The Labor Market Effects of Regulating Platform Work: Evidence from Chile*

Omar Bamieh[a], Juan J Dolado[bde], Álvaro Jáñez[c], and Felix Wellschmied[be]

[a]Universidad Andres Bello, [b]Universidad Carlos III de Madrid, [c]Stockholm School of Economics, [d]CEPR, [e]IZA

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Abstract

Chile's 2022 Platform Work Law mandates firms to monitor their subcontractors' formality and establishes maximum working hours, minimum pay, and the right to collective bargaining among independent contractors. Chile further stands out worldwide for providing a comprehensive and nationally representative dataset for platform work that allows us to track workers' labor market outcomes over 2020-2024. By means of DiD and event study regressions, we find that this reform induced an 8-percentage-point shift from the share of informal to formal subcontractors with no change in the share of employees. Moreover, there were no significant changes in collective bargaining, compliance with minimum pay and maximum hours, or wage differentials between employees and subcontractors. The changes in hiring practices and wages are consistent with a structural labor market model where firms hire employees and formal and informal subcontractors. The calibrated model also shows that the reform reduced platforms' profits, while strictly enforcing hours regulations would lead to very small welfare losses.

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*Corresponding author: Álvaro Jáñez (alvaro.janez.garcia@hhs.se). We thank our discussant Tatiana Rosá and participants at CAF Workshop 2026 in Buenos Aires for helpful comments. Financial support from the CAF project *Latin America and the Caribbean at the Crossroads of Informality and Digitalization* is gratefully acknowledged: Felix Wellschmied appreciates the support of grants RYC2023-043181-I, PID2024-158085NB-I00, and CEX2021-001181-M funded by MICIU/AEI/10.13039/501100011033 and by ERDF/UE. The usual disclaimer applies.

1 Introduction

Around 300 million workers are currently employed through digital platforms globally, representing between 4.4 and 12.5 percent (%) of the workforce (Datta, Rong, Singh, Stinshoff, Iacob, Nigatu, Nxumalo, and Klimaviciute, 2023). Among platform work, delivery and transportation services (transportation, hereafter) take a dominant position, partially as a result of the COVID-19 pandemic, with their workers being commonly employed as independent contractors. The usage of these workers has brought about a radical transformation in labor market relationships, as it allows platforms to sidestep traditional employment regulations and social protection (Katz and Krueger, 2019; Abraham, Haltiwanger, Hou, Sandusky, and Spletzer, 2021).

These common practices have raised deep concerns about the precarious conditions of many platform workers, prompting regulatory responses across continents.[1] These concerns are further amplified in Latin America, where independent contractors are not only the dominant form of employment but informality is also pervasive among platform workers (see ILO, 2025), thereby leaving many of them with even less social protection. In this region—where the gig economy employs about 46 million people—Chile becomes a key case study due to its approval of one of the earliest regulations of platform work in 2022.[2] Moreover, Chile stands out for the availability of uniquely detailed and comprehensive survey data on the labor market conditions of platform workers, enabling the evaluation of the Chilean Platform Work Law (Ley N° 21,431, hereafter PWL).

The PWL explicitly introduces the new jurisdictional figure of "independent platform worker" in their Labor Code, establishing that platforms could no longer rely on informal independent contractors. Instead, they have to monitor, even when hiring through subcontracting firms, that their workers are registered with the tax authorities. In addition, it establishes maximum working hours, minimum pay, and the right to collective bargaining among independent platform workers. We quantify the labor market effects of this reform on transportation workers, such as Uber drivers, who represent about 84% of platform workers affected by the PWL. To that end, we combine reduced-form methods with an equilibrium model of the platform work market.

As for data sources, we exploit the Chilean Labor Force Survey (LFS), which explicitly identifies platform work since 2020. It provides microdata on working hours, wages,

[1] For example, Australia (Fair Work Legislation Amendment Act 2024), Belgium (Wet van 28 november 2022), California (Assembly Bill 5), Colombia (Ley 2466 from 2025), France (Loi n° 2016-1088), Italy (Legge 2 novembre 2019, n. 128), Massachusetts (Ballot Question 3), South Korea (Employment Insurance Act No. 17859), or Spain (Real Decreto-ley 9/2021).

[2] Mexico (Ley Federal del Trabajo 2024) and Uruguay (Ley N° 20,396) have also enacted legislation regulating platform work, while similar initiatives are underway in Brazil, Colombia, and Peru.

employment status, formal status, and social security coverage for a nationally representative sample of the working-age population on a quarterly basis. Using this information, we document salient features of the transportation platform sector prior to the reform. Before the PWL, the informality rate among platform workers stood at around 85%, with an additional 10% of workers being formally registered as independent contractors. This reflects the widespread practice of platforms circumventing labor regulations. Accordingly, our results show that most platform workers do not have social security coverage, many earn hourly income below the legal minimum pay, one-tenth work more hours than the legal maximum applicable to employees, and less than 0.2% participate in trade unions. As for hours worked and wages, we find that formal and informal independent contractors have a similar distribution of wages and hours worked. Moreover, they both work substantially longer hours, feature more dispersion in hours worked, and earn lower wages compared to formal platform employees.

We evaluate the labor market effects of the PWL using a static difference-in-differences (DiD) regression that compares outcomes of treated and control workers before and after the enactment of the reform. The treated group includes low-skilled workers employed by transportation platform companies covered by the PWL. The control group consists of low-skilled, non-platform workers in that sector.

The results from the static DiD specification show that, relative to the control group, the informality rate falls by 8.2 percentage points (pp.) among platform workers following the reform. This represents a 10% decline in the number of informal workers in this sector. Hence, the reform effectively reduced informality, even though it remains the dominant status among workers after the PWL. The reduction stems entirely from a substitution of informal for formal contractors: the share of the latter increases by 8.0 pp., while the share of formal employees exhibits no significant changes. We also find no significant changes in wages or hours worked following the PWL.

The share of formal employees and relative wages remaining unchanged may sound counterintuitive at first, given that the reporting requirements increase the average costs of contractors. Using an equilibrium labor-market model, it is shown that it should be, nevertheless, the outcome one should expect as long as platforms only partially comply with the law. In the model, they hire employees as well as formal and informal contractors. Hiring informal contractors is cheaper in terms of labor costs; however, it comes at a cost of expected sanctions, which increase with the reform. The model allows us to back out this expected costs rise, which amounts to 10%, which reduces platforms' expected profits. The insight for why platforms do not hire more formal employees is that, in equilibrium, they trade off the marginal costs of employees and formal contractors, both of which remain unchanged.

One way the government can affect this marginal costs trade-off is by lowering the platforms' social security contributions for employees. We, therefore, simulate a payroll tax exemption of platform employees, which corresponds with a decline of 4.4 pp. in employer payroll taxes. The reform increases the wages of employees by 3.8% and the share of employees from 5.0% to 5.2%. Put differently, the scope for reducing informality through employer payroll tax cuts is limited.

Turning to the labor law enforcement of the reform, the reduced-form model finds no evidence that it had any effects either on the share of workers exceeding maximum working hours, on the share of workers earning below the minimum wage, or on trade union participation. However, there is a rise of 4.5 pp. in social security coverage.[3]

We use the structural model to ask how the economy would have changed, had the government actually implemented the labor law regulation. Enforcing minimum pay would raise the relative costs of formal contractors vis-à-vis informal contractors, thus increasing demand for the latter. To evaluate the effects of enforcing the maximum hours regulation of 84 hours per week, we compute the counterfactual wage subsidy that the government would have to pay to make workers indifferent to not enforcing the law. We find small welfare losses from enforcing the law: the required wage subsidy is 0.07%. The small effect results from only a few contractors working longer than 84 hours; hence, this regulation would affect few workers.

Finally, we show that our reduced-form DiD estimates are robust to a series of different specifications. First, we perform an event-study analysis that allows us to test for pre-trends and sheds light on the dynamic effects of the reform. The results are robust to the event-study specification, and we fail to find significant pre-reform trends. Second, since we rely on repeated cross-sections rather than panel data, a natural concern is that the reform may have changed the composition of workers employed by platform companies. However, we find that time trends in sociodemographic covariates cannot explain our results. Finally, following Deaton (1985), we apply a pseudo-panel approach that further corroborates our main findings.

Related literature and outline This paper contributes to a growing literature on the characteristics of the online gig economy where a large body of empirical research has dealt with the difficulty of measuring platform work arrangements through either conventional administrative data, specific surveys, or field experiments (Mas and Pallais, 2017; Collins, Garin, Jackson, Koustas, and Payne, 2019; Katz and Krueger, 2019; Boeri, Giupponi, Krueger, and Machin, 2020; Abraham, Haltiwanger, Hou, Sandusky, and Spletzer,

[3]The incomplete pass-through of formality to this coverage rate stems from the fact that some workers register with the tax authorities, and thus have a formal status, but do not contribute to the social security system.

2021). Given that Chile is one the countries in the world with the best administrative data on platform work, our study aims at reducing measurement problems.

Similar to us, there is a recent literature which also highlights the high value that digital platforms provide to workers through flexible work arrangements. For example, Chen, Rossi, Chevalier, and Oehlsen (2019) study the case of Uber drivers in the US and show that their surplus is higher in these flexible jobs than in alternative work arrangements, which offer less flexibility. Similarly, Stanton and Thomas (2025) analyze a platform environment where buyers post one-time projects and workers compete for these projects by posting wages. They find that imposing traditional employment regulations on short-term platform work reduces overall welfare and workers' surplus for those valuing flexibility. Angrist, Caldwell, and Hall (2021) study a yet different setup where drivers choose between permanent lease contracts (taxi driver) and revenue fees (Uber driver), finding that the worker retains work flexibility in both arrangements. Finally, Dolado, Jáñez, and Wellschmied (2025a) find that food delivery drivers place great value on the flexibility of their working hours. We add to this literature by considering an environment where flexible platform jobs coexist with workers being hired as employees so that, unlike those papers, formality and informality play a big role.

Another related line of research is the study of the labor market effects of on-call and zero-hours contracts by Scarfe (2019), Dolado, Lalé, and Turon (2025b), and Datta (2024), which share similarities with contracts offered to independently contracted drivers and riders. Under those work arrangements, firms only call-up workers when they need their services, leading to workers being operative in some periods but not in others. Just like us, these papers employ structural models to analyze the general equilibrium effects of regulating flexible contracts. However, we differ from their approach in that we add informality as an additional status to being employee and a formal contractor and in analyzing in more detail workers' heterogeneity in time availability. Moreover, these authors use search and matching models, whereas ours is about a frictionless labor market, which we deem more appropriate for the type of platform work under consideration.

Additionally, our paper is linked to the literature on the informal economy. Ulyssea (2020) concludes that formality enforcement generates efficiency gains without necessarily increasing unemployment. Our results show that increasing the formality rate in the platform sector does not necessarily translate into output or employment gains. Moreover, our approach echoes the equilibrium models of the labor market with informal jobs (Zenou, 2008; Satchi and Temple, 2009; Albrecht, Navarro, and Vroman, 2009), but differs in that we characterize a different job sorting mechanism based on contract preferences.

Finally, our paper also speaks to other strands of the literature that deal with the effects of changing legal work-time regulations (Carry, 2022), and the modeling of hours

of work in search and matching models (Cooper, Meyer, and Schott, 2017; Frazier, 2018). We depart from these works in allowing for heterogeneity regarding labor supply decisions by workers in a frictionless model and by introducing an informal labor-market segment.

The rest of the paper is structured as follows. Section 2 provides some institutional background about platform work in Chile, as well as a detailed discussion of the 2022 reform under consideration. Section 3 describes the data sources and draws stylized facts about the platform workers ' labor market. Section 4 provides reduced-form evidence about the labor market effects of the reform by means of D-i-D and event-study regressions. Section 5 lays out the quantitative model. Section 6 describes its calibration. Section 7 discusses the counterfactual results from policy experiments. Finally, Section 8 concludes. An Appendix gathers further evidence discussed in the main text.

2 Institutional Background

Pre-reform institutions. Over the last fifteen years—and with a marked acceleration since the pandemic episode—gig economy platforms have expanded significantly in Chile, primarily through multinational companies such as Uber, Rappi, and PedidosYa. In fact, for the dominant player, Uber, the Chilean market trails only the US and the UK, with operations in nearly three-fourths of Chile's medium and large cities (Azuara-Herrera, Keller, and González, 2019). This rapid rise in platform-based employment has led to growing concerns about how to regulate these jobs.

Broadly speaking, Chile's labor relations system is highly decentralized. This structure goes back to the so-called "Labour Plan" enacted in 1979 under the Pinochet dictatorship, which confined collective bargaining to the firm level or even lower levels (e.g., at the workplace or shop floor). Although the democratic transition expanded workers' social rights, collective bargaining has remained largely atomized, helping employers retain a high degree of discretion over employment matters.

Regarding these employment decisions, prior to the reform, Chile maintained a dual system classifying workers either as dependent employees, subject to labor law regulation, or as independent contractors, enjoying far fewer labor law protections. To ensure tax compliance and social security coverage among independent contractors, they are required to issue so-called *Boletas de Honorarios* (freelance service invoices), which were introduced in 1984. These allow independent workers to bill for their services without a formal contract with the hiring company, while ensuring tax collection. The system has been widely criticized as a form of bogus self-employment, since it enables companies to

avoid formal employment relationships, given that existing jurisprudence lacks a uniform criterion about the legal definition of independent contractors (Muñoz-García, 2018).

Proving a classical subordinate employment relationship in court is yet more difficult for platform workers. Hence, absent explicit labor legislation for platform workers, those companies classified 95% of their workforce as independent contractors rather than employees. As a result, the vast majority of platform workers were subject to minimal regulation regarding working hours and remuneration. Moreover, though independent contractors are required to be registered with the tax authorities and thus formalized, in practice, this often did not occur. Consequently, prior to the labor reform, the informality rate in the sector reached 80%—approximately three times higher than in the Chilean economy as a whole (26%).

The Platform Work Law. The high degree of informality and the lack of social protection have sparked an intense debate on how to improve the rights of platform workers while preserving the flexibility offered by these new forms of employment. As stated by the Minister of Labor in parliamentary debates preceding the law, there was a need to establish "regulation for a sector that was completely unregulated" and to "guarantee worker protections while also allowing them to harness the potential made available by globalization and new technologies" (Biblioteca del Congreso Nacional de Chile, 2022). Law 21.431, known as the Platform Work Law, approved in March 2022 and in force since September 2022 in Chile, became the first law in Latin America to establish a regulatory framework governing "work performed via digital service platforms" and, in doing so, addressing the issue of informality.[4] Specifically, the law applies to companies that *manage* the execution of services by workers for users through a digital platform, explicitly including sectors such as delivery and transport (e.g., Uber). By contrast, platforms that merely advertise others' services without managing their execution are excluded from these regulations (e.g., Airbnb).[5]

Determination of employment status. To reduce the number of informal workers, a central part of the reform relied upon the amendment of the existing Labor Code through

[4]Note that a year later, the so-called Uber Law, approved in 2023 but still not implemented by early 2026 (therefore not affecting our reference period 2020-2024) regulates transportation apps in Chile by requiring drivers to hold a professional license, setting a maximum vehicle age (1–3 years) to improve safety, creating an official registry, and standardizing the service. The government decided to pause it due to technological problems and the risk of increasing unemployment. Moreover, it did not change the labor regulations established by the PWL. Thus, our results are immune to this law

[5]In this case, although the supplier of the physical service may depend on advertising platforms to access opportunities, these companies only connect supply and demand without setting trading rules, such as prices. More concretely, according to the Consejo Superior Laboral (2024), the following platform companies operating in Chile should comply with the PWL: Uber, Cabify, Beat, InDriver, Cornershop, Jumbo, Jumbo Shoppers, Rappi, Uber Eats, PedidosYa, Upgirl, Eback, Justo, Moova, Bossmap, Roadrunner, Shopper, and Delivery.

Table 1: Main new regulations introduced by Platform Work Law

	Formal		Informal
	Employee	**Contractor**	
Panel A. Before the reform			
Hours worked	Contractual, $\bar{h}$	Workers' choice	Workers' choice
Maximum working time	45 hours-week	No	No
Minimum pay	$\underline{w}$	No	No
Social security taxes	Employer	Worker	None
Right to bargain collectively	Yes	No	No
Enforcement risk borne by	None	None	Potentially none
Panel B. After the reform			
Hours worked	Contractual, $\bar{h}$	Workers' choice	Workers' choice
Maximum working time	45 hours-week	84 hours-week	No
Minimum pay	$1.2 \times \underline{w}$	$1.2 \times \underline{w}$	No
Social security taxes	Employer	Worker	None
Right to bargain collectively	Yes	Yes	No
Enforcement risk borne by	None	None	Firm

Note: This table reports the main features of changes in the regulation of work arrangements following the Platform Work Law 21.431 by contract type. The source is Chapter X of Chile's Labor Code.

the introduction of the new jurisdictional figure of "independent platform worker." Hence, companies may still hire either *dependent* platform workers, whose status closely resembles that of traditional employees, or *independent* platform workers, who operate as independent contractors. However, unlike traditional independent contractors, companies are required to ensure that their independent platform workers become formal. In other words, it is the platform's obligation to verify that these contractors (i) have a valid tax identification number, (ii) are authorized to issue the aforementioned Boletas de Honorarios, and (iii) report the resulting revenue to the tax authorities. Importantly, platforms are also obliged to monitor the formality of independent platform workers employed by subcontractors, i.e., firms that hire contractors to work on the platform. Beyond these regulations aimed at formalizing independent contractors, the reform imposed additional social protections for both types of workers, which we discuss next.

New regulations for dependent platform workers. Table 1 summarizes the main new regulations established in the reform distinguishing by type of labor contract. Regarding dependent employment, the PWL introduces two main regulatory changes regarding maximum working time and minimum pay (García and Azócar, 2022). The first change relates to the definition of working time, which is expanded to include all hours during which a worker remains at the platform's disposal, encompassing both active service and passive waiting periods. Notably, the sum of active and passive hours is subject

to statutory maximum-hours regulations, while only active hours are remunerated. The second change concerns minimum pay, which is set at 20% above the monthly national minimum wage, being proportional to the number of active hours worked. This premium aims at compensating workers for passive working time.

New regulations for independent platform workers. The PWL has introduced several regulatory changes for independent platform workers concerning maximum working time, minimum pay, and the right to collective bargaining. First, a maximum working schedule of 12 hours (within any 24-hour period) is established by enforcing a mandatory minimum disconnection time from the platform. Second, these workers are subject to the same minimum pay regulations as dependent platform workers. Third, independent platform workers have the right to unionize and bargain collectively with platforms.

3 Descriptive Features of Platform Work

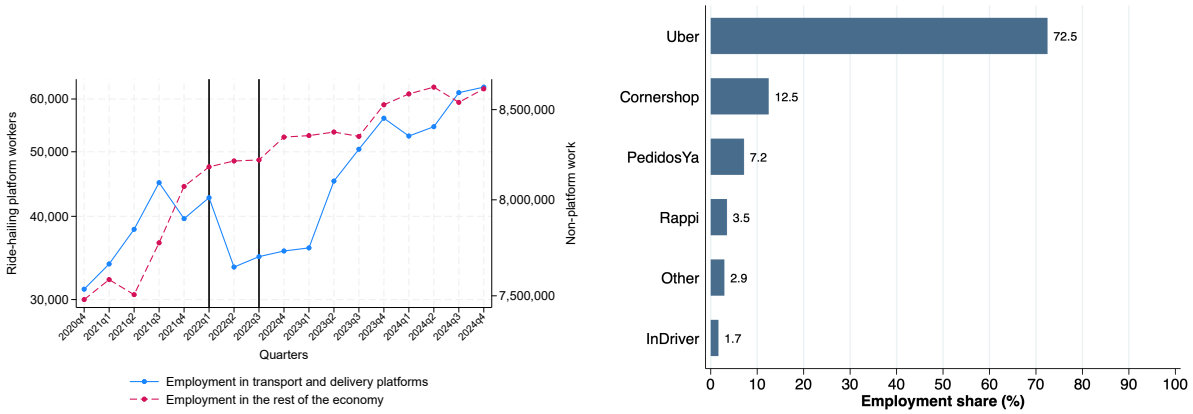
Chile has the advantage of being one of the few countries worldwide that measures platform work in its official employment statistics. We begin by describing this dataset. Next, we document some salient features of the Chilean delivery and transport platform sector, focusing on employment, hours worked, and hourly income.

3.1 Data

Our main data source is the Chilean Labor Force Survey (CLFS; or *Encuesta Nacional de Empleo, ENE*, in Spanish), a panel data survey conducted by the Chilean Statistical Office on a representative sample of the resident population aged 15 or older. The CLFS provides individual-level monthly information on employment status, hours worked, occupation, industry, social security coverage, and firm tax registration. Importantly, it is among the first nationally representative surveys to include a module on platform work since 2020. This module identifies the specific web platform or mobile application through which individuals work and whether platform work is their main job.

We complement the CLFS data with the Income Supplement Survey (ISS; or *Encuesta Suplementaria de Ingresos, ESI*), an annual supplementary module that provides individual-level information on monthly income during the last quarter of each year for a sub-sample of individuals observed in the CLFS. The income measure is the sum of total net earnings from dependent employment and total net income from self-employment, including business income and self-consumption. These income measures are net of personal income and social security taxes. We use this information to construct hourly income

Figure 1: The delivery and transport platform sector



(a) Size of the platform sector

(b) Pre-reform employment share

Note: This figure displays the evolution of delivery and transport platform work and its pre-reform employment share distribution. The left panel shows the number of platform workers affected by the reform and other platform workers relative to total employment. The axis is in log scale. In addition, the right panel plots the pre-reform employment share distribution of transport and delivery platform workers across firms.

from the main job for each individual by dividing monthly income by the weekly ordinary hours worked multiplied by an adjustment factor of 4.35 weeks worked in a month.

With this available information, we adopt the following definitions of workers' labor market status. We define *platform workers* as individuals whose main job is with a company covered by the PWL, as listed in Section 2.[6] To focus the analysis on transport and delivery workers within these platforms, we further restrict the sample to workers in low-skill ISCO-08 occupations (major groups 4 through 9) in the ISIC transport and storage sector (group H). Following Statistics Chile's standard definition, we classify *informal workers* as either dependent employees without employer-provided social security coverage or independent contractors whose activity is not registered with the tax authorities. Moreover, we consider that dependent employees have social security coverage if their employers pay health, unemployment, or pension contributions on their behalf.

We restrict the sample to working-age individuals (15–65) and focus on the period 2020q1-2024q4, the last available survey wave. Workers in agriculture and mining, as well as those involved in family businesses, are excluded.

3.2 Descriptive features

Sectoral size and market structure. Prior to the approval of the PWL, the transport and delivery platform sector employed about 40,000 workers, accounting for 27.1% of gig employment (i.e., including Airbnb, WhatsApp, etc.) and 0.5% of total employment in Chile. Figure 1(a) shows the evolution of (log) employment in the sector in comparison to the rest of the Chilean economy. Employment in this sector temporarily diverged from its previous trend around the time of the PWL and even recorded negative growth one year after its approval, unlike in the rest of the economy. However, employment began to recover in 2023 and surpassed pre-reform levels by the end of 2024.

Regarding the market structure, we find that employment in this sector is highly concentrated in just a handful of firms. Specifically, Figure 1(b) displays the pre-reform employment share across firms within the sector. Only four firms hire 95.7% of platform workers, where Uber clearly stands out as the dominant player in this market, hiring about two-thirds of workers.

Characteristics of platform workers. Column (2) of Table 2 provides a portrait of all workers employed by platform companies affected by the PWL. In addition, column (1) reports the same for the general Chilean workforce. Employed workers in affected platforms are predominantly male (85.5%), young (38 versus 43 years), urban (only 3.9% rural), and foreign-born (25.5%, compared to 5.6% in the general workforce). Interestingly, the share with a college degree among platform workers (29.1%) is comparable to the national average (25.5%), suggesting that platform work attracts workers across the overall education distribution rather than being concentrated among the least educated.

As shown in Panels A and B, workers in PWL affected platforms are concentrated in occupation 8 ("Plant and machine operators," 87.6%) and sector H ("Transportation and storage," 83.8%), though a non-negligible share are high-skilled workers (major groups 1 through 3) or work in wholesale and retail, accommodation and food, and other services. To focus on transport and delivery workers, we restrict the treatment group in subsequent sections to low-skilled workers in the transportation sector within these platforms. A striking feature of this workforce is its contract status: 82.3% of all employed platform workers are informal compared to 27.2% in the overall economy. Conversely, only 4.0% of platform workers are formal employees, compared to 64.3% in the general workforce. Consistent with this pattern, social security coverage is low (10.4%), trade union participation is negligible (0.6%), and platform workers earn lower hourly wages (3.21 USD versus 4.56 USD) while working longer hours (43.7 versus 40.5 hours per week). This high

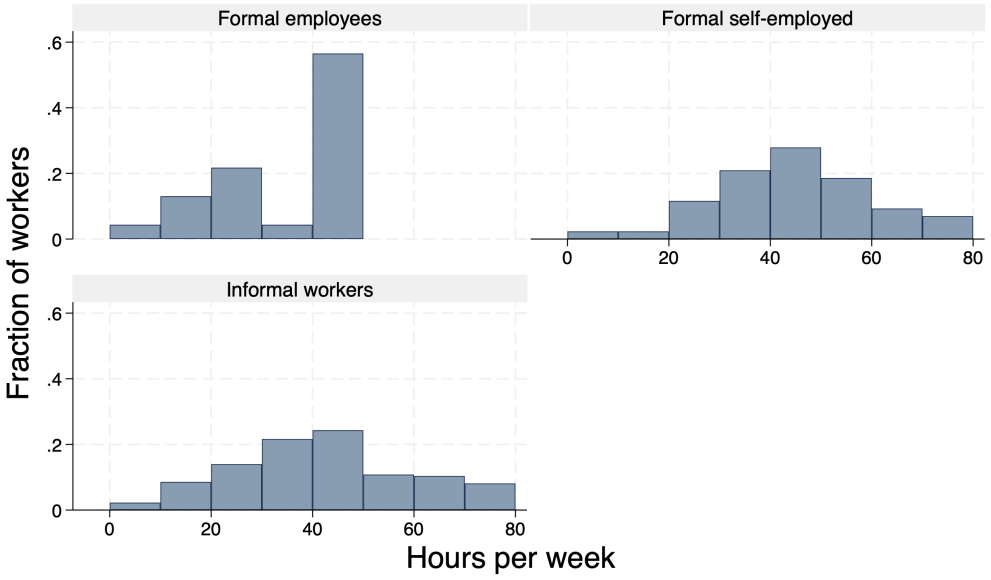
[6]Only 6.6% of platform workers held it as a secondary job before the reform. Moreover, this share did not change significantly after the reform, consistent with the PWL imposing no particularly strict regulations on working time.

Table 2: Descriptive statistics

	All employed	Platform workers	Treatment (transport, low-skilled)	Control (transport, low-skilled)
	(1)	(2)	(3)	(4)
Panel A: Occupation (ISCO-08)				
1. Managers	0.042	0.005	0.000	0.000
2. Professionals	0.167	0.006	0.000	0.000
3. Technicians	0.128	0.007	0.000	0.000
4. Clerical support	0.056	0.006	0.000	0.000
5. Service and sales	0.201	0.059	0.016	0.100
6. Skilled agricultural	0.020	0.000	0.000	0.002
7. Craft and trades	0.124	0.001	0.000	0.042
8. Plant and machine operators	0.079	0.825	0.965	0.695
9. Elementary occupations	0.177	0.041	0.019	0.161
Other	0.004	0.000	0.000	0.000
Panel B: Sector (ISIC)				
A Agriculture	0.059	0.002	0.000	0.000
B Mining	0.031	0.000	0.000	0.000
C Manufacturing	0.098	0.001	0.000	0.000
D Electricity and gas	0.006	0.000	0.000	0.000
E Water supply	0.007	0.000	0.000	0.000
F Construction	0.083	0.005	0.000	0.000
G Wholesale and retail	0.184	0.052	0.000	0.000
H Transport. and storage	0.062	0.794	1.000	1.000
I Accommodation and food	0.042	0.073	0.000	0.000
J Information and comm.	0.023	0.003	0.000	0.000
K Financial and insurance	0.022	0.000	0.000	0.000
L Real estate	0.010	0.000	0.000	0.000
M Professional and scient.	0.037	0.002	0.000	0.000
N Administrative support	0.031	0.002	0.000	0.000
O Public administration	0.062	0.000	0.000	0.000
P Education	0.088	0.000	0.000	0.000
Q Health and social work	0.074	0.001	0.000	0.000
R Arts and recreation	0.011	0.003	0.000	0.000
S Other services	0.035	0.061	0.000	0.000
T Household activities	0.030	0.000	0.000	0.000
U Extraterrit. organizations	0.000	0.000	0.000	0.000
Panel C: Worker characteristics				
Female	0.425	0.123	0.095	0.113
College	0.319	0.320	0.307	0.098
Age	41	37	38	44
Foreign-born	0.115	0.439	0.408	0.090
Rural	0.099	0.017	0.018	0.088
Indigenous	0.103	0.062	0.068	0.105
Panel D: Employment and regulations				
Formal employee	0.668	0.043	0.013	0.566
Formal self-employed	0.086	0.186	0.186	0.110
Informal worker	0.246	0.771	0.801	0.325
Social security	0.723	0.132	0.101	0.595
Exceed max hours	0.099	0.090	0.067	0.209
Trade union	0.156	0.005	0.005	0.159
Weekly hours worked	41.1	47.1	47.5	44.2
Observations	678,027	2,520	2,067	28,739
Panel E: Income (ESI)				
Hourly income (2023 USD)	5.13	3.22	3.28	3.77
Observations (ESI)	91,550	524	426	4,642

Note: This table reports sample means for four groups: (1) all employed workers aged 15–65 in the Chilean LFS, (2) workers in companies affected by the Platform Work Law, (3) the treatment group (platform workers restricted to sector H "Transportation and storage" and ISCO-08 occupation codes 5–9), and (4) the control group (non-platform workers subject to the same sector and occupation restriction). Column (3) is a subset of column (2). Panel A reports occupation shares. Panel B reports sector shares. Panels C and D report worker characteristics, labor market outcomes, and weekly hours worked from the LFS (ENE). Panel E reports real hourly income from the Supplementary Employment Survey (ESI), which is a subsample of the ENE that collects income data; monetary values are expressed in 2023 USD. The sample period covers 2020q1–2024q4.

Figure 2: Weekly hours worked in platform companies by employment status



Note: This figure displays the distribution of total and usual weekly hours worked by type of employment status in platform companies. This includes both overtime and ordinary hours. The sample period ranges from Jan.2020 to March 2022, just before the PWL approval.

incidence of informality and the associated lack of social protections provide the central motivation for the PWL.

Hours worked. To better understand the high incidence of non-dependent employment in the sector, we consider differences in the working conditions between employees and contractors. First, the top row of Table 3 shows that hours worked are similar for formal contractors and informal workers, while both groups differ markedly from formal employees in this respect. In particular, average total weekly hours are about 12 hours lower for formal employees compared to the other two groups. Moreover, Figure 2 shows that the distribution of hours is smooth for formal contractors and informal workers but much more concentrated among formal employees. These results are consistent with the stricter regulation of working time for formal employees.

Turning to potential explanations behind the vast variation in hours worked between platform workers, Table A.3 in the Appendix reports the results of regressing (log) weekly hours of work on a conventional set of individual socioeconomic characteristics. We find that hours worked are higher among foreign-born workers and those aged 36–50, while hours worked are lower among women, students, and workers with a second job. These results support the view that platform workers take up platform work for different reasons: it may supplement other activities, in which case workers choose to work few hours, or it may be the main job, in which case the worker may work very long hours.

Table 3: Hours and income in the platform sector by job status

	Formal employee		**Formal contractor**		**Informal workers**	
	Before	After	Before	After	Before	After
Hours worked	33.03	42.48	48.21	51.03	46.06	47.39
	(4.64)	(2.07)	(2.99)	(1.55)	(1.24)	(0.87)
(Log) hourly income	7.94	8.22	7.72	7.99	7.78	7.83
	(0.65)	(0.24)	(0.20)	(0.08)	(0.06)	(0.04)

Note: This table reports hours worked and the logarithm of hourly income (in real Chilean pesos; October 2023 = 1). We report the outcomes by employment status and reform period.

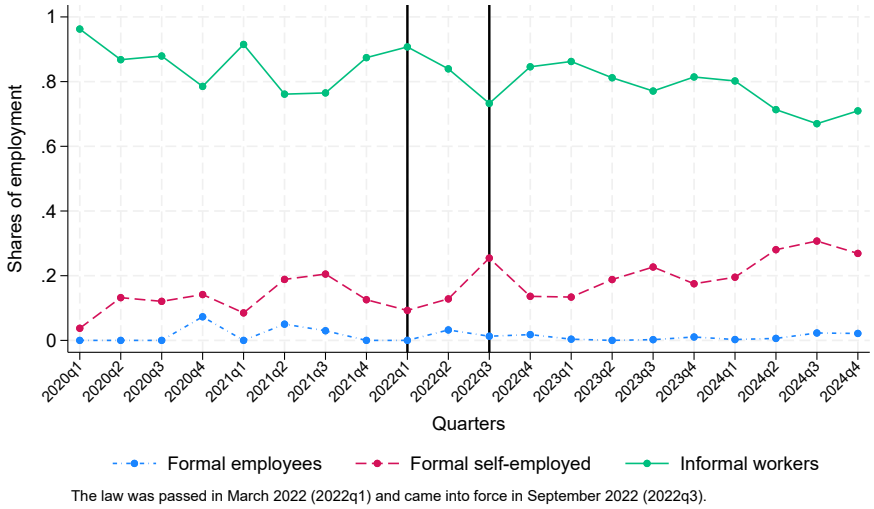
Income. Table 3 reports average log hourly income by reform period for each employment status. Though differences are not statistically significant, the point estimates indicate that, on average, contractors earn net hourly wages that are about 0.2 log points lower than those of employees. Put differently, the results point to the existence of *compensating differentials* between pay and flexibility of hours worked.

As highlighted above, Uber is the dominant player in the industry. One may wonder whether this high market concentration goes hand-in-hand with substantial monopsonistic power being exercised by this large platform. Table A.1 in the Appendix suggests otherwise: despite large differences in national market shares within the platform industry, residual wages are remarkably similar across platforms. This finding may be less surprising than at first glance. In effect, the most common reason for monopsonistic power (see, e.g., Berger, Herkenhoff, Kostøl, and Mongey, 2024) is the imperfect substitutability of local employers from workers' perspective due to factors such as commuting costs or job search frictions, an argument that hardly applies with national online platforms, as in the Chilean case.

4 Evidence on the Effects of the PWL

This section studies the effect of the labor reform on informality as well as compliance with the other labor regulations using a DiD analysis. Throughout the rest of the paper, we refer to the "platform sector" or "platform work" as those firms or workers affected by the reform, unless otherwise stated.

Figure 3: Evolution in the employment status of platform workers



Note: This figure displays the share of workers by employment status in platform companies during 2020–2024 on a quarterly frequency. The dashed red line refers to the share of formal self-employed, the blue dotted line refers to formal employees, and the green solid line refers to informal workers.

4.1 Descriptive analysis

The time series behavior around the reform shown in Figure 3 suggests a clear turning point in employment composition resulting from the approval of the PWL in March 2022. Compared with the pre-reform period, the share of informal workers declines steadily by 16.1 percentage points. Notably, this drop mirrors the surge in the share of formal contractors, which rises from 12.0 to 28.8%. By contrast, the share of formal employees hardly changes.

As discussed in Section 2, besides increasing the share of formal jobs, the reform also aimed to regulate these jobs. In what follows, we examine whether these labor regulations have actually been enforced. Table 4 assesses the degree of enforcement along four dimensions: share of platform workers earnings below the minimum wage, social security coverage, share of platform workers exceeding the statutory working time, and labor union participation. We find no statistically significant changes in the means of any of those measures following the reform.

Table 4: Regulatory enforcement in the platform sector

	All platform workers	
	Before	After
Share of workers below MW	0.20	0.30
	(0.05)	(0.03)
Social security coverage	0.14	0.13
	(0.02)	(0.01)
Exceed max hours	0.11	0.07
	(0.02)	(0.01)
Trade union participation	0.00	0.01
	(0.00)	(0.00)

Note: This table reports the share of platform workers earning below the minimum pay established by the PWL, social security coverage, the share exceeding maximum legal hours, and trade union participation. Outcomes are shown before and after the PWL for all platform workers.

The PWL does not regulate wages and hours besides imposing maximum hours and and minimum-wage pay. Consistent with this, Table 3 shows no statistically significant changes at conventional confidence levels (p=0.1) in hours worked or hourly wages across employment statuses.

4.2 Differences-in-difference evidence

The evolution of platform workers' labor market outcomes may reflect general trends in the economy, rather than the effects of the new platform worker regulation. For instance, a decline in informality could be a general feature of the Chilean economy. To control for this, we construct a treatment and control group, which are likely to face the same economy-wide trends. In particular, our treatment group are low-skilled workers in the transportation sector who work for a platform, and our control group are the same type of workers not working for a platform. That is, we restrict the sample to workers in the transportation and storage sector (ISIC Section H) with ISCO-08 occupation codes 5–9 ("Craft and Related Trades Workers", "Plant and Machine Operators and Assemblers", and "Elementary Occupations"). This selection focuses on the primary target of the reform, while excluding a small number of high-skilled IT workers employed by platform companies. As most platform workers already operate in this sector and occupation range, Column 3 of Table 2 shows that the resulting treatment group closely resembles the broader platform workforce (Column 2) along all dimensions.

Column 4 displays the same characteristics for the control group. The restriction produces a well-matched comparison group along industry and occupation lines; however,

the treatment and control groups differ along several demographic dimensions. Control workers are older (45 versus 39 years), less likely to hold a college degree (7.7 versus 27.3%), less likely to be foreign-born (4.1 versus 22.9%), and more likely to reside in rural areas (17.4 versus 4.0%). Importantly, control workers also exhibit substantially higher formality rates (53.7% are formal employees, compared to 1.2% among treated workers), higher social security coverage (56.0 versus 7.0%), and greater trade union participation (14.9 versus 0.5%). These differences motivate the inclusion of demographic controls in our baseline specification and the robustness analysis presented in Section 4.4.

Panel regressions. We specify the following DiD regression:

$$y_{it} = \alpha_{r(i)} + \delta_t + \beta_0 \, Treated_i + \beta_1 \left(Treated_i \times Post_t\right) + \mathbf{X}'_{it}\gamma + \varepsilon_{it}, \tag{1}$$

where y_{it} is an outcome of interest for worker i in quarter t; $Treated_i$ is a dummy equal to 1 for platform workers in the transportation sector; $Post_t$ is a dummy equal to 1 after 2022q3, when the reform took effect; $\mathbf{X}_{it}$ is a vector of controls including dummies for sex, college education, age, foreign status, indigenous status, and rural residence; finally, $\alpha_{r(i)}$ and δ_t denote region and time fixed effects, respectively. The coefficient of interest is β_1, which captures the average change in y_{it} for transportation platform workers following the PWL relative to the control group.

Panel A in Table 5 reports the OLS estimates from regression (1) for each employment status. We find that the implementation of the PWL is associated with an average drop of 8.2 pp. (9.6%) in the probability of being informal for platform workers relative to similarly observable workers in the control group. Moreover, consistent with the descriptive evidence shown in the previous section, platforms replace informal jobs with formal contractors. In particular, relative to the control group, the probability of being a formal contractor more than doubles, rising by 8.0 pp. in the post-reform period. By contrast, the probability of becoming a formal employee does not experience any significant change.

In addition, Panels B and C in Table 5 report OLS estimates from Equation (1) for four measures of labor regulation enforcement: social security coverage, compliance with maximum legal working hours, trade union participation, and the share of platform workers earning below the minimum wage. In general, two results suggest limited enforcement of the PWL. First, while social security coverage doubled relative to its pre-reform level, the vast majority of platform workers still do not contribute to social security. Second, we find no significant change in the share of platform workers exceeding maximum working hours, trade union participation, or the share of those earning below the minimum wage. The lack of response of the latter may be due to the fact that formal independent contractors continue to pay out of their own pockets for fuel, vehicle maintenance (motorcycles,

Table 5: Employment status and regulations after the PWL

Panel A: Employment status	Formal employee	Formal contractor	Informal worker
Treated × Post	0.002	0.080***	-0.082***
	(0.013)	(0.027)	(0.030)
Mean (pre-reform, treated)	0.018	0.123	0.859
Observations	30,738	30,738	30,738
R-squared	0.142	0.037	0.113
Panel B: Labor regulations	Social security	Exceed max hours	Trade union
Treated × Post	0.045*	0.013	0.008
	(0.024)	(0.021)	(0.008)
Mean (pre-reform, treated)	0.072	0.075	0.002
Observations	30,375	30,738	30,194
R-squared	0.124	0.033	0.045
Panel C: Hours and wages	Share of workers below MW	Log hours worked	Log hourly income
Treated × Post	0.078	0.028	-0.010
	(0.055)	(0.031)	(0.074)
Mean (pre-reform, treated)	0.221	3.741	7.807
Observations	5,061	30,597	5,061
R-squared	0.042	0.032	0.040

Note: This table reports the OLS estimates from a regression of Equation (1) for different labor market outcomes. Panel A reports the estimates when the dependent variables are dummies for formal employees, formal contractor, and informal workers. Panel B shows the estimates when the dependent variables are dummies for social security coverage, exceeding maximum legal working hours, and participation in trade unions. Panel C reports the estimates when the dependent variables are the share of workers with hourly income below the minimum wage, the log of weekly hours worked, and the log of hourly income. For the first, we take into account that the minimum wage for platform workers is 1.2 × the statutory national minimum wage after the PWL. The treatment variable is a dummy equal to one for platform workers. The post period refers to months after September 2022, when the PWL was effective. Lastly, the sample is restricted to low-skilled workers in the transportation and storage industry.

cars, bicycles), and insurance. Moreover, the regulated compensation only applies to the time the worker is on a trip or delivery, excluding waiting time between orders.

Regarding mean wages and hours worked, Panel C in Table 5 shows the OLS estimates from the regression in Equation (1) for (log) hours worked and (log) hourly income. Once more, we find no statistically significant changes in these outcomes following the PWL.

Event-study. In addition to the cross-sectional reduced-form evidence, we also implement an event-study regression to test for pre-trends and understand the dynamic effects of the PWL:

$$y_{it} = \alpha_{r(i)} + \delta_t + \beta_0 Treated_i + \sum_{\substack{k=2020q1 \\ k \neq 2022q3}}^{2024q4} \beta_1^k \mathbf{1}[t=k] \times Treated_i + \mathbf{X}'_{it}\gamma + \varepsilon_{it}, \quad (2)$$

where y_{it} is the outcome of worker i in quarter t, $\mathbf{X}_{it}$ is a vector of controls, $\alpha_{r(i)}$ denotes regional fixed effects, δ_t are quarter fixed effects, and $Treated_i$ is a dummy equal to 1 for platform workers. The coefficients of interest, β_1^k, capture the evolution of y_{it} for platform workers relative to the control group in each quarter k around the reform. The reference period is $k = 2022q3$, when the PWL became effective. Moreover, the pre-reform coefficients ($k < 2022q3$) serve as a test of parallel trends.

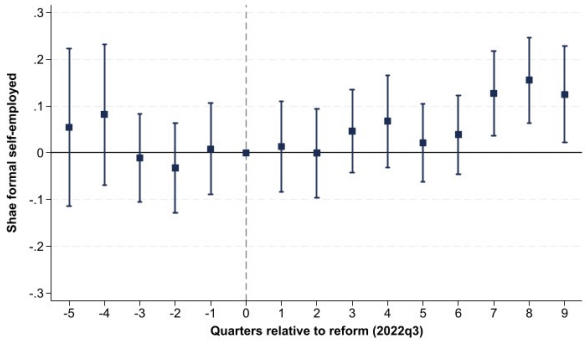
The evidence drawn from these regressions is summarized in Figures 4 and 5, where the vertical bars capture the quarters of the implementation of the PWL in 2022q3. Figure 4 uses the shares of formal employees (top-left panel), formal contractors (top-right panel), and informal workers (bottom panel) as dependent variables. In each panel, the graphs show the OLS estimates of the coefficients of interest, β_k, from Equation (2) along with their 95% confidence intervals. Importantly, we find no evidence of pre-trends when comparing workers in the treatment and control groups. Consistent with the results from the static DiD regressions, we find that the share of informal workers declines by about 10.0 percentage points after the reform in the treatment relative to the control group, which is mirrored by a similar increase in the share of formal contractors.

Next, Figure 5 displays similar evidence when the outcome variables capture the enforceability of social security coverage (panel a), the share of workers exceeding the maximum number of working hours (panel b), the share of unionization (panel c), and the share of workers earning below the minimum wage (panel d). We find an increase in social security coverage of about 10.0 pp. after the PWL in the treatment relative to the control group. However, there is no evidence of significantly more enforcement in any of the other measures after the reform, and even there is a rise of exceeded legal hours one year after it got enacted.

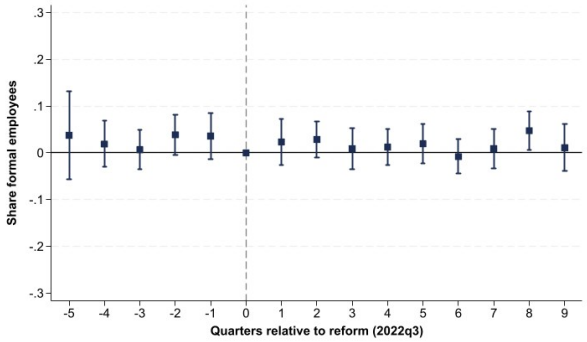
4.3 Placebo test

A potential concern is that platform workers experienced occupation-specific shocks after the PWL. To assess whether our results reflect this type of spurious correlation, we conduct a placebo analysis, where Equation (1) is re-estimated using an alternative treatment definition: we restrict the sample to low-skilled, non-platform workers in the transportation sector and assign placebo treatment status to those in the "Plant and Machine Operators and Assemblers" occupation. This provides a natural placebo because nearly all platform workers are classified in this category, making it the closest occupational match among non-platform workers. Regarding the control group, it comprises low-skilled, non-platform workers in other occupations. Reassuringly, we find no statistically significant evidence of reduced informality or increased labor code enforcement for this untreated group (see Table A.2 in Appendix A).

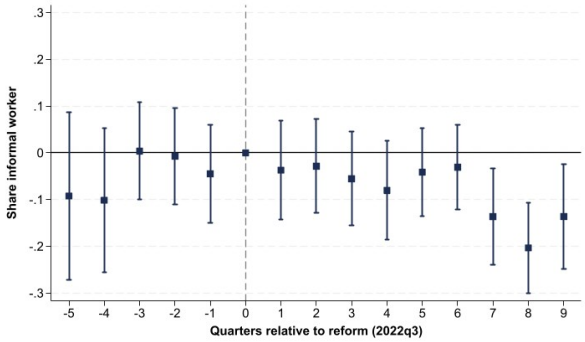
Figure 4: Event study results for employment status



(a) Formal contractor



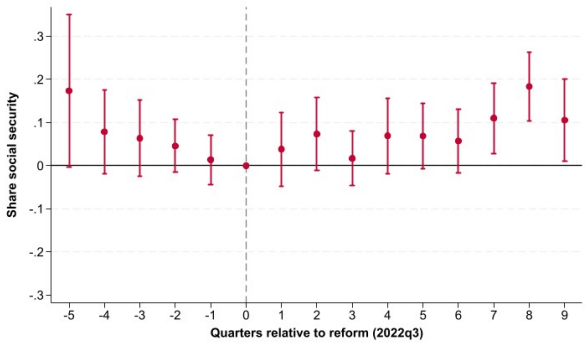
(b) Formal employee



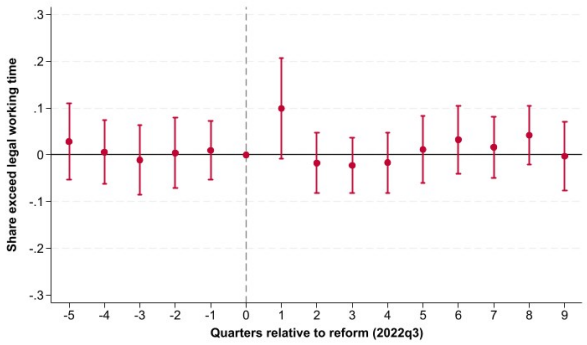
(c) Informal worker

Notes: Each panel plots event-study estimates of the effect of the PWL on the share of platform workers in each employment category, relative to the implementation of the PWL in 2022q3. The treated group comprises low-skilled platform workers covered by the PWL; the control group comprises low-skilled, non-platform workers in the transportation sector. Vertical lines denote 95% confidence intervals.

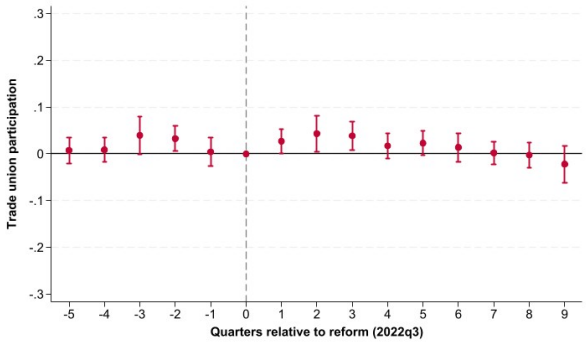
Figure 5: Event study results for law enforcement measures



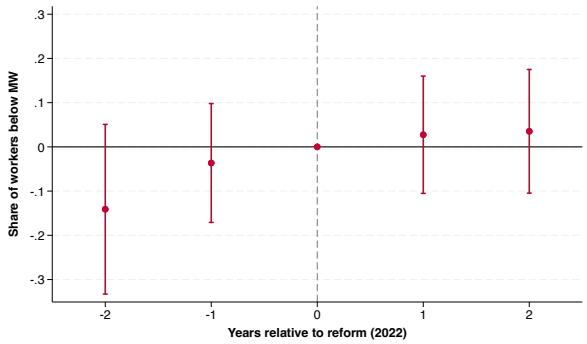
(a) Social security coverage



(b) Exceed legal working hours



(c) Trade union participation



(d) Share of workers below the MW

Notes: Each panel plots event-study estimates of the effect of the PWL on the corresponding law enforcement measure, relative to the implementation of the PWL in 2022q3. The treated group comprises low-skilled platform workers covered by the PWL; the control group comprises low-skilled, non-platform workers in the transportation sector. The estimates for the minimum wage regression is on a yearly basis because this information comes from the ESI, which is an annual complement of the LFS. Vertical lines denote 95% confidence intervals.

4.4 Compositional changes

Compositional changes. Since we rely on repeated cross-sections rather than panel data, a potential concern is that the reform may have changed the composition of workers in platform companies, which could confound our DiD estimates. To address this concern, we regress each of our control variables on the treatment interaction $Treated_i \times Post_t$, including only region and time fixed effects. Table 6 reports the static DiD estimates, while Figure 6 displays the corresponding event-study coefficients.

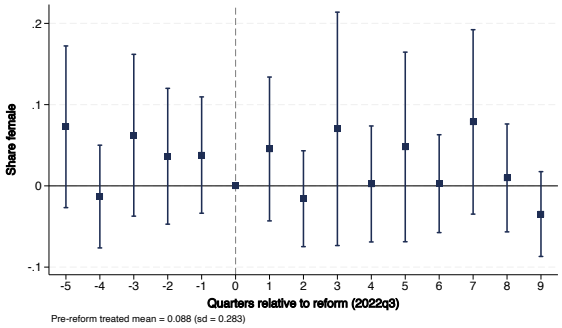
We detect no significant changes in the share of female, college-educated, or foreign-born workers. However, we find statistically significant shifts in three covariates: platform workers after the reform are approximately 1.2 years older, 1.6 pp. less likely to reside in rural areas, and 3.3 pp. more likely to be of indigenous origin. However, the magnitudes of these shifts are fairly small. Moreover, the event-study graphs reveal that none of these shifts correspond to a sharp structural break at the reform date. Pre-reform coefficients fluctuate around zero with wide confidence intervals for all six covariates, and the post-reform point estimates exhibit no clear discontinuity at 2022q3. Hence, this pattern is more consistent with sampling variability in a relatively small treatment group than with reform-induced selection into platform work.

Table 6: Composition test: covariates as dependent variables

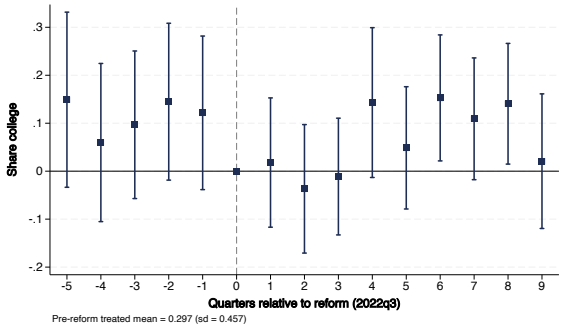
	Female	College	Age	Foreign	Rural	Indigenous
Treated × Post	-0.006	0.004	1.200*	0.039	-0.016**	0.033**
	(0.019)	(0.033)	(0.634)	(0.039)	(0.007)	(0.016)
Mean (pre-reform, treated)	0.088	0.297	37.031	0.380	0.023	0.050
Observations	30,806	30,776	30,806	30,806	30,806	30,764

Note: This table reports the OLS estimates from a DiD regression where each column uses a different workers' covariate as dependent variable. The treatment variable is a dummy equal to one for platform workers. The post period refers to months after September 2022, when the PWL became effective. The specification includes region and time fixed effects but no individual-level controls. The sample is restricted to low-skilled workers in the transportation and storage industry. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

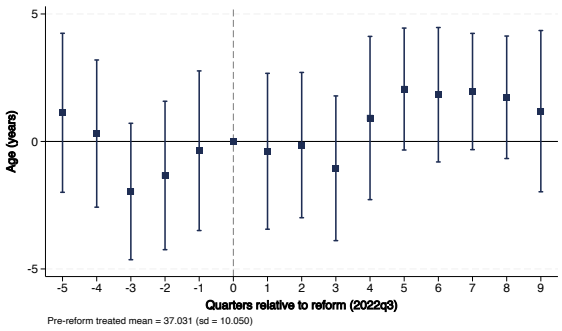
Figure 6: Event study: compositional changes in platform workers



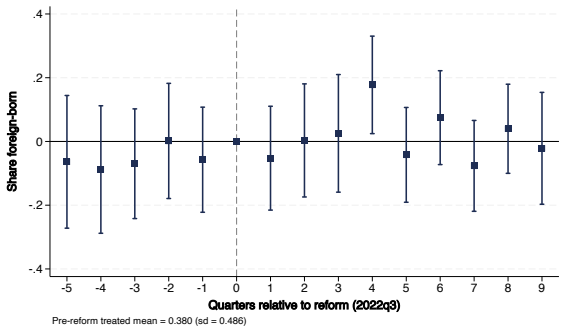
(a) Female



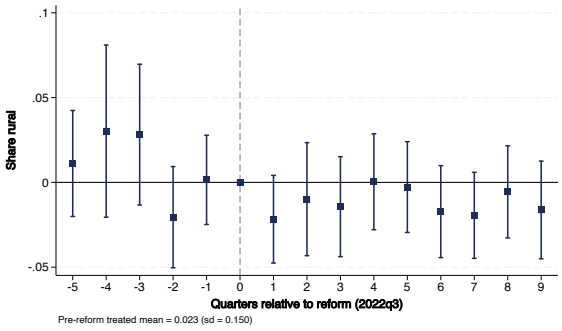
(b) College



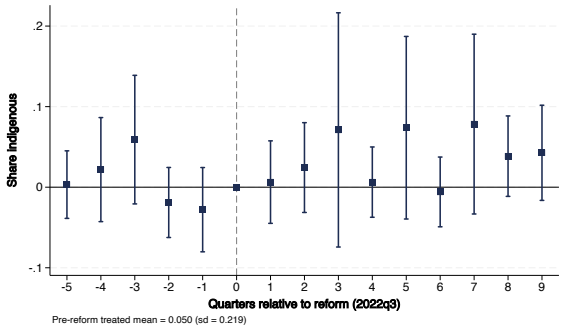
(c) Age



(d) Foreign-born



(e) Rural



(f) Indigenous

Note: Each panel reports the OLS estimates of the coefficients β_k from Equation (2) where the dependent variable is the covariate indicated in each panel title and the specification includes only region and time fixed effects (no individual controls). The dashed vertical line marks 2022q3, when the PWL became effective. Bars represent 95% confidence intervals. Pre-reform treated means and standard deviations are reported at the bottom of each panel.

To further verify that these compositional differences do not drive our results, Figure A.1 overlays the event-study estimates from our baseline specification (with the full set of demographic controls) against estimates from an otherwise identical specification that excludes all individual-level controls. If compositional shifts were biasing our results, the controlled and uncontrolled estimates would diverge after the reform. Instead,

the two series track each other closely for all employment-status and law-enforcement outcomes throughout the sample period.

4.5 Pseudo-panel analysis

A limitation of our empirical setting is that the Chilean LFS is a repeated cross-section that does not allow us to include individual fixed effects. The baseline DiD in Equation (1) addresses this by controlling for observable characteristics and exploiting within-group variation over time. However, time-invariant unobservable differences between platform and non-platform workers—such as preferences, risk attitudes, or local labor market conditions—could still confound the estimates if they are correlated with both treatment status and outcome trajectories.

To address this concern, we implement a pseudo-panel approach following Deaton (1985). The key idea is to group individuals into cohorts defined by time-invariant characteristics and track cohort-level averages over time. Because cohort membership is fixed, cohort fixed effects absorb any time-invariant unobservable heterogeneity that is common within a cohort—analogous to individual fixed effects in a true panel, but feasible with repeated cross-sections. Verbeek and Nijman (1992) establish the asymptotic properties of this estimator and show that it is consistent as both the number of time periods and the cohort sizes grow, with small cohort sizes introducing attenuation bias through measurement error in the cohort means.[7]

Cohort construction. We define cohorts by the interaction of four time-invariant worker characteristics: occupation code (ISCO-08 major group), college education, 10-year birth cohort, and urban/rural residence. These variables are chosen because they are plausibly constant over the sample period and because they jointly predict platform exposure: occupation captures the type of work (nearly all platform workers are classified as "Plant and Machine Operators and Assemblers"), education captures skill level, birth cohort captures life-cycle differences in platform participation, and urban/rural residence captures the geographic concentration of platform activity. This yields 36 cohorts, with a median of 28 observations per cohort-quarter cell after dropping cells with fewer than 10 observations.

Econometric specification. For each cohort c observed in quarter t, we compute the survey-weighted mean of each outcome variable $\bar{y}_{ct}$. We then define treatment intensity

[7] Intuitively, a cohort mean computed from n_c observations estimates the true population mean with variance proportional to $1/n_c$. This classical measurement error attenuates coefficients toward zero, making the pseudo-panel estimates conservative.

at the cohort level as the pre-reform average share of platform workers in cohort c:

$$\overline{Treated}_c \;=\; \frac{1}{|\mathcal{T}_{pre}|} \sum_{t \in \mathcal{T}_{pre}} \bar{D}_{ct}, \tag{3}$$

where $\bar{D}_{ct}$ is the survey-weighted share of platform workers in cohort c at time t and $\mathcal{T}_{pre}$ denotes the set of pre-reform quarters. Hence, $\overline{Treated}_c$ averages the platform worker share in cohort c exclusively over the pre-reform period. Because $\overline{Treated}_c$ is computed from pre-reform data, it is not affected by any post-reform selection into or out of platform work. Cohorts are then classified as "high exposure" if $\overline{Treated}_c$ exceeds the sample median, and "low exposure" otherwise. The static pseudo-panel DiD regression is:

$$\bar{y}_{ct} \;=\; \alpha_c + \delta_t + \beta_1 \left(HighExposure_c \times Post_t\right) + \varepsilon_{ct}, \tag{4}$$

where α_c are cohort fixed effects, δ_t are quarter fixed effects, $HighExposure_c$ is a dummy equal to one for high-exposure cohorts, and $Post_t$ is a dummy equal to one for quarters after the PWL took effect (2022q3). The coefficient β_1 captures the average change in $\bar{y}_{ct}$ for high-exposure cohorts relative to low-exposure cohorts after the reform, net of cohort-specific and time-specific factors. Note that the main effect of $HighExposure_c$ is absorbed by the cohort fixed effects. Following Deaton (1985), the regression is estimated by weighted least squares, with weights equal to the number of individual observations in each cohort-quarter cell, to account for differences in the precision of the estimated cohort means. Standard errors are clustered at the cohort level to allow for arbitrary within-cohort serial correlation. We complement the static specification with the following event-study version:

$$\bar{y}_{ct} \;=\; \alpha_c + \delta_t + \sum_{\substack{k=2020q1 \\ k \neq 2022q3}}^{2024q4} \beta_1^k \, \mathbf{1}[t = k] \times HighExposure_c + \varepsilon_{ct}, \tag{5}$$

where the reference period is $k = 0$ (2022q3, when the PWL became effective) and the coefficients β_1^k trace the dynamic evolution of outcomes for high-exposure relative to low-exposure cohorts. The pre-reform coefficients ($k < 2022q3$) serve as a test of parallel trends at the cohort level.

Interpretation. The pseudo-panel coefficient β_1 have the interpretation of an intention-to-treat (ITT) effect: it captures the average impact of being in a cohort with high platform exposure, rather than the individual-level effect of working on a platform. Because even high-exposure cohorts contain many non-platform workers, the pseudo-panel coefficients are attenuated relative to the individual-level DiD estimates in Table 5. This

attenuation is a mechanical consequence of the cohort-level design and does not indicate that the reform had a smaller effect on platform workers themselves.

Results. Table 7 reports the pseudo-panel DiD estimates from Equation (4). Panel A shows that the reform is associated with a 5.4 pp. decline in the informality rate for high-exposure cohorts relative to low-exposure cohorts (significant at the 1% level). Mirroring this decline, the share of formal contractors increases by 4.3 pp. (significant at the 5% level). The coefficient on formal employment is small and statistically insignificant, confirming that the reform induced a substitution from informal workers to formal contractors without affecting formal dependent employment. As expected under the ITT interpretation of the cohort-level design, note that these results are qualitatively consistent with—although attenuated—relative to the individual-level DiD estimates reported in section 4.2.

Panel B reports the pseudo-panel estimates for labor regulation outcomes. Consistent with the individual-level results, we find no statistically significant changes in compliance with maximum working hours or trade union participation for high-exposure relative to low-exposure cohorts after the reform.

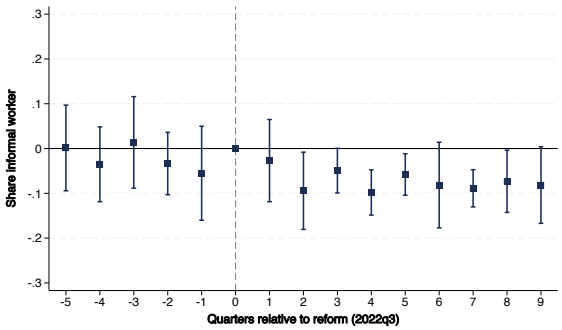
Figure 7 displays the corresponding event-study coefficients from Equation (5). Two features stand out. First, the pre-reform coefficients for informal employment and formal contractors are centered around zero with no statistically significant deviations from the null, supporting the parallel trends assumption at the cohort level. This is important because it validates the identifying assumption of the pseudo-panel design independently of the individual-level event study. Second, the post-reform coefficients for informality are consistently negative, with the effect materializing gradually after the reform—consistent with the phased enforcement of the PWL documented in Section 2.

Table 7: Pseudo-panel DiD estimates

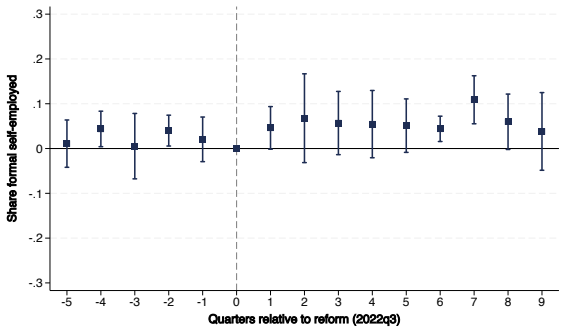
Panel A: Employment status	Formal employee	Formal self-employed	Informal worker
High exposure × Post	0.008	0.043*	-0.051***
	(0.018)	(0.024)	(0.013)
Mean (pre-reform, high exp.)	0.455	0.122	0.423
Observations	510	510	510
Panel B: Labor regulations	Social security	Exceed max hours	Trade union
High exposure × Post	0.026	-0.013	-0.010
	(0.017)	(0.013)	(0.012)
Mean (pre-reform, high exp.)	0.482	0.232	0.142
Observations	510	510	510
Panel C: Hours and earnings	Log hours worked	Share below MW	Log hourly income
High exposure × Post	-0.006	-0.026	0.039
	(0.023)	(0.028)	(0.044)
Mean (pre-reform, high exp.)	3.747	0.183	7.877
Observations	510	96	96

Note: This table reports WLS estimates of Equation (4), where the unit of observation is a cohort-quarter cell. Cohorts are defined by the interaction of occupation (ISCO-08 major group), college education, 10-year birth cohort, and urban/rural residence. High-exposure cohorts are those with above-median pre-reform platform worker share. The post period refers to quarters after 2022q3, when the PWL became effective. Observations are weighted by the number of individuals in each cohort-quarter cell. Standard errors clustered at the cohort level are reported in parentheses. Cells with fewer than 10 observations are dropped. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

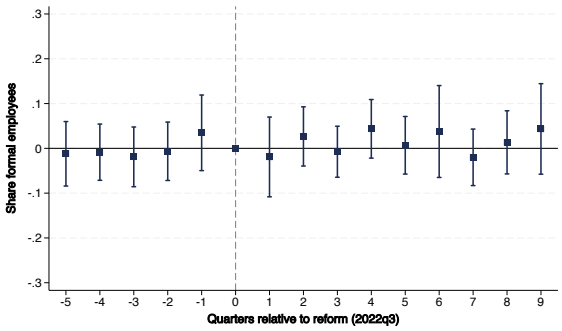
Figure 7: Pseudo-panel event study



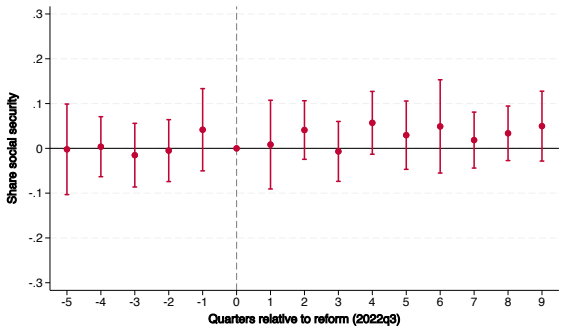
(a) Informal worker



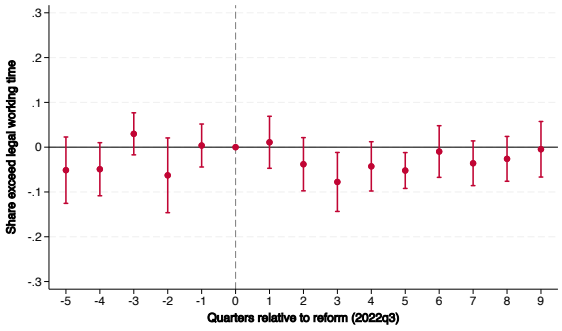
(b) Formal contractors



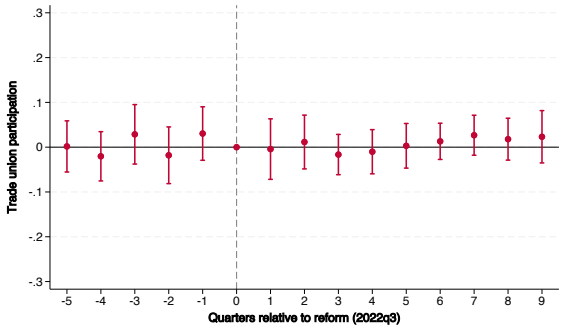
(c) Formal employee



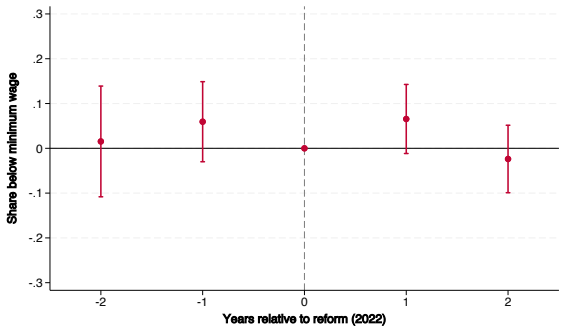
(d) Social security coverage



(e) Exceed legal working hours



(f) Trade union participation



(g) Share below minimum wage

Note: Each panel reports WLS estimates of β_1^k from Equation (5), where the unit of observation is a cohort-quarter cell. The reference period is 2022q3 (quarter 0), when the PWL became effective. Observations are weighted by cell size. Standard errors are clustered at the cohort level. Vertical lines represent 95% confidence intervals.

5 Model

This section shows that our finding of the reform not impacting formal employment but increasing formal contracting is fully consistent with an economic theory, where firms imperfectly comply with labor market regulations. Moreover, we use that structural model to discuss the effects of actually enforcing minimum pay and maximum hours regulations. As the reform operates on the incentives of firms, by means of monitoring obligations, instead of on workers' incentives, e.g., by fines for working informally, we model the contract decision as one corresponding only to the firm. That is, workers are always indifferent between being a formal contractor and an informal worker. As in the data, employees differ from formal contractors and informal workers in their wages, the payroll taxes employers have to pay, and their flexibility of working hours. We abstract from collective bargaining due to its negligible incidence both before and after the PWL, as documented in Section 4. Moreover, as the data is on net wages, we abstract from any payroll taxes and other taxes paid by workers.

Jobs. We denote by e *employee*, by s_F formal contractors, and by s_I informal workers. Formal employee jobs have fixed working hours schedules ($\bar{h}_e$) and payroll taxes (τ_e) levied on the employer. To avoid these labor regulations, platforms may decide to offer jobs that provide neither fixed work schedules nor payroll taxes. In such jobs, workers freely choose their hours of work, and we refer to these jobs as self-employment.

Production technology. We consider a representative platform that only uses labor to produce output, Y. We model the labor input, L, as a constant elasticity of substitution (CES) aggregation of two types of labor: employee L_e and self-employed L_s labor inputs (including formal contractors and informal workers). Thus, the production function is given by:

$$Y = Af(L), \tag{6}$$

$$L = [\eta L_e^{\rho} + (1-\eta) L_s^{\rho}]^{\frac{1}{\rho}}, \tag{7}$$

$$L_e = \int_0^{n_e} h_e(i)\, di, \quad \text{and} \quad L_s = \int_0^{n_s} h_s(i)\, di. \tag{8}$$

where L_j is the total number of hours of work supplied for each job type $j \in \{e, s\}$, defined as the aggregation of hours worked h_j by each worker i and the number of workers in each job, n_j. Moreover, A stands for total factor productivity, η is the labor share parameter, ρ is the elasticity of substitution between labor inputs, and $L_s = L_{s_F} + L_{s_I}$. We think of the imperfect substitution between employees and self-employed arising from the greater control the platform has over the working hours of its employees. For example, it can use employees to assure some baseline coverage even in times of low demand for its services.

In contrast, the self-employed freely choose their working hours. Hence, it is natural to assume that informal and formal self-employed hours are perfect substitutes.

Determinants of labor costs. Platform companies pay payroll taxes τ_e when hiring employees and an administrative cost τ_s (e.g., paperwork, accounting, or legal costs) when hiring a formal self-employed worker. Firms can avoid these costs by hiring informal self-employed workers which, however, entails a risk for employers, as they may be audited by government officials. Following Ulyssea (2018), the expected fine is increasing in the number of informal workers hours, L_{s_I}. Those costs arise because firms not only pay a fine for each informal worker but also because having more informal workers make the firm more visible to the regulatory authorities (see, e.g., De Paula and Scheinkman, 2011). Specifically, sanctions are given by:

$$\gamma(L_{s_I}) = 1 + 0.5\frac{L_{s_I}}{\kappa_s}, \quad \kappa_s > 0,$$

so that, for a given number of informal labor supply, a lower value of κ_s implies a higher probability of the firm being audited and, hence, sanctioned. We think of the PWL to increase these sanctions through its explicit obligations for platforms to monitor the formality status of its independent contractors. Hence, the cost functions by contract type are as follows:

$$C(L) = \begin{cases} (1+\tau_e)w_e L_e & \text{if} \quad \text{employee} \\ (1+\tau_s)w_s L_{s_F} & \text{if} \quad \text{formal self-employed} \\ \gamma(L_{s_I})w_s L_{s_I} & \text{if} \quad \text{informal self-employed.} \end{cases}$$

Labor demand decisions. As discussed in Section 3.2, since we find no strong evidence against competitive labor markets, we assume that the platform hires labor accordingly. Consider the trade-off between hiring formal and informal self-employed. As their hours are perfect substitutes in terms of production, the platform just hires the cheapest type of labor. Therefore, the platform hires informal self-employed until their marginal costs, $\frac{\partial(\gamma(L_{s_I})w_s L_{s_I})}{\partial L_{s_I}}$, are equal to the marginal costs of hiring formal self-employed, $(1+\tau_s)w_s$. Conversely, the optimal policy beyond that cutoff is to hire only formal self-employed. Note that, since the marginal cost of informal workers is increasing in labor and the marginal cost of hiring formal self-employed is constant, there exists an endogenous maximum level of informal self-employed, $\bar{L}_{s_I}$, such that

$$w_s\left(1 + \frac{\bar{L}_{s_I}}{\kappa_s}\right) = w_s(1+\tau_s),$$

which solves for the cutoff $\bar{L}_{s_I} = \tau_s \kappa_s$. Thus, higher sanctions (i.e., lower κ_s) or lower administrative cost (τ_s) reduce the number of informal workers

Next, consider the tradeoff between hiring employees and self-employed workers, with marginal costs given by $(1+\tau_e)w_e$ and $(1+\tau_s)w_s$, respectively. The f.o.c. for profit maximization yields the following labor demand schedules for each of these workers

$$\eta L_e^{\rho-1} A \left[\eta L_e^{\rho} + (1-\eta) L_s^{\rho}\right]^{\frac{1-\rho}{\rho}} = (1+\tau_e) w_e \tag{9}$$

$$(1-\eta) L_s^{\rho-1} A \left[\eta L_e^{\rho} + (1-\eta) L_s^{\rho}\right]^{\frac{1-\rho}{\rho}} = (1+\tau_s) w_s, \tag{10}$$

where (9) and (10) together determine the platform's demand of employees and total self-employed. Together with the cutoff rule for hiring informal workers, the latter determines the demand for formal self-employed.

Workers' decisions. There is a unit mass of workers who are ex-ante heterogeneous in their disutility of work. The heterogeneity reflects differences in caregiving responsibilities, educational commitments, and other time constraints that Section 3.2 highlights. The taste parameter for leisure, ϵ, is distributed as a left-truncated normal distribution, $\epsilon \sim N(\mu_\epsilon, \sigma_\epsilon^2) \in [\bar{\mu}, \infty]$, across workers. Individuals are endowed with $\tilde{h}$ units of time per period, and their utility depends on both labor income, y, the share of time allocated to leisure, $1 - h/\tilde{h}$, and a preference shock for working as employee or self-employed, $v \in \{v_e, v_s\}$ with $v_e \sim i.i.d.\ Gumbel(0,1)$ and $v_s \sim i.i.d.\ Gumbel(\mu_s, 1)$. Specifically, the flow utility of workers is given by:

$$u(c,h) = \ln(c) + \epsilon \ln(1 - h/\tilde{h}) + v, \quad h \in [0, \tilde{h}]. \tag{11}$$

We assume workers are hand-to-mouth. Employees earn wages w_e and work a fixed amount of hours $\bar{h}_e$. When self-employed, workers choose hours h_s and earn wages w_s. Therefore, utility in each employment status is given by:

$$\begin{aligned} u_e &= \ln(w_e \bar{h}_e) + \epsilon \ln(1 - \bar{h}_e/\tilde{h}) + v_e && \text{if employee,} \\ u_s &= \ln(w_s h^*(\epsilon)) + \epsilon \ln(1 - h^*(\epsilon)/\tilde{h}) + v_s && \text{if self-employed,} \end{aligned}$$

where $h^*(\epsilon) = \frac{\tilde{h}}{1+\epsilon}$ is the optimal hours choice given preferences ϵ to maximize flow utility in Equation (11). Thus, the utility derived from working as self-employed is given by

$$u_s = \ln\left(w_s \frac{\tilde{h}}{1+\epsilon}\right) + \epsilon \ln\left(\frac{\epsilon}{1+\epsilon}\right) + v_s.$$

Hence, the worker chooses to work as employee when

$$u_e > u_s \iff \ln\left(\frac{w_e\bar{h}_e}{w_s\frac{\tilde{h}}{1+\epsilon}}\right) + \epsilon\ln\left(\frac{1-\bar{h}_e/\tilde{h}}{\frac{\epsilon}{1+\epsilon}}\right) > v_s - v_e. \tag{12}$$

As v_s, v_e are Gumbel, $v_s - v_e \sim$ *i.i.d. Logistic*$(\mu_s, 1)$, the probability of becoming an employee is given by

$$P(\textit{employee}\,|\,\epsilon) = \frac{1}{1+\exp-(x-\mu_s)}, \quad \text{where} \quad x = \ln\left(\frac{w_e\bar{h}_e}{w_s\frac{\tilde{h}}{1+\epsilon}}\right) + \epsilon\ln\left(\frac{1-\bar{h}_e/\tilde{h}}{\frac{\epsilon}{1+\epsilon}}\right),$$

implying that the labor supply of employees and of self-employed become

$$L_e = \int P(\textit{employee}|\epsilon)\, dG(\epsilon), \tag{13}$$

$$L_s = 1 - L_e. \tag{14}$$

Finally, equating labor supply and labor demand for employees and self-employed determines their respective wages, w_e and w_s, which clear both labor markets.

6 Calibration

Table 8 summarizes the calibration. Starting with the production technology, we use CLFS time-series data to estimate

$$\ln\left(\frac{L_e}{L_s}\right) = \underbrace{\frac{1}{1-\rho}\ln\left(\frac{\eta}{1-\eta}\frac{(1+\tau_s)}{(1+\tau_e)}\right)}_{\beta_0} - \underbrace{\frac{1}{1-\rho}}_{\beta_1}\ln\left(\frac{w_e}{w_s}\right).$$

The estimate yields $\rho = 0.83$, i.e., employees and self-employed are close substitutes for firms. Next, we set the productivity level A to match the weekly net wages of employees, and use the relative importance of production factors, η, in Equation (7) to match the net wages of the self-employed.

Turning to the distribution of preferences for leisure, we match the mean, the 90^{th} percentile, and the maximum observed weekly hours of the self-employed. We set the hours worked by the employees, $\bar{h}_e$, to the mean of their weekly hours in the data. Finally, we use the preference shifter μ_s to match that 5% of platform workers are employees.

We set $\tau_e = 0.04$ to match the statutory social security benefits paid by employers. Finally, we target the share of workers who work as informal self-employed before the

Table 8: Summary of calibration

Parameter	Value	Description	Target
A	4590	TFP	Mean wage employees = 2807
η	0.41	CES share	Mean wage self-employed = 2369
ρ	0.83	CES elasticity	OLS coeff. $\ln(L_e/L_s)$ on $\ln(w_e/w_s)$
$\tilde{h}$	168	Maximum hours available	Hours per week
μ_ϵ	2.77	Mean work disutility	Mean weekly hours self-emp. = 46.89
σ_ϵ	0.86	Std. dev. work disutility	90^{th} pct. weekly hours self-emp. = 70.0
$\bar{\mu}$	0.66	Lower bound work disutility	Max. hours self-emp. = 101
$\bar{h}$	35.05	Fixed hours, employees	Mean weekly hours employees = 35.05
μ_s	2.77	Utility shifter, employee	Share employees = 0.05
κ_s	767.29	Sanctions, informal hiring	Share informal = 0.80
τ_e	0.044	Payroll tax, employees	Social Security employer tax
τ_s	0.044	Admin. cost, self-employed	$\tau_s = \tau_e$

reform. The equilibrium threshold for informality $\bar{L}_{s_I} = \tau_s \kappa_s$ shows that the model does not separately identify τ_s and κ_s. Hence, we use κ_s to match that 80% of all workers are informal and normalize $\tau_s = \tau_e$.

7 Policy reforms

This section performs four counterfactual simulations. First, we simulate an increase in sanctions consistent with the observed evolution of the informality share after the PWL. We show that our model rationalizes why relative wages between employees and self-employed remain unchanged, as does the number of employees. Second, we show that the model provides further evidence for non-enforcement of the minimum wage legislation. Third, we show that a full exemption of employer payroll taxes would increase the employee share by only 0.2 percentage points. Fourth, enforcing the PWL's mandated maximum working hours of 84 hours per week results in a modest welfare loss of 0.07% among platform workers.

7.1 Adjusting informality sanctions (κ_s)

As discussed above, we interpret the reporting requirements that the PWL imposes on platforms as increasing expected sanctions, κ_s, for hiring informal contractors. Section 4 highlights that, in the data, the effect of the reform was mainly to shift workers from informal self-employment to formal self-employment, while the share of employees remains constant. Moreover, the reform did not affect differences in hourly wages between

Table 9: Policy reforms

Changing fines		Changing taxes	
Fines ($\Delta\kappa_s\%$)	-10.0	Payroll taxes employees ($\Delta\tau_e$)	-0.044
Number employees (Δe)	0	Net wages employees ($\Delta w_e\%$)	3.78
Share informal (Δs_I)	-0.08	Labor costs employees ($\Delta w_e(1+\tau_e)\%$)	-0.6
Profits ($\Delta\pi\%$)	-10.0	Number of employees ($\Delta e\%$)	0.18
		Total hours ($\Delta e h_e\%$)	3.55

Notes: This table reports the effects, relative to the baseline, of two counterfactual simulations: (i) changing government fines on informality (κ_s) on the left, and (ii) changing employee payroll taxes (τ_e) on the right.

employees and the self-employed. Importantly, the model predicts exactly this behavior. To see this, note that, for given wages, neither labor supply decisions (see Equation (12)) nor firms' labor demand decisions (see Equation (9)) change since they do not depend on potential sanctions. Hence, it follows that neither the relative employment shares of employees and self-employed nor their wages change when administrative sanctions increase. All that happens is that firms hire more formal instead of informal self-employed workers, as observed in the data. The key insight is that as long as firms hire at least some formal self-employed, the marginal costs of hiring these workers do not depend on fines; only average costs do. Hence, the share of employees remains unaltered.

Note that this prediction does not imply that sanctions have no effect on the economy at all. As fines affect average costs, firms' profits decrease as the left panel of Table 9 shows. We find this effect to be substantial: profits decline by 10%. One should interpret this finding in terms of the expected profit decline needed for the model to rationalize the observed changes in formality. As the reform has only recently been passed, platforms still operate under some regulatory uncertainty regarding the enforcement and fines. Nevertheless, if expected profits affect long-run firm entry, we would expect the market to become less competitive over time.

7.2 Non-enforcement of minimum pay

Section 4.2 shows that we fail to find evidence that the minimum pay requirement of $1.2 \cdot \underline{w}$ in the PWL is actually enforced. Looking at the data through the lens of our model provides further evidence for this conclusion. To see this, note that the minimum pay naturally does not apply to informal workers. Hence, enforcement of minimum wages creates a gap between the unchanged wages of informal, w_{s_I}, and the now higher wages

of formal self-employed, w_{s_F}. The optimal number of informal workers becomes

$$\left(1 + \frac{\bar{L}_{s_I}}{\kappa_s}\right) = \frac{w_{s_F}}{w_{s_I}}(1 + \tau_s).$$

Hence, the relative demand for informal workers goes up since they are cheaper, and conversely for formal self-employed worker. However, our empirical evidence above shows that the share of informal workers has gone down while the share of formal contractors has gone up after the reform. We interpret these changes as corroborating our finding of a weak enforcement of the minimum compensation rule, which is in line with the pundits' widespread opinion on this matter (Fairwork, 2024).

7.3 Adjusting payroll taxes over employees (τ_e)

Instead, if the government wishes to increase the number of employees, it needs to either decrease their marginal costs $(1 + \tau_e)w_e$ or increase the marginal costs of the formal self-employed $(1 + \tau_s)w_s$. As the government directly controls the former payroll taxes, we study the effect of setting $\tau_e = 0$. The right panel of Table 9 shows that the effects of such a tax reform are modest. Employees' wages increase by 3.8%, implying a 0.6% reduction in their labor costs. Since employees' labor costs change little in equilibrium, their share increases only from 5.0 to 5.2%, while their total hours worked increase from 3.8 to 3.9%. In addition, self-employed wages remain basically unchanged. Hence, this counterfactual simulation shows that the scope for reducing informality through employer tax cuts is rather limited, as these taxes are already low in Chile.

7.4 Restricting maximum working hours (h_s)

Finally, we evaluate the welfare consequences of the government actually enforcing the restriction of a maximum 84 hours work week. In our model, this implies setting $h_s^r(\epsilon) = \min\{h^*(\epsilon), 84\}$. We express welfare as the wage subsidy, ξ, that is required to make workers indifferent in expectation between the unregulated economy and the economy that restricts the maximum working hours. We relegate the derivation of this term to Section B.

We find that enforcing the maximum hours requirement implies small welfare losses. To make a worker indifferent between the benchmark and the unregulated economies, wages in the regulated economy need to increase by $\xi = 0.0007$, i.e. 0.07%. The insight for this very low welfare cost is that a maximum weekly hours of 84 hours lies in the very right tail of the observed hours worked distribution, implying that only a few workers happen to be restricted by the reform.

In contrast, enforcing more stringent maximum hours requirements decreases welfare substantially. For example, enforcing a maximum number of working hours of 60 would require wages to rise by 1.19% to keep workers' welfare unchanged.

8 Conclusions

This paper quantifies the impact on employment, hours worked and wages of the so-called Platform Work Law (PWL) enacted by the Chilean government in September 2022. Its goal was to regulate platform delivery and minor transport sector which had grown substantially since the pandemic, amounting to 28.6% of total platform work and 0.4% of total employment in that year (0.75% by 2024q4). It did so by eliminating the "gray area" of platform work through the amendment of the existing Labor Code by establishing two employment categories. In particular: (i) it recognized *dependent* platform workers whose status closely resembles that of traditional employees, and (ii) it introduced a new jurisdictional figure of *independent* platform workers, who operate as self-employed contractors but were awarded additional social protection.[8] In other words, by codifying these two labor statuses, the law makes it legally impossible for a platform to use informal workers since everyone performing a service should be linked to a tax ID and a specific legal category. This major reform, which is the first one in Latin America to address concerns about platform work, took place in a setup where the informal sector was large (80%). Thus, our main contribution here is to examine whether this specific reform achieved its goals in such an environment.

To do so, we carry out conventional DiD and event study regressions and then rationalize their main empirical findings through the lens of a quantitative equilibrium model. This model includes heterogeneous workers who sort into three types of platform jobs: (i) formal employees, (ii) formal self-employed, and (iii) informal subcontractors, according to their different preferences for flexible work schedules and income stability. Platform jobs, in turn, are heterogeneous in terms of employability, work time flexibility, and wages, capturing the main trade offs in the policy debate about the need of flexibility in the gig economy against poor working conditions and lack of social protection in this sector. Thus, while formal employee jobs have fixed working hours and payroll taxes levied on the employers, platforms may avoid these labor regulations by either offering formal self-employed jobs that provide flexible hours of work freely chosen by workers in exchange for payroll taxes borne by them, or by subcontracting informal self-employed workers who lack any social protection. An important feature of the PWL is that it legally obliges firms to monitor that their workers are formally registered with tax authorities

[8]The PWL establishes maximum working hours, minimum pay, social security contributions and coverage, plus the right to collective bargaining

– even when hiring independent contractors – and, thereby, increased the administrative sanctions for those platforms that remained using informal workers' services. These fines, which are proportional to the number of moonlighters, depend on the firms' size since larger firms are more likely to be audited.

We calibrate the model using several Chilean data sources, which are considered to provide one of the best and more detailed information about platform firms and workers in the world. Then, we simulate the effects of the PWL by comparing the post-reform labor-market outcomes with a counterfactual simulated scenario in a setup where it had not been enacted (i.e., no higher fines on hiring informal workers and no constraints on maximum hours of work). Our main findings, which are consistent with the reduced-form evidence from the DiD and event study specifications, are that: (i) the effect of the reform was mainly to shift workers from formerly informal self-employment to formal self-employment, while it left the share of employees unchanged; and (ii) the reform did not affect differences in hourly wages between employees and the self-employed. The insight for these results is that the labor supply decisions by the different types of workers and the firms' labor demand decisions do not depend on potential sanctions, implying that neither the relative employment shares of employees and self-employed nor their wages will change when administrative sanctions increase. However, since higher sanctions affect average labor costs, firms' profits fall, reducing entry in this sector. We also find that enforcing a maximum of 84 hours of work per week only has minor negative effects on welfare though it may be detrimental for those workers preferring very long hours. To the extent that a relevant proportion of these workers may be undocumented migrants in the informal platform sector who badly need income to survive, it could be argued that an amnesty providing work permits to those proving a sufficiently long residence time in Chile could improve welfare without triggering a big rise in wages.

References

Katharine G Abraham, John C Haltiwanger, Claire Hou, Kristin Sandusky, and James R Spletzer. Reconciling survey and administrative measures of self-employment. *Journal of Labor Economics*, 39(4):825–860, 2021.

James Albrecht, Lucas Navarro, and Susan Vroman. The effects of labour market policies in an economy with an informal sector. *The Economic Journal*, 119(539):1105–1129, 2009.

Joshua D Angrist, Sydnee Caldwell, and Jonathan V Hall. Uber versus taxi: A driver's eye view. *American Economic Journal: Applied Economics*, 13(3):272–308, 2021.

Oliver Azuara-Herrera, Lukas Keller, and Stephanie González. Who drives on ride-hailing platforms in latin america?: A profile of uber drivers in brazil, chile, colombia and mexico, 2019.

David Berger, Kyle Herkenhoff, Andreas R Kostøl, and Simon Mongey. An anatomy of monopsony: Search frictions, amenities, and bargaining in concentrated markets. *NBER Macroeconomics Annual*, 38(1):1–47, 2024.

Biblioteca del Congreso Nacional de Chile. Historia de la ley n° 21.431. discusión en sala, sesión 130, legislatura 369, March 2022. URL https://www.bcn.cl/historiadelaley/nc/historia-de-la-ley/7981/. Discusión Observaciones Presidente de la República.

Tito Boeri, Giulia Giupponi, Alan B Krueger, and Stephen Machin. Solo self-employment and alternative work arrangements: A cross-country perspective on the changing composition of jobs. *Journal of Economic Perspectives*, 34(1):170–195, 2020.

Pauline Carry. The effects of the legal minimum working time on workers, firms and the labor market. *Manuscript, Princeton University*, 2022.

M Keith Chen, Peter E Rossi, Judith A Chevalier, and Emily Oehlsen. The value of flexible work: Evidence from Uber drivers. *Journal of Political Economy*, 127(6):2735–2794, 2019.

Brett Collins, Andrew Garin, Emilie Jackson, Dmitri Koustas, and Mark Payne. Is gig work replacing traditional employment? Evidence from two decades of tax returns. *Manuscript, IRS SOI Joint Statistical Research Program*, 2019.

Consejo Superior Laboral. Evaluación implementación de la Ley 21.431, que modifica el Código del Trabajo, regulando el contrato de trabajadores de empresas de plataformas digitales de servicios, 2024.

Russell Cooper, Moritz Meyer, and Immo Schott. The employment and output effects of short-time work in Germany. Technical report, National Bureau of Economic Research, 2017.

Namita Datta, Chen Rong, Sunamika Singh, Clara Stinshoff, Nadina Iacob, Natnael Simachew Nigatu, Mpumelelo Nxumalo, and Luka Klimaviciute. Working without borders: The promise and peril of online gig work. Technical report, The World Bank, 2023.

Nikhil Datta. Why do flexible work arrangements exist? 2024.

Aureo De Paula and José A Scheinkman. The informal sector: An equilibrium model and some empirical evidence from brazil. *Review of Income and Wealth*, 57:S8–S26, 2011.

Angus Deaton. Panel data from time series of cross-sections. *Journal of Econometrics*, 30(1-2):109–126, 1985.

Juan Jose Dolado, Álvaro Jáñez, and Felix Wellschmied. Riders on the storm. Technical report, UC3M, 2025a.

Juan Jose Dolado, Etienne Lalé, and Hélène Turon. Zero-hours contracts in a frictional labor market. *SSRN 3988202, The Economic Journal (forthcoming)*, 2025b.

Fairwork. Fairwork chile ratings 2024: Labour standards in the platform economy. Technical report, Fairwork, 2024.

Nick Frazier. *An equilibrium model of wage and hours determination: Labor market regulation in the retail sector*. PhD thesis, Rice University, 2018.

Jorge Andrés Leyton García and Rodrigo Azócar. Chile's legislative solution for platform work: does it fit the bill? *Comparative Labor Law and Policy Journal*, 2022.

ILO. Survey on workers on web-based digital platforms. new data for latin america and the caribbean region, 2025. © ILO.

Lawrence F Katz and Alan B Krueger. The rise and nature of alternative work arrangements in the United States, 1995–2015. *ILR review*, 72(2):382–416, 2019.

Alexandre Mas and Amanda Pallais. Valuing alternative work arrangements. *American Economic Review*, 107(12):3722–3759, 2017.

Boris Muñoz-García. Uber, la subordinación y las fronteras del derecho del trabajo. algunas ideas para delimitar. *Revista chilena de derecho del trabajo y de la seguridad social*, 9(17):13–40, 2018.

Mathan Satchi and Jonathan Temple. Labor markets and productivity in developing countries. *Review of Economic Dynamics*, 12(1):183–204, 2009.

Rachel Scarfe. Flexibility or certainty? The aggregate effects of casual jobs on labour markets. *Edinburgh School of Economics Discussion Paper*, 294, 2019.

Christopher T Stanton and Catherine Thomas. Who benefits from online gig economy platforms? *American Economic Review*, 115(6):1857–1895, 2025.

Gabriel Ulyssea. Firms, informality, and development: Theory and evidence from brazil. *American Economic Review*, 108(8):2015–2047, 2018.

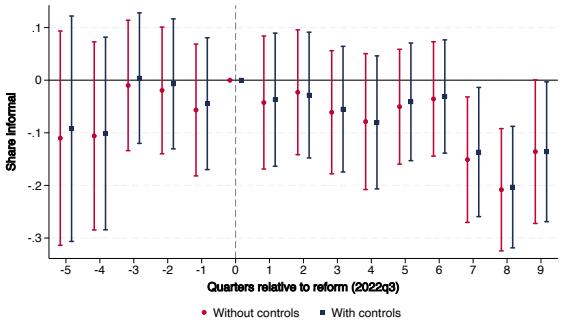
Gabriel Ulyssea. Informality: Causes and consequences for development. *Annual Review of Economics*, 12(1):525–546, 2020.

Marno Verbeek and Theo Nijman. Can cohort data be treated as genuine panel data? *Empirical Economics*, 17(1):9–23, 1992.

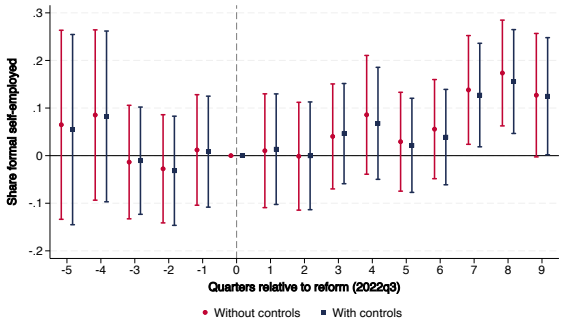
Yves Zenou. Job search and mobility in developing countries. theory and policy implications. *Journal of Development Eonomics*, 86(2):336–355, 2008.

A Additional Tables and Figures

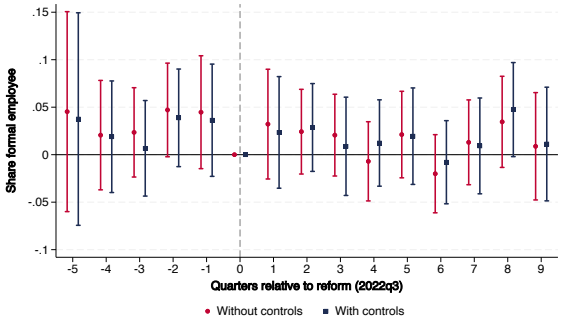
Figure A.1: Event study: sensitivity to demographic controls



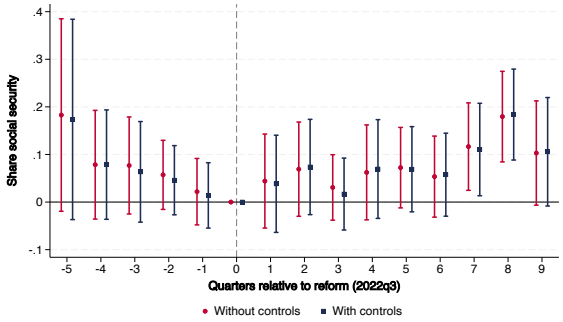
(a) Informal worker



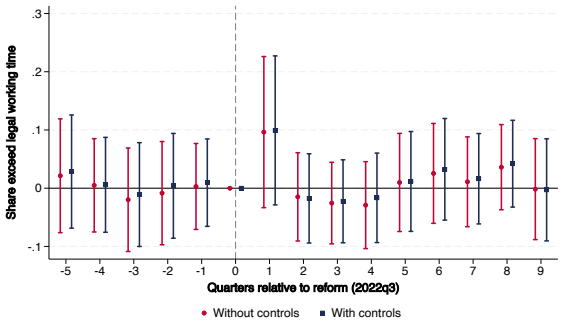
(b) Formal contractor



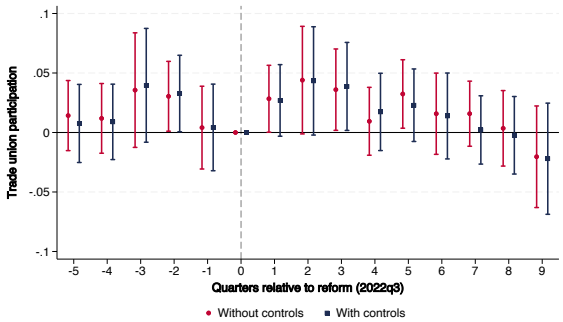
(c) Formal employee



(d) Social security coverage



(e) Exceed legal working hours



(f) Trade union participation

Note: Each panel reports event-study estimates from Equation (2) for two specifications: without demographic controls (circles) and with the full set of controls (squares). The reference period is 2022q3 (quarter 0), when the PWL became effective. Bars represent 95% confidence intervals.

Table A.1: Residual Log Income in the Largest Platforms

Platform	Hourly income	Gap relative to Uber
Cabify	7.45	−0.05
Rappi	7.44	−0.06
Uber Eats	7.51	0.01
Cornershop	7.21	−0.29
inDriver	7.54	0.04
Pedidos Ya	7.47	−0.03
Uber	7.50	0.00

Note: we compute residual hourly income by regressing log hourly income on sociodemographic controls (age, municipality, sex, nationality, education), year dummies, and contract type.

Table A.2: Employment status of placebo group after the PWL

Panel A: Employment status	Formal employee	Formal contractor	Informal worker
Placebo × Post	0.001	0.014*	-0.015
	(0.016)	(0.008)	(0.015)
Mean (pre-reform, placebo)	0.431	0.139	0.430
Observations	28,673	28,673	28,673
R-squared	0.106	0.059	0.053
Panel B: Labor regulations	Social security	Exceed max hours	Trade union
Placebo × Post	0.013	-0.022	0.003
	(0.015)	(0.015)	(0.015)
Mean (pre-reform, placebo)	0.461	0.225	0.139
Observations	28,358	28,673	28,137
R-squared	0.101	0.026	0.035
Panel C: Hours and wages	Share of workers below MW	Log hours worked	Log hourly income
Placebo × Post	-0.003	-0.010	0.038
	(0.033)	(0.017)	(0.052)
Mean (pre-reform, placebo)	0.195	3.735	7.878
Observations	5,061	30,597	5,061
R-squared	0.035	0.035	0.037

Note: The table reports the OLS estimates from a regression of Equation (1) for different labor market outcomes. Panel A reports the estimates when the dependent variable are dummies for formal employees, formal self-employed, and informal workers. Panel B shows the estimates when the dependent variables are dummies for social security coverage, exceed maximum legal working hours, and participation in trade unions. Panel C reports the estimates when the dependent variables are the log of weekly hours worked, the log of hourly income, and the share of workers with hourly income below the minimum wage. The treatment variable is a dummy equal to one for platform workers. The post period refers to months after September 2022, when the PWL was effective. Lastly, the sample is restricted to low-skilled workers in the transportation and storage industry.

Table A.3: Regression of log weekly hours worked on sociodemographic characteristics

	(1)
Age 26–35	0.140***
	(0.046)
Age 36–50	0.176***
	(0.048)
Age 51–65	0.090
	(0.055)
Female	-0.115***
	(0.044)
Single	-0.046*
	(0.026)
Foreign-born	0.320***
	(0.026)
Student	-0.357***
	(0.061)
Other job	-0.262***
	(0.053)
Constant	3.551***
	(0.047)
Observations	2,077
R^2	0.214

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: the regression uses log weekly hours worked as the dependent variable. The omitted age group is those workers aged 15-25.

B Computing welfare

We express welfare as the wage subsidy ξ that makes workers indifferent between the regulated and non-regulated economy. Specifically, denote by $\hat{w}_s$ and $\hat{w}_e$ the wages firms pay in the regulated economy and by $(1+\xi)\hat{w}_s$ and $(1+\xi)\hat{w}_e$ the wages workers receive. To compute welfare changes, we need to compute

$$\begin{aligned}
\mathbb{E}\Big(u_e(\epsilon)\Big) &= \ln\Big(\hat{w}_e(1+\xi)\bar{h}_e\Big) + \epsilon \ln\Big(1-\bar{h}_e/\tilde{h}\Big) + \mathbb{E}\Big(v_e(\epsilon)|e\Big) && \text{if employee,} \\
\mathbb{E}\Big(u_s(\epsilon)\Big) &= \ln\Big(\hat{w}_s(1+\xi)h_s^r(\epsilon)\Big) + \epsilon \ln\Big(1-h_s^r(\epsilon)/\tilde{h}\Big) + \mathbb{E}\Big(v_s(\epsilon)|s\Big) && \text{if self-employed,}
\end{aligned}$$

To that end, we require the expected values of the Gumbel-distributed preference shocks given that the worker chooses to be an employee and given that he chooses self-employment conditional on the underlying taste parameter ϵ:

$$\mathbb{E}\Big(v_e(\epsilon)|e\Big) = 0.5772 - \ln\Big(P(e|\epsilon)\Big) \tag{15}$$

$$\mathbb{E}\Big(v_s(\epsilon)|s\Big) = 0.5772 + \mu_s - \ln\Big(P(s|\epsilon)\Big), \tag{16}$$

where 0.5772 is the Euler-Mascheroni constant. The expected welfare is then given by

$$V = \int \Big(P(e|\epsilon)\mathbb{E}\Big(u_e(\epsilon)\Big) + P(s|\epsilon)\mathbb{E}\Big(u_s(\epsilon)\Big)\Big)\, dG(\epsilon). \tag{17}$$