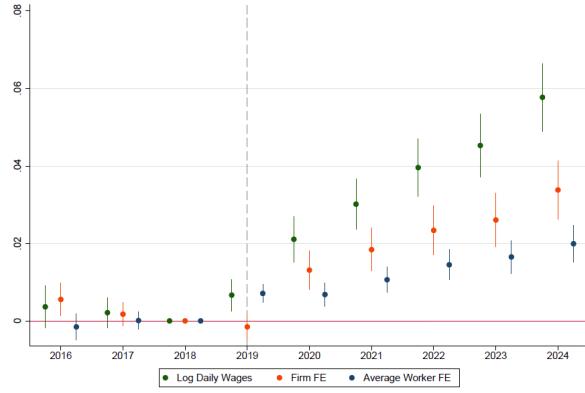
To causally estimate how the threat of genuine unionization affects firms with employer-aligned unions, we use a DID design comparing outcomes between treated and control firms, before and after 2019. More precisely, we run the following baseline specification:

$$y_{j,t} = \gamma_j + \delta_t + \sum_{\substack{r=-3 \\ r \neq -1}}^5 \beta_r \times D_j \times 1\{t = r + 2019\} + X_{j,t}^T \lambda + \varepsilon_{j,t}, \quad (1)$$

where j denotes firms and t years, $y_{j,t}$ is one of the outcomes of interest in firm j and year t (e.g. mean log wages, P10 log wages, employment, etc.), D_j is a dummy variable that takes the value of 1 if firm j has a historical but not legitimized CBA, and zero if it has a legitimized CBA. γ_j and δ_t are firm and year fixed effects, respectively. $X_{j,t}$ are controls for state-year, industry-year, border-year and outsourcing.¹⁵ $\varepsilon_{j,t}$ is the error term, and standard errors are clustered at the firm level. The β_r coefficients in the event study regression (1) are the parameters of interest, which captures the causal effect of the threat of worker-aligned unionization induced by the reform on the outcome of interest. We rely on the usual parallel trends assumption to identify our parameter of interest, i.e., we assume untreated potential outcomes would have evolved in parallel between treated and control firms in absence of the 2019 reform. The main threat to our identification is that company unions could have managed to legitimize their existing contracts and are then contaminating our control group. In that case, we interpret our results as conservative, where DID estimates provide a lower bound (upper bound) for the average treatment effect on wages (employment) for the subpopulation of treated firms that had a company union and did not legitimize their contract. Further details are presented in Appendix B.

¹⁴More precisely, caliper matching variables include log firm size and log one plus number of workers earning less than two times the 2024 federal minimum wage in 2018 (both variables with a bandwidth equal to their $sd/2$). Exact matching is conducted using firm's industry, region, and exporter status in 2018.

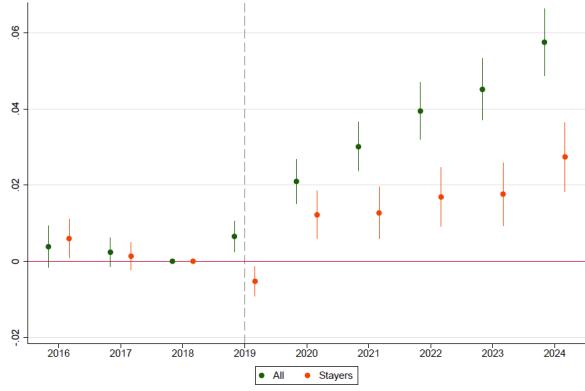
¹⁵Following Casco et al. (2024), outsourcing controls include dummies for those firms that receive or lose more than 20 workers between May and August 2021, the relevant period for the outsourcing reform.



(a) Mean log wages, firm FE, and average worker FE



(b) Log percentiles



(c) Mean log wages of stayers

FIGURE 3. Effects on wages.

Notes: Coefficients obtained from event study specification (1). Treated firms are defined as those with a historical but not legitimized CBA. Control firms correspond to those with a legitimized contract. We deflate daily wages using the national CPI base 2018. We use private-formal firms with at least 20 workers in 2018. In panel (a), the firm FE and average worker FE are computed using an AKM model with time-varying firm fixed effects as in Bergolo *et al.* (2025). Summary stats for stayers are computed using only workers that remain in the same firm throughout our period of analysis. *Source:* RIRL and IMSS data for May of each year.

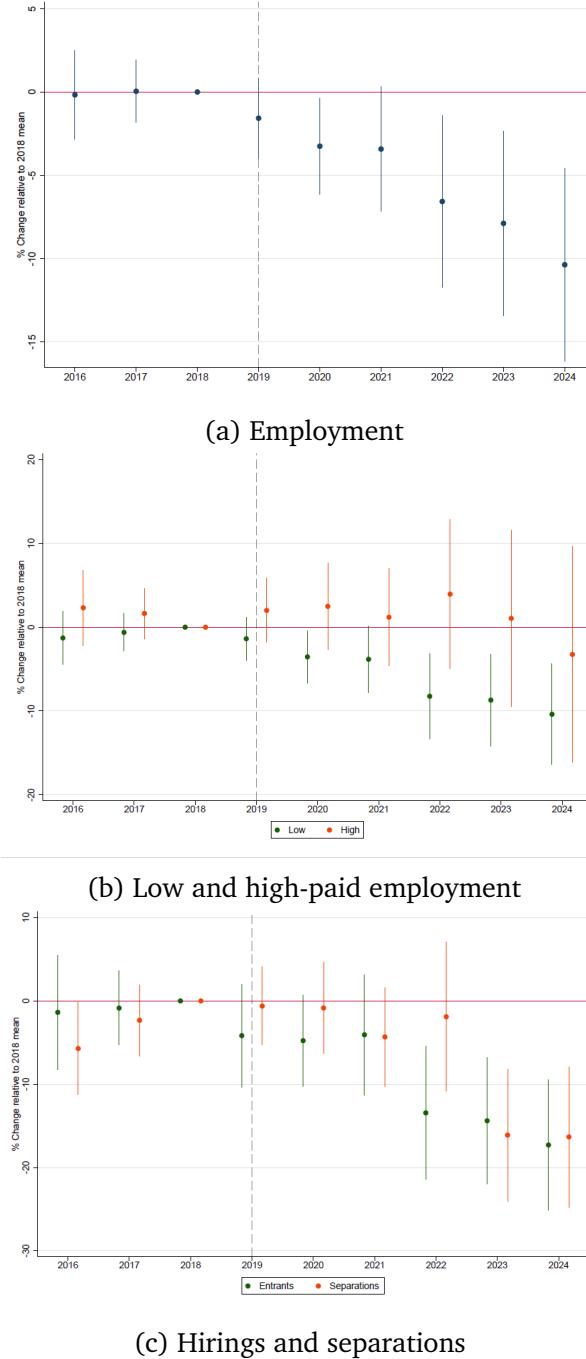


FIGURE 4. Effects on employment.

Notes: Coefficients obtained from event study specification (1). Treated firms are defined as those with a historical but not legitimized CBA. Control firms correspond to those with a legitimized contract. In panel (a) and (b), we rescale the coefficients by the employment 2018 mean in May 2018, and in panel (c), we rescale the coefficients by the means of the corresponding outcome variables in May 2018 (means are shown in Table 1). We use private-formal firms with at least 20 workers in 2018. Summary stats for stayers are computed using only workers that remain in the same firm throughout our period of analysis. Source: RIRL and IMSS data for May of each year.

5. Results

5.1. Wage and Employment Effects

Figure 3 presents the regression results for wage outcomes at the firm level. The coefficients in green of panel (a) show a positive effect of approximately 6% on the mean log daily

wages of treated firms (relative to the control group) after five years after the enactment of the 2019 reform. Panel (b) shows that this increase is more pronounced in the lower percentiles of the within-firm wage distribution, suggesting a compression in wage inequality within firms. However, as shown in panel (c), when restricting the sample used to compute the firm-level stats to workers who remain with the same firm throughout the entire period, the estimated wage effects are roughly half as large. This latter finding indicates that compositional changes play an important role in how firms with pro-employer contracts adjust their wage structures in response to the threat of worker-aligned unionization introduced by the reform.

To further investigate compositional changes within treated firms and whether they become more attractive in terms of pay, we estimate a TV-AKM model as in [Bergolo et al. \(2025\)](#), and then include the estimated time-varying firm fixed effects and average worker fixed effects as dependent variables in our baseline specification (1).¹⁶ The resulting coefficients are depicted in orange and blue in panel (a) of figure 3. Two main insights are drawn with this exercise. First, in line with results of log daily wages, we find that treated firms' wage premia increases to almost 4% after five years of the reform. Secondly, there is a rise in the average quality of the workforce within treated firms as reflected by the average worker fixed effects, complementing the stayers results in panel (c).

We now turn to employment outcomes in figure 4. In this case, we rescale the coefficients of regression (1) by the corresponding outcome mean in May 2018. Panel (a) shows a 10% decline in employment levels (equivalent to 13 fewer employees) in 2024 relative to the 2018 mean in firms with non-legitimized contracts. According to panel (b), this negative effect is primarily driven by a reduction in the number of low-paid workers, while high-paid positions remain unaffected.¹⁷ In terms of churning, panel (c) reveals that, prior to May 2023, treated firms reduced their workforce mainly by hiring fewer workers, while maintaining separation rates similar to those of the control group. Interestingly, after 2023, treated firms exhibit relatively lower levels of both hiring and separations.

These positive wage results resemble the mechanism identified in the literature, whereby non-unionized firms strategically mimic the higher compensation offered by unionized firms in order to prevent unionization ([Taschereau-Dumouchel, 2020](#); [Green et al., 2023](#)). Moreover, the fact that part of this wage increase comes from compositional changes provides an additional insight: the suppression of company unions frees up internal resources for firms. Specifically, removing employer-aligned unions (which operate typically under *closed-shop*

¹⁶More precisely, we fit the following TV-AKM model:

$$\log(w_{i,t}) = \alpha_i + \psi_{j(i,t),t} + X_{i,t}^T \eta + e_{i,t},$$

where $w_{i,t}$ is the daily real wage of worker i at time t , α_i is worker i fixed effect, $\psi_{j(i,t),t}$ is the time-varying firm fixed effect of firm $j(i,t)$ at t , $X_{i,t}$ includes a cubic term in age, and $e_{i,t}$ is the error term.

¹⁷Low and high-paid workers are defined as those earning below two and above five times the federal minimum wage in 2024, respectively.

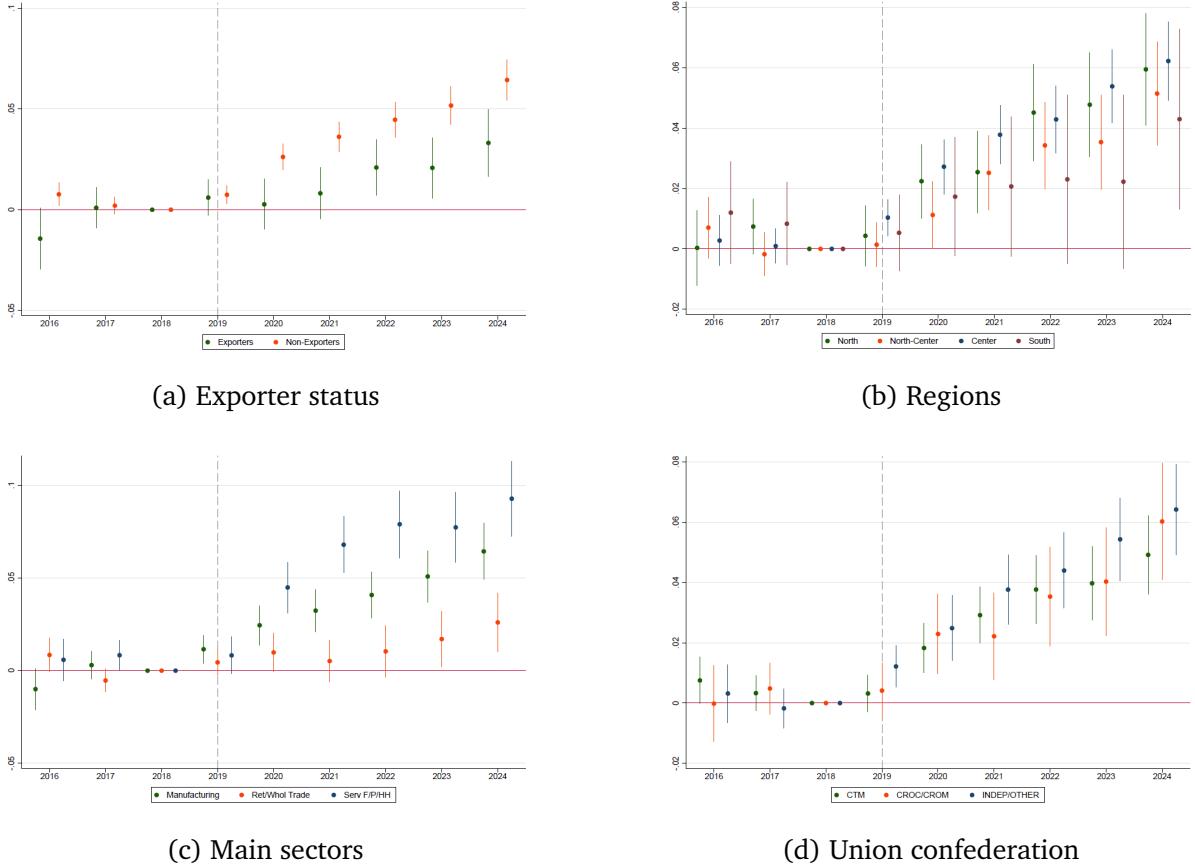


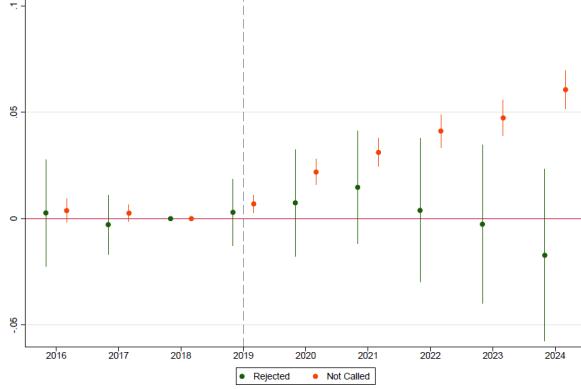
FIGURE 5. Heterogeneous effects on wages.

Notes: Coefficients obtained from the event study specification (1). Treated firms are defined as those with a historical but not legitimized CBA, while control firms correspond to those with a legitimized contract. Daily wages are deflated using the national CPI base 2018. The sample includes private-formal firms with at least 20 workers in 2018. Matching is based on pre-treatment variables: firm size, industry, region, exporter status, and share of low-paid workers. *Source:* RIRL and IMSS data for May of each year.

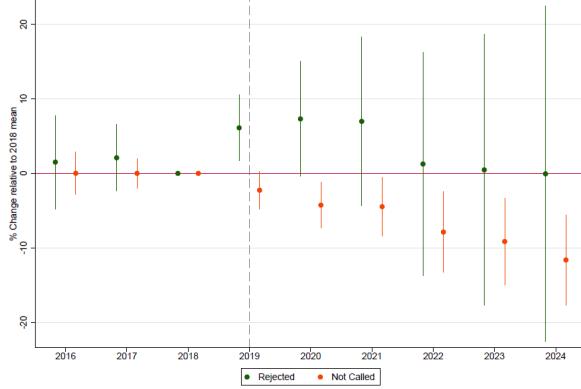
agreements) may enhance managerial flexibility in hiring decisions and allow firms to re-allocate financial resources that were previously directed toward maintaining union compliance. Consequently, firms could redirect these resources toward productivity-enhancing investments, improving worker matching, or directly increasing compensation to attract and retain a more suitable workforce.

5.2. Heterogeneity

Heterogeneous effects for log daily wages are presented in Figure 5. Given that the USMCA was the origin of the 2019 labour reform, a natural first check for differentiated effects is splitting treated firms by exporters and non-exporters. The results in panel (a) shows that non-exporter firms exhibit a larger increase in wages than exporter firms, reflecting that exporters behave more similar to their control and suggesting that being linked to international trade is an indirect way to mitigate the negative effects of company unions. In terms of regional heterogeneity, we do not find much of a difference in panel (b), and if anything, we get lower, but nosier, effects for the South. On the other hand, we do find



(a) Mean log wages



(b) Employment

FIGURE 6. Effects by Rejection Cause.

Notes: Coefficients obtained from event study specification (1). Treated firms are defined as those with a historical but not legitimized CBA. Control firms correspond to those with a legitimized contract. Treated firms are split between those where workers rejected their existing CBA and those where the union did not call for the voting of the contract by May 2023. We deflate daily wages using the national CPI base 2018. We use private-formal firms with at least 20 workers in 2018. Matching is conducted using pre-treatment variables of firm size, industry, region, exporter status, and low-paid workers. Source: RIRL and IMSS data for May of each year.

significant differences across sectors, where the service sector displays the highest wage effects (10%) after five years of the reform, followed by the manufacturing sector (6%), and finally the retail/wholesale trade (3%). Lastly, as shown in panel (d), we do not find any significant differences between the wage effects when we separate treated firms by their union confederation.

In addition, we separately analyze the group of treated firms where the union called for the CBA voting but workers rejected and the group of firms where the union did not call for the voting and left the CBA expire after May 2023. Both panels (a) and (b) in Figure 6 show null wage and employment effects for firms where workers' votes rejected the existing CBA, whereas the effects for firms where the union did not call at all for the CBA legitimization exhibit a similar pattern as in our previous findings. Notice also that standard errors are larger on the effects of treated firms in the *Rejected* category given the small number of units in that category (around 200).

6. Conclusion

This paper examines how firms with company unions react to the threat of worker-aligned unionization. We exploit the introduction of a four-year CBA legitimization process imposed by a major labour reform in Mexico in 2019, which abruptly increased workers' bargaining power by allowing them to reject existing pro-employer agreements and, thereby, create a credible threat of independent unionization. Unlike most studies, in which the union threat is analyzed for non-union firms where workers bargaining individually, our paper investigates a unique setting where workers are already covered by collective agreements but are entirely excluded from the bargaining process. In the context of company unions, workers depend on the extent to which union leaders and firms internalize their preferences, highlighting a fundamentally different starting point for addressing the threat of worker-aligned unionization.

By combining a matching DID design with a novel dataset linking confidential matched employer-employee data and web scrapped data on unions and CBAs in Mexico, we first show that mean log daily wages within firms with pro-employer contracts linked to company unions rose by approximately 6% between 2019 and 2024. These wage effects are more salient at the lower part of the within-firm wage distribution, but are cut by half when restricting the worker sample to only stayers. These results are also consistent with a well-documented mechanism in the literature, where non-unionized firms raise compensation to deter unionization ([Taschereau-Dumouchel, 2020](#); [Green et al., 2023](#)). In addition, we find significant compositional changes, where employment in treated firms decreased by about 10% with respect to its mean in 2018 (a reduction equivalent to 13 fewer employees per firm). This decline is concentrated in low-wage positions and is driven by an initial drop in hirings while separation rates remain high. Furthermore, firm-specific pay premiums and average worker quality improved after 2019, indicating enhanced managerial flexibility and resource reallocation following the suppression of company-union arrangements. Finally, we document meaningful heterogeneity in these effects. Non-exporting firms and those in the service and manufacturing sectors, as well as firms whose unions let the existing CBA expire after the May 2023 deadline, experienced larger wage improvements.

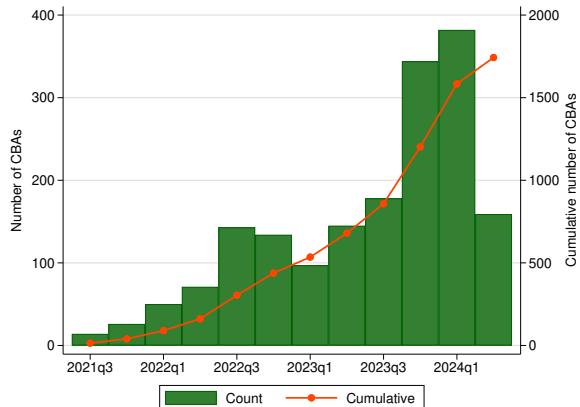
In terms of future work, we would like to extend our analysis in two ways. First, we want to use a worker-level design to answer who are the winners and losers after suppressing company unions. As of right now, our results only allow us to conclude that workers that remain or join treated firms after 2019 are better off, but workers that left these firms may or may not end up in a better equilibrium. Secondly, following [Arold et al. \(2025\)](#), we would like to apply cutting-edge AI techniques of text analysis in order to understand more about the content of the contracts bargained by company unions. An additional limitation in our analysis is that we cannot disentangle why the firm-specific pay premium is increased, so exploring how company unions affect productivity is also a fruitful venue for future research.

References

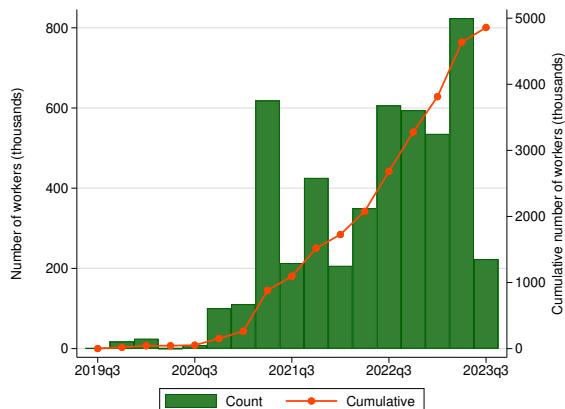
- AROLD, B., ASH, E., MACLEOD, B. and NAIDU, S. (2025). The Value of Worker Rights in Collective Bargaining. *NBER*, **33605**.
- BANCO DE MÉXICO (2019). Informe Trimestral Enero - Marzo 2019, Recuadro 4. pp. 35–37.
- BEAUREGARD, P.-L., LEMIEUX, T., MESSACAR, D. and SAGGIO, R. (2025). Why Do Union Jobs Pay More? New Evidence from Matched Employer-Employee Data. *NBER*, **33740**.
- BERGOLO, M., CENI, R., FONDO, M. and VERGARA, D. (2025). Minimum Wages and the Distribution of Firm Wage Premia.
- CARD, D. (1996). The Effect of Unions on the Structure of Wages: A Longitudinal Analysis. *Econometrica*, **64**, 957.
- , LEMIEUX, T. and RIDDELL, W. C. (2020). Unions and Wage Inequality: The Roles of Gender, Skill and Public Sector Employment. *Canadian Journal of Economics/Revue canadienne d'économique*, **53**, 140–173.
- CASCO, J. L., BUJANDA, L. F. and KURCZYN, L. (2024). Outsourcing, Employment and Wages: Evidence from a Policy Reform in Mexico. *Banco de México Working Papers*, (20).
- CORRADINI, V., LAGOS, L. and SHARMA, G. (2022). Collective Bargaining for Women: How Unions Can Create Female-Friendly Jobs. *IZA Discussion Paper No. 15552*, pp. 1–85.
- CÁMARA DE DIPUTADOS DEL H. CONGRESO DE LA UNIÓN (2024). Ley Federal del Trabajo.
- DE BUEN UNNA, C. (2013). Reconversión de los Contratos Colectivos de Protección Patronal. *Fundación Friedrich Ebert*, pp. 1–23.
- DE PINTO, M. and MICHAELIS, J. (2019). The Labor Market Effects of Trade Union Heterogeneity. *Economic Modelling*, **78**, 60–72.
- DENTEH, A. and KÉDAGNI, D. (2022). Misclassification in difference-in-differences models.
- DERENONCOURT, E., GERARD, F., LAGOS, L. and MONTIALOUX, C. (2025). What Do (Thousands of) Unions Do? Union-Specific Pay Premia and Inequality. *Mimeo*.
- DINARDO, J. and DAVID, S. L. (2004). Economic Impacts of New Unionization on Private Sector Employers: 19842001. *The Quarterly Journal of Economics*, **119**, 1383–1441.
- DODINI, S., STANSBURY, A. and WILLÉN, A. (2023). How Do Firms Respond to Unions?
- FARBER, H. S., HERBST, D., KUZIEMKO, I. and NAIDU, S. (2021). Unions and Inequality over the Twentieth Century: New Evidence from Survey Data. *The Quarterly Journal of Economics*, **136**, 1325–1385.
- FORTIN, N. M., LEMIEUX, T. and LLOYD, N. (2021). Labor Market Institutions and the Distribution of Wages: The Role of Spillover Effects. *Journal of Labor Economics*, **39** (S2), S369–S412.
- FRANDSEN, B. R. (2021). The Surprising Impacts of Unionization: Evidence from Matched Employer-Employee Data. <https://doi.org/10.1086/711852>, **39**, 861–894.
- GREEN, D., SAND, B., SNODDY, I. and TSCHOPP, J. (2023). The Impact of Unions on Nonunion Wage Setting: Threats and Bargaining. *mimeo*, pp. 1–45.
- RUBIO, E. (2024). Power Distribution and Efficiency: Theory and Evidence from Unionized Firms.

- SADKA, J. (2016). Contratos Colectivos a Nivel Federal en México: Determinación del Porcentaje de Contratos de Protección Patronal a través de la Metodología de Análisis de Componentes Principales.
- SAMANIEGO DE LA PARRA, B. and FERNÁNDEZ BUJANDA, L. (2024). Increasing the cost of informal employment: Evidence from mexico. *American Economic Journal: Applied Economics*, **16** (1), 377411.
- STEPNER, M. and GARLAND, A. (2017). CALIPMATCH: Stata module for caliper matching without replacement. Statistical Software Components, Boston College Department of Economics.
- TASCHEREAU-DUMOUCHEL, M. (2020). The Union Threat. *The Review of Economic Studies*, **87** (6), 2859–2892.

Appendix A. Additional Figures



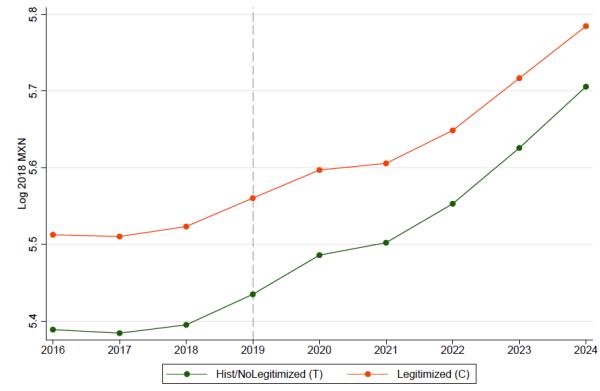
(a) New CBAs



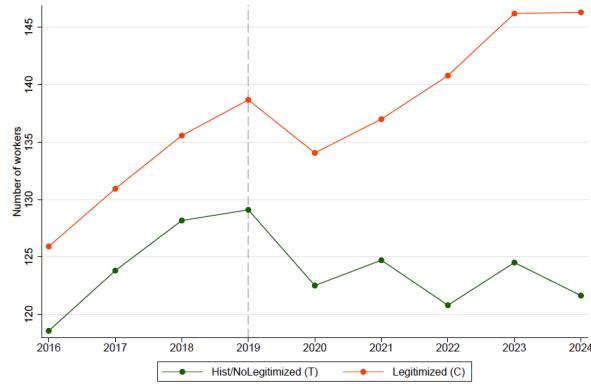
(b) Workers' participation in CBA legitimization

FIGURE A1. New CBAs and workers' turnout across time.

Notes: In panel (a), new CBAs refer to new contracts being deposited to CFCRL each quarter between 2021q3 and 2024q2. In panel (b), we report the number of workers participating in the CBA legitimization processes between 2019q3 and 2023q3. Source: RIRL.



(a) Mean log wages



(b) Employment

FIGURE A2. Average outcomes for treated and control matched firms.

Notes: Treated firms are defined as those with a historical but not legitimized CBA. Control firms correspond to those with a legitimized contract. We use private-formal firms with at least 20 workers in 2018. Matching is conducted using pre-treatment variables of firm size, industry, region, exporter status, and low-paid workers.
Source: RIRL and IMSS data for May of each year.

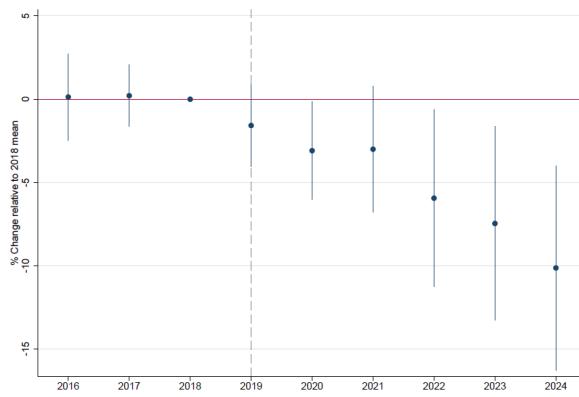


FIGURE A3. Effects on wage bill.

Notes: Coefficients obtained from event study specification (1). Treated firms are defined as those with a historical but not legitimized CBA. Control firms correspond to those with a legitimized contract. We deflate daily wages using the national CPI base 2018. We use private-formal firms with at least 20 workers in 2018. Matching is conducted using pre-treatment variables of firm size, industry, region, exporter status, and low-paid workers. *Source:* RIRL and IMSS data for May of each year.

Appendix B. DID Analysis Under Treatment Misclassification

This appendix examines the implications of treatment misclassification in our DID design. Following the framework proposed by [Denteh and Kédagni \(2022\)](#), we consider a simplified setting with two time periods and J firms indexed by $j \in \{1, \dots, J\}$ and $t \in \{1, 2\}$. All firms are assumed to be unionized. Let $G_{j,t} \in \{\text{Company}, \text{Democratic}\}$ denote the type of union in firm j at time t . At time $t = 2$, each firm either has its CBA legitimized by the workforce or not. Let $R_j \in \{\text{No Legitimized}, \text{Legitimized}\}$ indicate the outcome of this process for firm j . We define the treatment variable D_j as one if firm j had a company union before the reform and zero otherwise. Let $Y_{j,t}(0)$ and $Y_{j,t}(1)$ denote the untreated and treated potential outcomes, respectively. Our parameter of interest is the average treatment effect on the treated (ATT) for firms with company unions prior to the reform:

$$\begin{aligned} ATT_{\text{Company}} &= \mathbb{E}[Y_{j,2}(1) - Y_{j,2}(0) | D_j = 1] \\ &= \mathbb{E}[Y_{j,2}(1) - Y_{j,2}(0) | G_{j,1} = \text{Company}]. \end{aligned}$$

Case I: No Treatment Misclassification. We first consider the case where there is no treatment misclassification and the union type coincides with the legitimization results. To such end we introduce the following assumptions:

Assumption B.1 (No Anticipatory Effects). $Y_{j,1}(1) = Y_{j,1}(0)$ for all j such that $D_j = 1$.

Assumption B.2 (PTA for No Legitimized vs Legitimized).

$$\mathbb{E}[Y_{j,2}(0) - Y_{j,1}(0) | R_j = \text{No Legitimized}] = \mathbb{E}[Y_{j,2}(0) - Y_{j,1}(0) | R_j = \text{Legitimized}].$$

Assumption B.3 (One-to-one Mapping from Union Type to CBA Outcome).

$$R_j = \begin{cases} \text{Legitimized,} & \text{if } G_{j,1} = \text{Democratic,} \\ \text{No Legitimized,} & \text{if } G_{j,1} = \text{Company.} \end{cases}$$

Then, we have the following result.¹⁸

Lemma B.1. *Under Assumptions B.1, B.2, and B.3, the DID estimator recovers the target parameter ATT_{Company} .*

Case II: Treatment Misclassification Allowed. We now consider a general case, allowing for possible misclassification in treatment assignment. I.e., we drop Assumption B.3 and do not impose any restriction on the relationship between $G_{j,1}$ and R_j . In this case, we have the following result.

Lemma B.2. *If Assumptions B.1 and B.2 hold, then the DID estimator identifies the following weighted difference of average treatment effects:*

$$\begin{aligned} &\mathbb{E}[Y_{j,2}(1) - Y_{j,2}(0) | G_{j,1} = \text{Company}, R_j = \text{No Legitimized}] \cdot \pi_{\text{Company}|\text{No Legitimized}} \\ &- \mathbb{E}[Y_{j,2}(1) - Y_{j,2}(0) | G_{j,1} = \text{Company}, R_j = \text{Legitimized}] \cdot \pi_{\text{Company}|\text{Legitimized}}. \end{aligned}$$

¹⁸All proofs are available from the authors upon request.

Although this lemma shows that the DID estimator in general does not identify the target parameter under treatment misclassification, it also highlights that, under certain conditions different from Assumption B.3, DID can recover a lower (or upper) bound for the average treatment effect among firms with company unions that did not legitimize their contract.

Case III: One-Sided Misclassification. Lastly, we explore a more suitable scenario for our setting in which firms with democratic unions always legitimize. Consider the following assumptions.

Assumption B.4 (Democratic Unions Always Legitimize CBA).

$$\pi_{\text{Democratic}, \text{No Legitimized}} = 0.$$

Assumption B.5 (Positive ATT of Switchers).

$$\mathbb{E}[Y_{j,2}(1) - Y_{j,2}(0) | G_{j,1} = \text{Company}, R_j = \text{Legitimized}] \geq 0.$$

Assumption B.5 states that, on average, the outcomes of firms with company unions that ultimately legitimized their CBA are at least as good as they would have been in the absence of the reform. Then we have the following result.

Lemma B.3. *Under Assumptions B.1, B.2, B.4, and B.5, the DID estimator provides a lower bound for the average treatment effect among firms that had a company union and did not legitimize:*

$$ATT_{\text{Company}, \text{No Legitimized}} = \mathbb{E}[Y_{j,2}(1) - Y_{j,2}(0) | G_{j,1} = \text{Company}, R_j = \text{No Legitimized}].$$

This lemma suggests that, under mild conditions, our estimated wage effects can be interpreted as conservative estimates of the average treatment effects for the subpopulation of treated firms that had a company union and did not legitimize their contract. On the other hand, for employment outcomes, Assumption B.5 should be substituted for a negative ATT of switchers, and thus, the DID estimator would become an upper bound for $ATT_{\text{Company}, \text{No Legitimized}}$.