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The Effects of Mandatory Profit-Sharing on Workers and Firms: Evidence from France
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ABSTRACT

Since 1967, all French firms with more than 100 employees have been required to share a fraction of their excess profits with their employees. Through this scheme, firms with excess profits distribute, on average, 10.5% of their pre-tax income to workers. In 1990, the eligibility threshold was reduced to 50 employees. We exploit this regulatory change to identify the effects of mandated profit-sharing on firms and their employees. The cost of mandated profit-sharing for firms is evident in the significant bunching at the 100-employee threshold observed prior to the reform, which completely disappears post-reform. Using a difference-in-difference strategy, we find that, at the firm level, mandated profit-sharing (a) increases the labor share by 1.8 percentage points, (b) reduces the profit share by 1.4 percentage points, and (c) has no significant effect on investment and productivity. At the employee level, mandated profit-sharing increases low-skill workers' total compensation and leaves high-skill workers' total compensation unchanged. Overall, mandated profit-sharing redistributes excess profits to lower-skill workers in the firm without generating significant distortions or productivity effects.

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1 Introduction

Public policies favoring profit-sharing between firm owners and employees are pervasive around the world.[1] There are two important questions about profit-sharing schemes. The first one is an incidence question: do they really benefit workers, or are employers simply substituting fixed wages for profit-sharing? The second one relates to their economic effects: Do they foster firm productivity by aligning the incentives of owners and employees? Answering these questions is challenging.

First, the adoption of a profit-sharing mechanism is an endogenous decision by firms, which makes causal inference from observational data difficult. For instance, firms expecting substantial gains from profit-sharing might be more likely to set up a profit-sharing scheme; similarly, workers anticipating future productivity gains might lobby for the introduction of profit-sharing in their firms. Such mechanisms would create an upward bias in the relationship between productivity, wages, and profit-sharing. So far, the literature has primarily relied on observational data and cross-sectional variations (e.g., Blasi et al. (2008)). Some papers use fixed-effect models to account for (time-invariant) unobserved firm characteristics (e.g., Wadhwani and Wall (1990); Kruse (1992); Bell and Neumark (1993)). Alternatively, some authors have modeled explicitly the decision to adopt profit-sharing schemes: FitzRoy and Kraft (1987); Cahuc and Dormont (1997) use a Tobit selection model with firms' characteristics as instruments for profit-sharing. To the best of our knowledge, the only paper using quasi-experimental evidence is Knez and Simester (2001), which relies on a case study, the introduction of performance-based bonuses by Continental Airlines in 1995.

The second challenge is data availability: Information about profit-sharing has to be combined with firm-level accounting data. As a result, most studies have relied on small samples, limiting the quality of inference (e.g., FitzRoy and Kraft (1987) focuses on 65 medium-sized metalworking firms in West Germany).

This paper contributes to our understanding of the economic effects of profit-sharing schemes by offering a credible identification strategy and implementing it on a large administrative dataset. In 1967, the French government passed a law requiring all firms with more

[1] For a review of profit-sharing schemes in OECD countries, see OECD (1995)). For instance, in Canada, employers can set up deferred profit-sharing plans: firms make fully tax-free contributions conditional on their realized profits, and employees do not have to pay federal taxes on these contributions until they later withdraw it from the plan. In the U.S., similar plans with similar tax incentives exist, as well as cash-based profit-sharing plans, whereby employees receive a cash bonus in years where the firm is making profits, contributions by the firms are tax-deductible, but not for the employees. In Mexico, the Employee Participation in Company Profits scheme (PTU) requires companies with employees and more than about $15,000 of sales to share 10% of their profits with their employees, as established by the National Commission for the Participation of Workers in the Profits of Companies. Profits are allocated half uniformly and half proportionally to employees' wages.

than 100 employees to redistribute a share of their "excess profits" (i.e., profits above 5% of book equity) to their employees. The main policy goal was to "align" the objectives of employees and shareholders to improve productivity and reduce social conflicts. The law introduced an explicit formula, still used today, to determine the fraction of excess profits that must be distributed to employees. This formula implies a significant tax on firms' profits. Absent any behavioral response, a firm with a labor share of 2/3 and a Return On Equity (ROE) of 10% would see 10.5% of its pretax profit transferred from shareholders to workers through the scheme. In 1991, the requirement threshold was reduced from 100 employees to 50 employees. We exploit this policy change to evaluate the economic effects of mandated profit-sharing. Our empirical analysis leverages rich administrative data: (1) the universe of corporate tax files, which contain in particular the amount of profit-sharing paid by firms every year; and (2) a linked employer-employee panel dataset covering about 4% of the French population working in the private sector.

Our empirical analysis proceeds in three steps. The first exercise investigates the cost of profit-sharing for firms. Whether firms perceive the regulation as a net cost or benefit is a priori unclear. The profit-sharing scheme we study provides tax incentives for both firms and workers. On the firm side, payments made to employees through profit-sharing are exempt from payroll taxes – while wages are not. On the employee side, employees have the option to invest the proceeds from profit-sharing in a dedicated account, which becomes exempt from income tax after five years. If firms required to share their profits can reduce workers' wages and keep their total net-of-tax compensation fixed, the scheme would strictly benefit firms at the expense of the tax authority.[2] If, instead, wages only partially adjust and workers' total compensations increase, mandatory profit-sharing can represent a net cost for firms, especially if it does not generate significant productivity gains.

We first use a bunching analysis to study firms' willingness to pay for profit-sharing, adopting a revealed preference approach. Importantly, the profit-sharing requirement is the only regulation that kicks in at 100 employees.[3] Prior to 1991, we document significant bunching below the 100-employee threshold. Such bunching quickly disappears after 1991, once the requirement threshold is reduced to 50 employees. Using the post-reform distribution as counterfactual, we show that the distribution of employment exhibits a significant 22.3% excess density between 95 and 99 employees. We thus reject the null hypothesis that

[2]While the French law prevents employers from decreasing *nominal* wages unilaterally (see Article 1134 of the Civil Code), the implementation of a profit-sharing scheme may reduce the growth of *real* wages. This is particularly true in a period of positive inflation like 1991-1997 (more than 2% on average).

[3]As emphasized in Garicano et al. (2016), many regulations in France bind when firms cross the 50-employee threshold (e.g., the requirement to organize a worker's council). This is not the case at the 100-employee threshold.

profit-sharing is perceived by firms as a net benefit – despite its tax advantages. This finding suggests that firms have a limited ability to pass through the cost of profit-sharing to their employees through lower wages and that productivity gains are smaller than the extra cost entailed. Importantly, this interpretation holds whether the observed bunching is real (i.e., firms effectively reduce employment to stay below the threshold (Garicano et al. (2016); Aghion et al. (2021))) or due to under-reporting (Askenazy et al. (2022)), as long as under-reporting is costly. As we explain in greater detail in Section 4.2, however, the evidence suggests that in this setting, most of the observed bunching is driven by actual employment reductions rather than by under-reporting.[4]

We confirm this interpretation using an intent-to-treat difference-in-difference analysis at the firm level.[5] Our treatment group is the universe of firms with 55-85 employees just before the reform (i.e., in 1989 and 1990). Absent changes in their employment counts, these firms would have to start sharing profits in 1991. We do not include firms between 50 and 55 employees as these firms can easily avoid profit-sharing post-reform by crossing the 50-employee threshold. We also exclude firms with 85-100 employees as many of them are "bunchers" – firms that endogenously decided not to cross the 100-employee threshold prior to 1991 – and might thus have different characteristics than firms in our control groups. Importantly, we use two separate control groups: (1) large control firms have between 120-300 employees in 1989-1990; these firms are likely subject to the profit-sharing requirement both *before* and *after* the reform; and (2) small control firms have between 35-45 employees in 1989-1990; these firms are likely never subject to the profit-sharing requirement.[6]

Our analysis relies on the identifying assumption that absent the reform, the labor share or productivity of firms in the treatment group would have evolved similarly to firms in the two control groups. We systematically confirm that, prior to 1991, firms in the treatment and the two control groups follow parallel trends, indicating that firms below the 50-employee threshold and above the 100 threshold provide suitable counterfactuals for firms mandated to share profits. While firms of different sizes might respond differently to business cycle shocks, using firms both smaller and larger than treated firms as control groups alleviates the concern that our estimate would pick up such a size effect.

Using this empirical strategy, we find that workers fully benefit from profit-sharing and

[4]If we assume that bunching is entirely real, our estimates imply that 1.67% of the total employment of firms with 85-99 employees is lost due to excess bunching below the 100-employee threshold prior to the reform.

[5]While there is an eligibility threshold at 100 employees (prior to 1991, and then at 50 employees), this setting cannot be used for a regression discontinuity design. As we show in our bunching analysis, firms control where they fall relative to this threshold.

[6]We exclude firms close to the 50-employee threshold since they are also "bunchers" (Garicano et al. (2016); Aghion et al. (2021)).

that the cost is shared between firm owners and the tax authority. For firms with positive excess profits, the profit-sharing requirement leads to a 1.8 percentage point (ppt) increase in the total compensation share (i.e., wage bill plus profit-sharing divided by value added). We show that 77 percent of this increase comes at the expense of firm owners (i.e., the profit share decreases by 1.37 ppt). The rest is paid by the tax authority in the form of a significantly lower corporate income tax, as profit-sharing reduces the corporate income tax base. The wage share (wage bill divided by value added), however, is not affected. This finding suggests that profit-sharing does not affect wages paid to workers, a result we further discuss below when moving to worker-level data.

We then exploit the same empirical design to assess how profit-sharing affects firm-level productivity. We consider several measures of productivity used in the literature (Olley and Pakes (1996), Olley and Pakes (1996) with Ackerberg et al. (2015) correction, Wooldridge (2009), Levinsohn and Petrin (2003) and Ackerberg et al. (2015)). We obtain consistent findings across all measures: Profit-sharing leads to a precisely estimated zero effect on productivity. For several measures, we reject effects that would increase or decrease productivity by more than 1% for our intent-to-treat estimates. We also consider "softer" measures of productivity and effort (e.g., sick leaves, probability of working extra hours) and fail to find any significant effect. A typical concern with profit-sharing schemes and their effect on productivity is that they are too small to foster employees' incentives. However, this is not the case of the mandated profit-sharing scheme we analyze. In our data, the requirement to share profits represents a transfer to employees of about 10.5% of firms' pre-tax income.[7] This finding contrasts with the empirical literature that finds a sizeable effect of the (endogenous) adoption of profit-sharing – typically in the range of 3-5% (e.g., FitzRoy and Kraft (1987), Wadhwani and Wall (1990), Kruse (1992), Cahuc and Dormont (1997), Prendergast (1999), Doucouliagos et al. (2020)).

In the absence of productivity effects, a reasonable concern is that mandated profit-sharing would discourage investment by reducing the return to capital. We find that mandated profit-sharing has a small, mostly insignificant, negative impact on investment and firms' capital-labor ratio. As we explain through the lens of a simple model, this finding is not surprising. The profit-sharing formula is not based on profits, but excess profits, defined as earnings net of 5% of book equity. As long as a firm's ROE is not too distant from 5%, this measure coincides with shareholders' profits and should thus lead to limited distortion on investment. Overall, our findings suggest that mandated profit-sharing, as implemented in France, generates little distortions for firms.

[7] After 1991, for firms with more than 50 employees that pay some profit-sharing, profit-sharing represents, on average, 10.5% of the firm's pre-tax income.

While our firm-level analysis shows that mandated profit-sharing induces significant redistribution from firm owners to workers, this result potentially conceals significant heterogeneity. To further evaluate the effects of mandated profit-sharing on workers, we exploit linked employer-employee data that cover $1/25^{th}$ of all employees in the French private sector. We first confirm our main finding on this worker-level dataset: Workers in firms required to share profits do not experience a decline in their base wage; their total compensation increases by about 3.5%. The absence of incidence of profit-sharing on workers' base wage has at least two potential interpretations: (1) profit-sharing is risky and thus has limited value for risk-averse employees, and (2) wages are rigid. We show that the risk channel is unlikely to be important: Empirically, profit-sharing only marginally increases the variability of workers' earnings. Instead, we provide some evidence consistent with a wage-rigidity channel. Our starting point is that, given the binding federal minimum wage in France and widespread collective agreements, wages are likely more rigid for low and medium-skill workers (e.g., Gautier et al. (2022)). We thus compare how wages respond to mandatory profit-sharing across the skill distribution. We find that the increase in total compensation observed for the average worker is concentrated among workers at the lower end of the skill distribution (blue-collar workers, clerks, supervisors, skilled technicians). In contrast, for workers at the high end (managers, engineers, executives), the profit-sharing requirement leads to a decline in their base wage, leaving their total compensation unchanged. This finding not only suggests a role for wage rigidity in explaining our main findings, but it also shows that mandated profit-sharing is a progressive policy (at least within firms) as it mostly benefits lower-skilled workers.

We believe that our analysis of a large and mandatory profit-sharing scheme is relevant in the current economic context. The labor share has gone down significantly in most industrialized countries (Neiman (2014)). In the U.S., the share of the pretax real income going to the bottom 50% of the distribution has stagnated since 1980 (Piketty et al. (2018)). Several recent contributions have emphasized the rise in monopsony power in U.S. local labor markets and its detrimental effect on workers' income (Berger et al. (2022), Stansbury and Summers (2020)). Together, these trends have generated a significant renewal of interest in redistributive policies and their economic effects. Our findings show that mandated profit-sharing, as implemented in France, can act as a non-distortive redistributive tool, taxing shareholders' excess profits to benefit lower-skill workers. It is, however, costly for public finances: every dollar transferred to workers through the mandated profit-sharing scheme costs about 20 cents in reduced corporate income tax receipts.[8] It is also a somewhat unequal

[8] A complete fiscal evaluation of the scheme would also require an exhaustive analysis of its implications

form of redistribution since it benefits workers in profitable firms, and firms' excess profits are highly persistent in the data.

Our quasi-experimental approach adds to the earlier literature on profit-sharing reviewed above in that it offers a way to explore the *causal* effect of such schemes on workers' compensations and firm outcomes. It also complements the large literature on Employee Stock Ownership Plans (ESOPs), a non-mandatory yet common profit-sharing scheme among U.S. corporations. Matsa (2019) reviews the rationales behind their adoption by firms: raising capital from informed investors, sharing risk with employees, fostering morale in the company, increasing effort, retention. Kim and Ouimet (2014) leverage U.S. census data and a matching approach to study the impact of ESOPs adoption on employee earnings and company behavior. In contrast to us, they find that small firms adopting ESOPs tend to experience productivity increases. This finding may partly reflect the endogenous adoption of ESOPs based on unobserved firm characteristics. It is also possible that employees respond differently to a profit-sharing program imposed by federal regulation compared to one set up voluntarily by their firm. Finally, in independent work, Tolentino (2022) also evaluates a mandated profit-sharing scheme in Peru, exploiting a 20-employee eligibility threshold for identification. He reports larger distortions (reductions in investment and productivity) than we find in the French context. This difference might be partly driven by the broader base of the Peruvian scheme, which applies to the entirety of firms' post-tax profits, whereas the French system allows firms to deduct 5% of book equity. Moreover, Tolentino (2022) provides evidence of bunching at the eligibility threshold even *before* the introduction of the mandatory profit-sharing scheme, suggesting that other pre-existing regulations may contribute to the large estimated distortions.

Our paper also relates to the large and mature literature on rent-sharing within firms and how it is affected by institutions. In a recent contribution, Kline et al. (2019) provide well-identified evidence that shocks to firm-level rents are partially transferred to workers, consistent with imperfectly competitive labor markets. DiNardo and Lee (2004) use a regression discontinuity design to evaluate the economic impacts of unionization. They find small and insignificant effects of unions on wages and productivity.[9] Jäger et al. (2021) analyze the causal effect of the German codetermination system (i.e., employee representation on boards of directors) on wages. They find no effects, even in firms with particularly flexible wages. Relative to these institutions (unions, codetermination), the mandatory profit-sharing scheme we evaluate leads to a significant increase in workers' total compensation (and the

in terms of personal income tax. We leave this analysis for future work as it is beyond the scope of this paper.

[9]See also Lee and Mas (2012), who exploit close union elections and find a negligible effect of union representation on shareholder value.

share of total compensation in value added).

The organization of the paper is as follows. Section 2 describes the profit-sharing scheme and the 1991 change in eligibility. It also offers a conceptual framework and discusses how mandated profit-sharing differs from a standard corporate income tax. Section 3 describes the data used and presents some descriptive statistics. In Section 4, we analyze bunching below the 100-employee threshold. Section 5 provides our firm-level evaluation of the reform's incidence on wage shares, total compensation shares, profit shares, investment, and productivity. In Section 6, we exploit worker-level data to explore the effects of mandated profit-sharing across the skill distribution. Section 7 concludes.

2 Institutional Setting and Economic Framework

In this section, we first discuss the institutional details of profit-sharing in France, as well as the 1990 reform that we use for identification. We then develop a simple model to analyze the economic implications of profit-sharing.

2.1 Institutional Details

On August 17$^{\text{th}}$ 1967, Charles de Gaulle signed an executive order mandating all firms with more than 100 employees to distribute a share of their profits to their employees. Redistributive concerns were at the heart of this decision. Anticipating the opening of the common market and the ensuing increase in foreign competition, firms were engaging in massive investment to modernize their capital stock (Lasserre (1968)). Lacking external funds, firms had to generate large internal funds to finance these investments, which they partly achieved by limiting workers' wage growth. In this context, mandated profit-sharing was viewed as a way to allow workers to benefit from these investments without reducing the internal funds available to companies.

In practice, the law requires firms to set aside, every year, a positive amount \$RSP to be distributed to employees.[10] This amount is determined according to the following formula:

$$\$\text{RSP} = \frac{1}{2} \times \frac{\text{Wage bill}}{\text{Value added}} \times \left(\underbrace{\text{Net income} - 5\% \text{ Book equity}}_{\text{excess-profits}} \right)^{+}. \tag{1}$$

The formula has a simple intuition. 5% was the lawmakers' perception of fair compensation

[10] RSP stands for *Réserve Spéciale de Participation*, or special profit-sharing fund.

to shareholders. Every additional dollar of profit above this compensation (what we call excess profits in this paper) should then be split between shareholders and their employees. The sharing rule is scaled by the firm's labor share to reflect the contribution of labor in production.

Note that this scheme redistributes a quantitatively large fraction of profits. This can be seen from a simple calibration of Formula (1). The ratio of RSP to pre-tax income is given by:

$$\frac{RSP}{\text{Pre-Tax Income}} = \frac{1}{2} \times \frac{\text{Wage bill}}{\text{Value added}} \times (1-\tau) \times \left(1 - \frac{5\%}{ROE}\right)$$

where ROE = Net Income/Book Equity is the firm's return on equity and τ is the corporate income tax rate. For the median firm in our sample period, with a ROE of 12%, a labor share of 0.52, and given a corporate income tax rate τ of 37% in 1990, profit-sharing would amount to approximately 9.5% of pre-tax income. In the data, after 1991, for firms that have positive excess profits and are subject to the mandatory profit-sharing regulation, profit-sharing represents, on average, 10.5% of the firm's pre-tax income.[11]

The distribution of \$RSP to each individual employee is typically proportional to their current wage (DARES (2008)). There is a cap on how much an employee can receive in a given year. In 1990 – the year of the reform we analyze in the paper – this cap was equivalent to 63% of the average net wage in the private sector.[12] The scheme also has several tax implications. On the employee side, employees have the option to defer receiving their profit-sharing income for five years, in which case it is exempt from personal income tax. On the employer side, profit-sharing is exempt from payroll tax, in contrast to regular wages. As a result, employers have a fiscal incentive to prefer profit-sharing over regular wages. This incentive is a priori quite attractive as payroll taxes in France are among the highest in the world. Note also that, like wages, profit-sharing reduces firms' corporate income tax: For fiscal purposes, profit-sharing is treated as a cost in firms' taxable income.

A firm is required to implement profit-sharing if, during the past year, there were six months or more during which the end-of-month headcount was greater than 100. Firms under this threshold could still voluntarily establish a profit-sharing fund and benefit from the same fiscal advantages. In practice, however, very few firms below the 100 threshold did.[13] On October 17$^{\text{th}}$, 1990, the left-leaning French parliament voted to extend the coverage of

[11] This number is higher than our calibration in part because the corporate income tax was reduced to 33% after 1993.

[12] Note, however, that when the cap is binding, the firm still has to set aside \$RSP, but employees only receive their share in later years when the cap is no longer binding.

[13] In 1989, among firms in the 35-85 employees range, 6.8% of firms paid some profit-sharing to their workers.

mandatory profit-sharing by lowering the threshold to 50 employees. The law was officially amended on November 9th, 1990.[14] Importantly for our identification strategy, while many firm-level regulations kick in at 50 employees (most notably, the requirement to establish a council of worker representatives (Garicano et al. (2016)), profit-sharing was the only regulation based on the 100-employee threshold before 1990.

The law still applies today. There have been only a few changes to the scheme, and all these changes happened outside of our sample period (1985-1997). Most notably, the cap limiting how much employees can receive from profit-sharing was increased by 25% in 2007. Since 2009, firms have been required to pay payroll taxes on the income paid to workers through profit-sharing. The rate was set at 2% in 2009 and increased to 20% in 2022. Interestingly, the formula used to compute \$RSP (Equation 1) is still the original formula from the 1967 law. In 2019, 5.3 million workers (about 40% of the workforce) received income from this profit-sharing scheme, for an average annual amount of €1,499 or about 3.8% of recipients' wage (Briand (2021)).

2.2 Economic Framework

We develop a simple augmented user cost model to analyze how mandated profit-sharing affects firm behavior. The objective is to study how firms' input choices and outcomes are affected by profit-sharing, in particular as a function of the incidence of profit-sharing on workers' wages. We take this incidence parameter as exogenous. The model has two periods and is in partial equilibrium. In the first period, the company purchases capital k by borrowing debt d and bringing equity $e = k - d$. In the second period, the firm hires l workers and combines them with capital k to generate revenues $y = F(k, l)$. In what follows, we assume that F is Cobb-Douglas with possibly decreasing returns to scale $F(k, l) = \left(k^{\alpha} l^{1-\alpha}\right)^{\theta}$, although our results hold for more generic production functions.

Workers receive $wl + RSP$, where RSP corresponds to the total amount of profit-sharing mandated by law and w is their wage.[15] The firm also pays back $(1 + r_d)d$ to debt holders, where r_d is the interest on debt. After production, the capital stock depreciates and the firm sells it for $(1 - \delta)k$. We assume the price of capital is the price of the produced good, which we normalize to one. Finally, the firm faces a tax rate τ on its accounting profits, so that it

[14] Beyond the change in eligibility threshold, the only other modification made by the new law was to allow firms to use a floor wage when calculating the share of profits distributed to employees from the RSP (Journal Officiel (1990)).

[15] Note that, to simplify exposition, we do not model payroll taxes. Because RSP is exempt from payroll taxes, mandated profit-sharing could reduce the marginal cost of labor and thus increase employment and investment. The model neglects this effect and can be seen as an upper bound on the negative effect of mandated profit-sharing on employment and investment.

pays a corporate income tax of: $\mathcal{T} = \tau\left(y - wl - r_d d - \delta k - RSP\right)$.[16]

Shareholders select the equity they bring, e, and the capital stock to purchase, k, to maximize the present value of their cash-flow, which they discount at the rate r_e. Finding the optimal amount of debt and equity would require a theory of capital structure. While interesting, the interplay between capital structure and profit-sharing is beyond the scope of this exercise. We thus assume that the firm's capital structure is fixed, and denote the constant equity-to-assets ratio as $\phi = \frac{e}{k}$. This assumption of a fixed capital structure allows us to assume that r_e and r_d are independent of k. We define $r = (1-\tau) r_d \frac{d}{k} + r_e \frac{e}{k}$, the firm's weighted average cost of capital (WACC), which is then also independent of k.

To analyze the effect of profit-sharing, we make three additional assumptions. First, we assume that RSP, the amount of shared profits, is determined by a slightly simplified version of Equation (1):

$$RSP = \gamma\left((1-\tau)(F(k,l) - wl - \delta k - r_d d) - \rho \times e\right) \tag{2}$$

where ρ is the cost of equity in the regulatory formula (5% in the French system). The simplification is that γ is assumed constant, while, in the actual regulation, it is half the firm's labor share: $\gamma = \frac{1}{2} \times \frac{wl}{y}$. We ignore such dependence for clarity.[17] The second assumption is on the incidence of profit-sharing on the wages paid to workers. We assume that $w = w^* - \lambda \frac{RSP}{l}$, where w^* is the wage absent profit-sharing.[18] When $\lambda > 0$, the firm can lower workers' wages to account for the revenue they receive from profit-sharing.[19] $\lambda = 1$ corresponds to full incidence – profit-sharing does not increase workers' total compensation. The third assumption is that profit-sharing does not increase firm productivity (i.e., F does not depend on profit-sharing). This assumption departs from traditional analyses of profit-sharing (e.g., Weitzman (1986a), Weitzman (1986b)), which typically focus on the positive incentives generated by profit-sharing. However, it is consistent with our empirical findings below (see Section 5.4) and clarifies the core message of the model.

We can now derive predictions regarding the effects of profit-sharing on firm outcomes, input choices, and avoidance. All derivations can be found in Appendix A.

[16] In France, like in the US, firms benefit from a depreciation tax shield and a debt tax shield. Also note that RSP can be deducted from taxable income.

[17] Extending the model to allow γ to be half the labor share yields similar findings.

[18] The model assumes that workers are homogeneous, so they all receive the same share of profit-sharing, namely $\frac{RSP}{l}$.

[19] In our static setting, we assume that owners might be able to reduce nominal wages to pass through some of the profit-sharing cost to workers. While the French law prevents employers from decreasing *nominal* wages unilaterally, they can reduce the growth of real wages dynamically, which is what our model captures.

Prediction 1 (**Total Compensation, profit and tax share**). *As long as $\lambda < 1$, mandated profit-sharing leads to an increase in the share of total compensation over value added ($\frac{wl+RSP}{F(k,l)}$), a decrease in the profit share ($\frac{Net\ Income}{F(k,l)}$) and a decrease in the tax share ($\frac{\mathcal{T}}{F(k,l)}$). If $\lambda = 1$, mandated profit-sharing does not affect these outcomes.*

These predictions are intuitive. Mandated profit-sharing strictly benefits workers except when firms can pass through its cost in the form of lower wages (i.e., $\lambda = 1$). As soon as $\lambda < 1$, workers' total compensation (wages plus profit-sharing) increases with mandated profit-sharing. This increase in the total compensation share comes at the expense of shareholders (through a decrease in the profit share) and the government (through a decrease in the tax share).

The model delivers two simple first-order conditions (FOC) for labor and capital:

$$F_l(k,l) = w^* \quad \text{and:} \quad F_k(k,l) = \underbrace{\delta + \frac{r}{1-\tau}}_{\text{standard user cost}} + \underbrace{\phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma(1-\tau)}}_{\text{distortion}}, \tag{3}$$

where $\Delta = r_e - \rho$ is the difference between the firm's cost of equity and the cost of equity in the regulatory formula (1). Our second prediction on the distortive effect of mandated profit-sharing directly derives from these FOCs.

Prediction 2 (**Distortions induced by mandated profit-sharing**).

a. For a given capital stock k, mandated profit-sharing does not distort labor demand l.

b. When $r_e \approx 5\%$ or $\lambda \approx 1$, mandated profit-sharing does not distort investment nor hiring. When $r_e > 5\%$ and $\lambda < 1$, mandated profit-sharing increases the firm's cost of capital, reduces the firm's capital stock, and thus employment.

For a reasonable calibration of the model, this distortion to the cost of capital is small, at about 0.43 ppt, or less than 2% of the standard user cost of capital.

The absence of distortion on labor demand, conditional on k, is intuitive: Labor expenses are fully deductible from the profit-sharing base (i.e., excess profits); mandated profit-sharing thus acts as a linear tax on earnings, preserving marginal incentives. In contrast, Equation (3) clearly highlights the distortion on capital induced by mandated profit-sharing and how it differs from the corporate income tax. Like corporate taxes, profit-sharing increases the cost of capital, but only when the actual cost of equity is greater than the cost of equity in the regulatory formula (i.e., when $r_e > \rho$). When $r_e = \rho$, regulatory excess profits coincide with shareholder profits, so that, as in the new view of dividend taxation, investment is

undistorted. When there is a distortion ($r_e > \rho$), it is exacerbated by a limited wage incidence, as mandated profit-sharing then represents a larger loss of profits for shareholders.

Calibration. Quantitatively, we can predict how mandated profit-sharing should affect the cost of capital for treated firms (those with 55–85 employees in both 1989 and 1990) in the post-reform period. To avoid capturing behavioral responses, we measure treated firm's characteristics (ϕ,γ) immediately before the reform. We then calibrate the remaining elements of the formula using the post-reform economic environment (1991–1997). In the data, over the two years preceding the reform, treated firms have an average equity share ϕ of 17% and an average labor share of 54% so that $\gamma = \frac{1}{2}\frac{wl}{VA} \approx 0.27$.[20] During the post-treatment period, the average annual interest rate on Treasury bills in France was 7.3%. Assuming a risk-premium of 5.5%, a firm with a β of 1 would have a cost of equity $r_e = 12.8\%$. In the post-reform data, the median interest rate paid on treated firms' debt across all firms is 10.5% and the average corporate income tax rate is 33.1%. As a result, the calibrated WACC r is 8%. We follow Chodorow-Reich et al. (2024) and set the depreciation rate δ to 10%. Finally, we assume that there is no wage incidence of profit-sharing, i.e., $\lambda = 0$, which is consistent with our empirical findings below.

With these assumptions, we find that the pre-tax user cost of capital is 22% and the distortion term is 0.43 percentage points, so that mandated profit-sharing leads to an increase in the cost of capital of 1.9%. This effect on the cost of capital should lead to a small effect on the investment of firms that become subject to mandated profit-sharing. For instance, Chodorow-Reich et al. (2024) estimates a semi-elasticity of the investment ratio to the cost of capital of -0.427 in the US (see Chodorow-Reich (2025) for an exhaustive review of the literature). Using this elasticity in our French setting, mandated profit-sharing should lead to a decrease in the investment ratio of treated firms of about 0.84 ppt right after the reform.

Prediction 3 (**Bunching**). *Mandated profit-sharing implemented above a size threshold will generate bunching below the threshold whenever* $\lambda < 1$.

When $\lambda < 1$, shareholders' profits are lower with mandated profit-sharing. Thus, if profit-sharing is mandated above a size threshold $\bar{l}$, it creates incentives for some firms to remain below the threshold. The loss from operating below the optimal size is then outweighed by the gain from avoiding profit-sharing. This prediction is in part driven by two assumptions we made in the model. First, we do not model payroll tax. Because profit-sharing is exempt from payroll tax, firms might strictly benefit from profit-sharing if wage incidence is high enough (i.e., if λ is close to 1). Second, our model assumes away

[20] We calculate the equity share as the ratio of book equity to net total assets, our measure of capital.

the possibility that mandated profit-sharing increases productivity (which is consistent with our empirical analysis below). If either payroll tax exemptions or productivity gains were strong enough, firms would not bunch but would instead implement voluntary profit-sharing schemes. However, the substantial bunching *below* the threshold we uncover in our empirical analysis suggests that these positive effects are dominated by the direct cost of profit-sharing for shareholders.

2.3 Comparison of Profit-Sharing and Corporate Income Tax

This section compares the French mandated profit-sharing system with the corporate income tax, the other major redistributive tool transferring resources from shareholders to workers. While the effects of corporate taxation on wages and firm activity are well documented, much less is known about the causal impact of profit-sharing. We show that the two systems differ along several key dimensions, with important implications for both workers and firms.

Policy bases and Distortions. A key difference between the two policies lies in their respective tax bases. Mandated profit-sharing targets excess profits, defined as net income in excess of 5% of book equity. In contrast, the corporate income tax applies to corporate earnings. As a result, these policies generate distinct distortions on capital investment (see Equation (3) above). The corporate income tax creates a uniform distortion across firms (fixing firms' WACC), while the distortion induced by mandated profit-sharing depends on two firm-specific factors: (1) the gap between the firm's cost of equity and the regulatory benchmark ($\Delta = r_e - 5\%$); and (2) the wage incidence of profit-sharing λ. Again, when the actual cost of equity corresponds to the regulatory cost ($\Delta = 0$), or when there is full incidence ($\lambda = 1$), profit-sharing does not distort investment. Beyond the tax base, the *rates* also differ: the corporate income tax is linear in earnings, while the share of excess profits to be distributed to workers under profit-sharing is proportional to the firm's labor share.

Wage incidence and Avoidance. Corporate taxes are collected by the government and spent through various public policies. Mandated profit-sharing is instead *directly redistributed* to workers *inside the firm*. This is an important distinction to consider when evaluating the wage incidence of these policies. The corporate income tax affects wages through general equilibrium effects (see Fuest et al. (2018)). Instead, mandated profit-sharing can directly affect workers' compensation by granting them a share of their firm's excess profits.

This difference is also likely to matter in terms of *avoidance*. Because they do not directly receive proceeds from the tax paid by their firms, workers have little incentive to monitor corporate tax compliance. By contrast, with mandated profit-sharing, each euro of

excess profit diverted by the firm reduces workers' collective income by roughly 10–15 cents, creating a stronger incentive to scrutinize firm reporting. Anecdotally, workers' councils do hire accountants to verify fiscal statements, and, in particular, the profit-sharing formula. This idea is consistent with existing evidence of corporate income tax avoidance in France (e.g., Bach (2017)) and the evidence below that firms do not avoid mandated profit-sharing on the intensive margin.

Possible Productivity Effects. Unlike the corporate income tax, which primarily serves a redistributive function, profit-sharing has traditionally been viewed by economists as a mechanism to enhance firm productivity and improve labor relations (see, e.g., Kruse et al. (2008)). These productivity and well-being considerations were a key motivation for the adoption of mandated profit-sharing in France. We investigate the effects of profit-sharing on total factor productivity and sick days (our proxy for well being and effort) in Section 5.

3 Data

To quantify the impact of profit-sharing on workers and firms, we combine firms' balance sheet data with linked employer-employee data over the period 1985-1997.

Financial Statements. On the firm side, we exploit accounting information from tax files in the BRN files from 1985 to 1997, the FICAS data. These data are made available by the French Statistical Office (INSEE) through their secured remote server (CASD). They contain income statements and balance sheets collected by the Treasury for the universe of firms in the economy that file under the so-called "normal" tax regime. These data are used to determine tax liabilities. They are audited by the tax authority, with significant penalties applied in the case of misreporting. The files contain approximately 600,000 firms per year. Importantly, they provide, as an accounting item, the total amount of profit-sharing paid by firms to their employees.

Wage Data. Our data on French workers' employment histories comes from the matched employer-employee DADS (Déclarations Annuelles de Données Sociales) panel. These data are an extract from the DADS Fichier Postes, an exhaustive administrative dataset that contains the Social Security records of all salaried employees in private sector firms. The DADS Panel tracks all workers in the dataset who were born in October of an even year, which amounts to an overall coverage of slightly more than 4% of the French population working in the private sector. The dataset provides information on a worker's employment

spell (duration, start and end date during the year, total gross and net wages, tenure within the firm, and 2-digit occupation). It also contains information about the worker: age, gender, years of labor market experience, and region of residence. The data cover the 1985-1997 period, with the exclusion of 1990, for which the data are not available.

Analysis Sample. We restrict the sample to corporations with a non-missing identifying number that operate in the for-profit sector and with headquarters in mainland France. We use this entire sample to analyze bunching at the 100-employee threshold over time.

For our difference-in-difference analysis, we apply the same restrictions and focus on firms without a reporting gap. We define the treatment status using firm-level employment in 1989 and 1990. Treated firms have between 55 and 85 employees in both 1989 and 1990. Control firms have either between 35 and 45 employees (small control group, *likely never treated* firms) or 120 to 300 employees (large control group, *likely always treated* firms) in both 1989 and 1990. This definition leads us to drop firms that (a) have missing employment data in 1989 or 1990 or (b) are close to the 50 or 100 employee thresholds in 1989 and 1990 or (c) see their employment counts switch across these groups in these two years. The main analysis is run on an unbalanced sample of firms observed at least in 1989 and 1990. We show in Section 5.3 the robustness of our main findings when estimated on a balanced sample of firms. Since the data do not include hours, we restrict the worker-level analysis to employees working full time and focus on their daily wage. Interestingly, for our analysis, the measure of wage provided in the data includes various aspects of compensation, including base wage, bonuses, and in-kind benefits that are subject to taxes (e.g., company car, housing, or meal tickets). As a result, our study allows for many forms of substitution between profit-sharing and other forms of compensation. For the rest of the study, we call base wage this measure of compensation (excluding profit-sharing).

Our final analysis sample contains 11,374 unique firms in the firm panel and 128,824 workers in the matched employer-employee data. Tables 1 and 2 provide summary statistics for our firm-level and individual-level datasets over the 1985-1997 period.

4 Bunching Analysis

4.1 Quantifying pre-reform bunching around the threshold

We start our empirical analysis by focusing on the pre-reform period. Prior to 1991, only firms with more than 100 employees were covered by the profit-sharing regulation. After 1991, the eligibility threshold was decreased to 50 employees. While the policy offers sub-

stantial tax advantages to income paid through the profit-sharing scheme (no payroll tax and no personal income tax for workers), it is likely a net cost for firm owners. In the data, only a small share of firms below the eligibility threshold voluntarily adopt profit-sharing through the scheme (see Section 2). This fact suggests that the tax advantages and potential productivity gains from profit-sharing may not be sufficient to compensate firms for the increase in total labor costs it generates. The distribution of employment around the eligibility threshold offers a revealed preference approach to investigate the magnitude of this disincentive. Note that this interpretation holds whether bunching is real (i.e., firms effectively reduce employment to stay below the threshold) or results from under-reporting (Askenazy et al. (2022), as long as such under-reporting is costly — a standard assumption in public finance (e.g., Bachas and Soto (2021)).

A caveat to the bunching analysis is that our employment measure does not perfectly match the regulatory definition. The tax data report average end-of-quarter headcounts over the fiscal year, whereas the law applies when total headcount exceeds 100 for at least six months (see Section 2.1). As a result, bunching in our measure is expected to be fuzzy.

Figure 1 reports the distribution of firm employment *pre-reform* (1985-1989) and *post-reform* (1992-1997).[21] We bin the data in buckets of five employees starting at 60 employees until 150. We use bins of 5 employees because employment tends to bunch at multiples of 5, likely a reporting error due to rounding. This binning makes the plot smoother, but it is not responsible for the main bunching result, as can be seen from the raw data in Appendix Figure C.1. Figure 1 shows significant excess mass in the 95-99 bin, with 22.3% more density at this bin than in the counterfactual. There is also marginally significant and quantitatively smaller excess mass in the 90-94 and 85-89 bins. Overall, if we assume that this bunching is real and not due to under-reporting (an assumption we discuss below), it represents a loss of about 1.67% of the employment in affected firms.[22] Using parametric counterfactuals (e.g., Pareto or polynomials) leads to similar results.[23]

Figure 1 leaves open the possibility that firms bunch only temporarily before crossing the 100-employee threshold, implying short-lived distortions from profit-sharing. To test for such *dynamic bunching*, we adapt the approach of Garbinti et al. (2023). We classify firms

[21] Since the law was signed in the last quarter of 1990, we exclude both 1990 and 1991 from this bunching analysis.

[22] To calculate the employment loss due to bunching, we consider firms in the 85-120 employee range (i.e., firms for which there is significant bunching – see Figure 1) and calculate the change in total employment for these firms if the size distribution for this range was the distribution post-reform (our counterfactual). This calculation assumes no extensive margin response to the policy removal.

[23] Appendix Figure C.2 plots the firm-size distribution compared to a Pareto distribution. Again, we see the excess mass and the missing mass in the pre-period, which disappears in the post-period. Interestingly, the Pareto coefficient is the same both in the pre- and post-periods, indicating that the firm-size distribution is stable over time.

into four groups based on their year-t employment: (1) 95–99, (2) 90–94, (3) 85–89, and (4) 80–84 employees. For each group, we defined the normalized change in headcounts, which corresponds to the three-year change relative to the increase needed to reach 100 employees:

$$\text{normalized change}_{t+3} = \underbrace{(L_{t+3} - L_t)}_{\text{headcount change}} - \underbrace{(100 - L_t)}_{\text{change needed to cross threshold}} = L_{t+3} - 100. \quad (4)$$

For each group of firms, we then build a *placebo distribution* using firms well above 100 employees, for which employment growth should be unconstrained. For example, for the 95–99 group, one placebo set is firms with 125–129 employees in t, assuming a placebo threshold at 130. Their placebo normalized change is thus defined as $L_{t+3} - 130$. More generally, for treated firms in the [95-j;99-j] range (for j= $\{0, 5, 10, 15\}$), we construct a placebo distribution using:

$$\text{normalized change}^{\text{placebo}}_{t+3} = L_{t+3} - (130 + k + j) \text{ if } L_t \in [125 + k, 129 + k] \text{ with } k \in \{0, 5, .., 25\}. \quad (5)$$

Appendix Figure C.3 reports the distribution of normalized change (i) before and after the reform, and (ii) for each group relative to their respective placebo. The figure shows that, in the pre-reform period, the 100 employee threshold significantly constrained 3-years employment growth for firms in the 85-99 range, but especially so for firms in the 95-99 range, and, to a lesser extent, those in the 90-94 range. These results suggest that the size-based nature of the French profit-sharing scheme creates persistent, rather than temporary, distortions in firm growth.

4.2 Bunching or misreporting?

The evidence in Figure 1 shows that firms perceive mandated profit-sharing as a significant cost despite its tax benefits and the possible productivity gains it may generate. This conclusion holds irrespective of whether bunching is real or due to under-reporting, as long as under-reporting is costly. The nature of the observed bunching, however, is crucial to assess whether the regulatory threshold generates employment losses. In the context of the many regulations that kick in at 50 employees, Askenazy et al. (2022) argue that bunching is mainly driven by under-reporting.

In our institutional context, under-reporting is costly to firms, and thus, we expect it to be infrequent. Firms around the 100-employee threshold have workers' councils who actively monitor the firm's true employment count since misreporting may significantly affect their income. Consulting firms offer legal assistance to workers' councils to help them verify

eligibility and calculate the RSP formula.[24] There are also examples of employees or unions suing firms for trying to misreport employment counts to avoid sharing profits.[25]

We conduct three tests to determine whether the observed bunching is real or the result of misreporting. The first test compares how firms report employment and wages in the tax files. The headcount reported in the tax file is not an accounting item, unlike the wage bill, which— for firms with more than 50 employees—must be certified by an external auditor (*Commissaire aux comptes*) and is also reported to Social Security for payroll tax purposes. Reporting is therefore likely to be more accurate for the wage bill than for employment counts. If firms understate employment to avoid profit-sharing while reporting wages truthfully, the reported wage bill per employee should spike just below the 100-employee threshold before the reform. Figure 2 groups firms into five-employee bins starting at 60 employees and reports, for each bin, the log of average labor costs (wages plus payroll taxes) per employee, with 95% confidence intervals. Panel A covers the pre-reform period (1985–1989) and Panel B the post-reform period (1992–1997). In both periods, there is no visible discontinuity in labor cost per employee around the 100-employee threshold.

Our second test uses an employment measure that is harder to manipulate. Specifically, we use the Panel DADS, which records employment from payroll tax returns and is therefore more likely to be accurately reported (Askenazy et al. (2022)).[26] Appendix Figure C.4 plots, by five-employee bins of our main employment variable, the average *difference* between that variable and the DADS employment measure. If firms under-reported employment in the accounting data relative to DADS, we would expect a negative gap just below the 100 employee threshold—that is, lower employment in the tax files than in DADS. In practice, the gap is on average positive, though small (about 1–2 employees), even just below the threshold: firms tend to report slightly higher employment in tax files than in DADS. We observe only a small, statistically insignificant drop of roughly 0.5 employee to the left of the threshold, too small to shift a firm from the 100–104 bin to the 95–99 bin. Moreover, the gap is smaller for firms in the 100–104 bin than for those in the 85–99 bin, despite the absence of incentives to under-report above the threshold. These results, in line with our first test, suggest that firms do not systematically under-report employment at the 100-employee threshold.

Our third test examines whether bunching firms differ systematically in profitability and

[24] A list of such firms can be found here (in French).

[25] See for instance the case of Bea Systems here (in French).

[26] One of the tests in Askenazy et al. (2022) compares employment counts from tax files with reconstructed figures from the exhaustive matched employer–employee dataset (DADS). We cannot replicate this test because comprehensive data are only available after 1994. This is why we use the panel version of the DADS files instead.

productivity from firms just above the threshold.[27] Appendix Figure C.5 plots the average value added per employee and profit per employee around the 100 employee threshold, separately for pre-reform years (when the eligibility threshold was 100) and post-reform years (after the threshold was decreased to 50 employees). Profit per employee—and, to a lesser extent, value added per employee—is significantly higher just below the 100-employee threshold. This pattern is consistent with more profitable firms having stronger incentives to bunch below 100 employees to avoid profit-sharing requirements.

In sum, this bunching analysis reveals that (a) despite its tax advantage and potential productivity gains, mandatory profit-sharing creates a significant net cost for firms, and (b) the patterns observed are consistent with real employment bunching, indicating that the eligibility threshold creates inefficiencies—up to a 1.67% employment loss among affected firms.

5 Firm-level Evidence

5.1 Empirical strategy

We now exploit the decrease in the regulatory threshold from 100 to 50 employees in 1991 to estimate how mandatory profit-sharing affects firms. We use a simple difference-in-difference strategy with two separate control groups. As described in Section 3, we assign a firm to the treatment group if its employment count in 1989 and 1990 is between 55 employees and 85 employees. We do not use firms closer to the 50 and 100-employee thresholds to limit the influence of bunching firms. This approach corresponds to an intent-to-treat design: Firms in the treatment group have a high chance of being subject to mandatory profit-sharing in the years following the reform since they meet the new eligibility criteria in the two years preceding the reform. However, as shown in the previous section, actual treatment status is not certain: Firms may adjust employment in the post-reform years and fall below the 50-employee eligibility threshold, in which case they would not be mandated to share profits. We then turn to the Wald estimator that rescales our reduced-form estimates by the actual probability of paying profit-sharing.

The empirical design provides two natural control groups: (a) *small control firms* are firms whose employment count in 1989 and 1990 is between 35 and 45 employees, (b) *large control firms* are firms with between 120 and 300 employees in both 1989 and 1990. Small control firms are firms with a low likelihood of being subject to mandatory profit-sharing in

[27] The pre-tax profit measure is also pre-profit-sharing, i.e., taxable income before paying profit-sharing and taxes.

both the pre- and post-reform periods. Large control firms are firms with a high likelihood of being subject to mandatory profit-sharing in both the pre- and post-reform periods.

Having two different control groups is an important aspect of our empirical strategy. France enters a recession in 1992, which lasts until the end of 1993. If large firms respond differently to the business cycle, comparing treated firms' outcomes with only one of the control groups could lead to spurious inference: what would be identified as the causal effect of the reform could be driven by the differential response of firms of different sizes to macroeconomic shocks. Our identification thus crucially relies on comparing treated firms – firms who become subject to mandatory profit-sharing after 1991 – to control firms that are either smaller or larger. In what follows, we present treatment effects relative to each of these two control groups separately, as well as relative to the two groups combined. In the Appendix, we show the robustness of our main findings to different definitions of the treatment and control status.

Figure 3 shows the actual share of firms formally subject to the regulation over time as a function of their assignment to the three different groups: treatment, small control, and large control. We confirm that actual treatment is highly, although imperfectly, correlated with treatment assignment. In 1997, 26.7% of firms in our treatment group end up having fewer than 50 employees. 14.4% of the firms in our small control group have more than 50 employees in 1997 and are thus required to share profits. Finally, about 13.7% of the firms in our large control group start in 1985 with fewer than 100 employees and are thus initially not subject to mandatory profit-sharing. Overall, our intent-to-treat variable strongly predicts actual treatment status.

Our regression analysis uses the following specification, where i is a firm, c is a county,[28] s is an industry and t is a year:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}_l\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}, \quad (6)$$

α_i corresponds to firm fixed-effects and absorbs any fixed-in-time differences across firms. δ_{ct} and μ_{st} corresponds to county-by-year and industry-by-year fixed-effects. These controls ensure our results are not driven by industry or county-level shocks that would similarly affect treated and control groups.[29] $\mathbb{1}_{\{i \in \text{Treated}\}}$ is a dummy variable equal to one if a firm has between 55 and 85 employees in 1989 and 1990. $\mathbb{1}_{\{t \geq 1991\}}$ is a dummy variable equal

[28] A county corresponds to a *département*. There are 94 *départements* in mainland France, each with an average population of about 700,000 inhabitants.

[29] Time-varying county and industry fixed-effects might absorb some variations between firms that could be leveraged to estimate the effects of profit-sharing. As a robustness check, we reproduced the main results of the paper with only time and firm fixed effects. The conclusion remained unchanged. These estimations are available upon request.

to one after 1990, the introduction of the reform. $\mathbb{1}_{\{i\in\text{Control}_l\}}$ is a dummy variable equal to one when firm i is in the control group l, with $l \in \{\text{small}, \text{large}\}$. For each regression, we separately report three estimated treatment effects corresponding to the estimated β^T when using either small firms, large firms, or both as a control group. We also trim all variables defined as ratios at the 2.5% and 97.5% level.[30]

The identifying assumption in our intent-to-treat design is a standard parallel trend assumption: in the absence of treatment, the outcome of interest (e.g., labor share, profit share, investment or productivity) for firms in the 35-45 employee group and in the 120-300 employee group would have evolved similarly to those of firms in the 55-85 employee group. In the analysis below, we systematically confirm that, prior to 1991, firms in the treatment and the two control groups follow parallel trends, indicating that firms below the 50-employee threshold (resp. above the 100 threshold) provide suitable counterfactuals for firms mandated to share profits.

We also report LATE estimators of profit-sharing on various corporate outcomes, using two-stage least squares. As discussed above, treated firm's employment can cross the 50-employee threshold in the post period. Despite this non-compliance, we can obtain a local average treatment effect (LATE) of mandatory profit-sharing by using $\mathbb{1}_{\{i\in\text{Treated}\}} \times \mathbb{1}_{\{t\geq 1991\}}$ as an instrument for the probability of sharing profits (or the amount of profits shared with employees). More precisely, we use a two-stage least-square approach where we first estimate:

$$(\mathbb{1}_{\{\text{profit-sharing}\}})_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \gamma^T \mathbb{1}_{\{i\in\text{Treated}\}} \times \mathbb{1}_{\{t\geq 1991\}} + \gamma^C \mathbb{1}_{\{i\in\text{Control}_l\}} \times \mathbb{1}_{\{t\geq 1991\}} + \eta_{icst}. \tag{7}$$

We then use the predicted value from Equation 7 and estimate:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \psi(\widehat{\mathbb{1}_{\{\text{profit-sharing}\}}})_{icst} + \nu_{icst}, \tag{8}$$

where ψ is the causal effect of profit-sharing on outcome Y for compliers, i.e., for firms in the treatment group who end up being required to share profits with their employee through the scheme. We also run specifications where the main endogenous variable is the profit-sharing–to–value-added ratio instead of the dummy for profit-sharing used in Equation 7 and 8.

In what follows, we will present regression results for various firm-level outcomes Y, using both reduced-form treatment effects (equation (6)) and TSLS estimates of the effect

[30]We use a conservative trimming rule given the skewness observed in some of the dependent variables used in our analyses. We confirm the robustness of our findings to alternative cleaning methods. Appendix Table C.1 reproduces the main results when the variables are winsorized at the 2.5% and 97.5% instead of trimmed.

of mandatory profit-sharing (equations (7–8)). We will also report graphical versions of the reduced-form regressions (as well as evidence from raw data in the Appendix).

5.2 Profit-sharing response

To document the validity of our approach, we first examine the evolution of profit-sharing in the three groups. Panel A of Figure 4 shows the share of firms reporting a strictly positive amount of profit-sharing in their income statement, by treatment status and over time. In the treated group, the share rises sharply in 1991—from about 10% before 1990 to roughly 40% thereafter. In contrast, the share in both control groups shows no change around 1990. For small control firms—those unlikely ever to be subject to the regulation—the share stays below 10% throughout, with only a slight upward trend, likely reflecting favorable late-1980s economic conditions that encouraged voluntary profit-sharing, or the intent-to-treat design (some small control firms cross the 50-employee threshold after 1990, as shown in Figure 3). Large control firms also exhibit a gradual increase in the pre-period. This is intuitive since 17% of these firms had fewer than 100 employees in 1985 but grew past the 100 employee threshold before 1989, mechanically raising their probability of sharing profits in the pre-period.

Panel B reproduces the same analysis but focuses on firms with positive "excess profits," defined according to the regulatory formula in Equation 1. Firms with negative excess profits are formally subject to the regulation but will not report profit-sharing in their income statement, as they have no profits to distribute. A caveat with this approach is that our measure of excess profits does not exactly match the regulatory definition, since some required items are missing from our dataset. In particular, the regulation is based on *fiscal* net income, while our data report *accounting* net income. These two measures can differ because of non-deductible items (e.g., certain types of compensation) and tax-loss carryforwards.[31]

With this caveat in mind, Panel B shows that, for treated firms with positive excess profits, the probability of paying profit-sharing rises from about 10% before 1990 to about 65% after 1990, once they become subject to the regulation. The fact that this share remains below 100% may reflect the intent-to-treat design, measurement error in excess profits, or imperfect compliance.[32] In contrast, neither control group experiences a sharp change in the

[31] Appendix Figure C.6 shows that our reconstructed formula is a good, though imperfect, proxy for the actual amount of profit-sharing paid. The sample includes firms with between 50 and 300 employees in 1992–1997 (post-reform, when profit-sharing is mandatory). We divide the reconstructed formula, normalized by value added, into 30 bins and plot on the Y-axis the actual average profit-sharing–to–value-added ratio. While the R^2 is high, the slope is 0.67, significantly below 1.

[32] Appendix Table C.2 indicates high compliance: among firms above the size threshold with a positive

probability of paying profit-sharing around 1990. These results confirm that the intent-to-treat design generates large changes in the propensity of treated firms to share profits with employees.

Appendix Figure C.7 further confirms the validity of our design by showing how the adoption of profit-sharing evolves over time *across the size distribution*. For each five-employee bin, we plot the average share of firms reporting profit-sharing for years before (1985-1987, 1988-1989) and after the reform (1992-1994, 1995-1997). Firms with 55–95 employees see a sharp rise—from about 10% to 40%—consistent with the time-series evidence in Figure 4. Firms below 45 or above 120 employees show no significant change.

Panel C and D of Figure 4 examine the *share* of profit-sharing in value added rather than the fraction of firms sharing profits. Panel C shows the evolution of the average ratio by treatment status, while Panel D restricts the sample to firms with positive excess profits. Among treated firms with positive excess profits, profit-sharing accounts for less than 0.2% of value added before 1990, rising to about 1% immediately after they become subject to mandated profit-sharing. No comparable change is observed in either control group. In the large control group, the ratio rises gradually in the late 1980s, mirroring the pattern in Panel A of Figure 4 for the same reason—treatment status is based on 1989–1990 employment counts.

Table 3 estimates Equation (6) to quantify the effect of the reform on the propensity to share profits with employees. In column (1), the dependent variable is a dummy equal to one when the firm reports a strictly positive amount of profit-sharing on its income statement. In column (2), the dependent variable is the ratio of profit-sharing to value added for firms with positive value added. Panel A provides the estimate of β^T relative to firms in the large control group; Panel B uses firms in the small control group as reference; Panel C uses both simultaneously. Firms in the treatment group experience a significant increase in the unconditional probability of sharing profits of 25 to 36 ppt, consistent with the graphical evidence in Figure 4.

Finally, we provide a simple sanity check of our empirical design. Treated firms with low or negative excess profits should not report any profit-sharing, even after the reform; thus, within treated firms, the ex post increase in mandated profit-sharing should be concentrated among firms with a high regulatory formula. We confirm this by estimating the following

reconstructed formula, only 3% report no profit-sharing.

triple-difference model:

$$\begin{aligned} Y_{icst} &= \gamma^T \pi_{it}.\mathbb{1}_{\{i\in\text{Treated}\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_1^T \mathbb{1}_{\{i\in\text{Treated}\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_2^T \pi_{it}.\mathbb{1}_{\{i\in\text{Treated}\}} \\ &\quad + \gamma^C \pi_{it}.\mathbb{1}_{\{i\in\text{Control}_l\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_1^C \mathbb{1}_{\{i\in\text{Control}_l\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_2^C \pi_{it}.\mathbb{1}_{\{i\in\text{Control}_l\}} \\ &\quad + \mu_1 \pi_{it}.\mathbb{1}_{\{t\geq 1991\}} + \mu_2 \pi_{it} + \alpha_i + \delta_{ct} + \mu_{st} + \epsilon_{icst}, \end{aligned} \tag{9}$$

where π_{it} is our (noisy) reconstruction of the profit-sharing formula, normalized by value added. γ^T captures the effect of becoming eligible for mandated profit-sharing in years when excess profits are large enough to trigger payments. Column (1) of Appendix Table C.3 estimates Equation 9 using the probability of reporting positive profit-sharing as the dependent variable; Column (2) uses the ratio of profit-sharing to value added. Panel A uses large firms as the control group; Panel B uses small firms. In all cases, the increase in profit-sharing among treated firms is significantly larger for those with higher ex post excess profits. Columns (7) and (8) repeat the analysis after splitting π_{it} into terciles instead and find similar results.

This exercise provides a useful validity check for our empirical design: If we observed an increase in profit-sharing even among firms with low or negative current excess profits, the design would be flawed. However, this triple-difference cannot be used directly to refine our identification of the causal effect of mandated profit-sharing on corporate behavior, since it relies on *ex post* realization of excess profits. In Section 5.5, we address this limitation by instead splitting the sample based on firms' average *pre-period* excess profits, thereby creating an ex ante measure of "exposure to the reform".

5.3 Incidence on workers and shareholders

We now look at the incidence of the reform on workers' compensation and firm owners' profits. Column (3) and (4) in Table 3 estimate Equation (6) using the wage share and the total compensation share as dependent variables. We find a precisely estimated zero effect of mandatory profit-sharing on the wage share, implying that owners do not reduce the cost of profit-sharing by lowering wages. In contrast, we find a significant increase in the total compensation share of treated firms: 0.5 percentage points relative to large control firms and 0.6 percentage points relative to small control firms. The results are robust to various definitions of the control groups. Appendix Figure C.8 reproduces the analysis using alternative control groups, including (i) more narrowly defined groups around the thresholds, (ii) groups with smaller lower-bounds and larger upper-bounds, and (iii) larger doughnut hole around the 50 and 100 thresholds. In all cases, we observe a clear non-negative effect on

wages and a positive and significant impact on total compensation.

We visually confirm the robustness of these findings–and, in particular, the absence of pre-trends–in Figure 5, where we report event-study graphs showing year-by-year treatment effects relative to each control group separately (relative to large controls on the left, relative to small controls on the right). Panel A focuses on wages, and Panel B on total compensation. The results mirror those reported in Table 3. In addition, the figure shows small and insignificant coefficients in the pre-reform period, consistent with the parallel trend assumption. We further assess the validity of our regression results using raw data in Appendix Figure C.9. Panel A plots the evolution of the wage share for firms in our sample (normalized in levels to 0 in 1990). This evolution is strikingly similar for firms in the treatment and control groups.[33] Panel B shows that, as a result, the *total* compensation share – the fraction of value added that goes to workers in the form of wages and profit-sharing – increases sharply for treated firms right after 1990. This increase in the total compensation share matches approximately the increase in the profit-sharing share observed in Panel C of Figure 4.

Who pays for this increase in the total compensation share? Column (5) in Table 3 shows that the profit share of treated firms falls by about 0.5 percentage points (resp. 0.4 percentage points) relative to large control firms (resp. small control firms). The difference between the effect on the labor share and the profit share is entirely explained by a reduction in the tax share, i.e., the ratio of the corporate-income-tax–to–value-added (Column (6) in Table 3). Since profit-sharing is deducted from the firm's taxable income, part of the increase in workers' compensation comes at the expense of the government. These findings are confirmed by the event study plots in Figure 5. Panel C focuses on the share of net income in value added, while Panel D analyzes the share of corporate tax in value added. These figures shows no evidence of differential trends before and after the reform.

Finally, for completeness, we also report raw data on the evolution of profit and tax shares relative to value added for the three groups in Appendix Figure C.10. Overall, the patterns align well, both qualitatively and quantitatively, with the regression results. We note, however, a sharp increase in the profit share from 1985 to 1990, observed across both treated and control firms. This rise likely reflects the relatively strong growth of the French economy in the late 1980s, coupled with the large reduction in the corporate income tax rate during this period.[34] After 1991, by contrast, we observe a sharp reduction in the profit share

[33] As described in Section 3, our measure of wages includes not only base wage but also bonuses and in-kind benefits, allowing us to take into account various substitution patterns with profit-sharing.

[34] The statutory corporate income tax rate is 50% in 1985, 45% in 1986 and 1987, 42% in 1988, 39% in 1989, 37% in 1990, 34% in 1991 and 1992, and 33% after 1993. This reduction applies uniformly to the firms in our three groups.

for firms in the treatment group relative to the two controls. As with employee compensation and wages, we reproduce this analysis using alternative control group definitions in Appendix Figure C.8. Again, our key takeaway remain robust to these changes.

We run several robustness checks. First, we check that endogenous attrition is not driving our results. Appendix Table C.4 restricts the sample to firms that are present every year in our sample. We focus here on columns (1)–(6), where the outcome variables are profit-sharing, wage and compensation shares, profit and tax shares. The findings on this *balanced* sample are similar to our baseline results. Firms in the treatment group do not experience a significant change in their wage share. Their total compensation share, however, increases by a significant 0.64 percentage points, while their profit share decreases by 0.36 ppt (only significant at the 10% level) and their tax share by 0.12 ppt (only significant at the 10% relative to the large control group). The balanced and unbalanced samples produce similar results in part because exit rates do not differ between our three groups (Appendix Figure C.11). In yet another robustness check, we re-define our control and treatment groups to compare firms of more similar size. Appendix Table C.5 divides the treatment group into two sub-groups and compares small control firms to small treated firms (55-69 employees) and large control firms to large treated firms (70-85 employees). Again, the results remain consistent with our main findings.

The results presented so far correspond to intent-to-treat effects. They do not measure the actual treatment effect on the treated. To better quantify the incidence of profit-sharing on base wage, Table 4 presents IV estimates from equations (7–8). In Column (1), we present OLS estimates of a regression of the wage share on a profit-sharing dummy, controlling for firm, industry-year, and county-year fixed effects. Such an OLS regression is in the spirit of the empirical literature on profit-sharing adoption reviewed in the introduction. We find that profit-sharing is associated with a large and significant (5 ppt) reduction in the wage share, suggesting a large incidence of profit-sharing on wages. IV results do, however, show that these OLS estimates are strongly biased. In column (2), we instrument the probability to share profits using our intent to treat-design (i.e., using the interaction of a treatment dummy equal to one if a firm has between 55 and 85 employees in 1989 and 1990 and a post dummy equal to one after 1990). Consistent with the reduced-form findings, the IV regression estimates a precise zero effect of profit-sharing on the wage share – a result in sharp contrast with the OLS estimate. Column (4) shows that sharing profits leads to an increase in the total compensation share of 1.79 ppt. Columns (5)-(8) repeat this analysis but use the ratio of profit-sharing–to–value-added as the main independent variable. We find that a one percentage point increase in profit-sharing relative to value added leads to an insignificant increase in the wage share and a highly significant 1.5 ppt increase in the

total compensation share. Note that we cannot reject a point estimate of 1 (i.e., a full pass-through of profit-sharing to employees). One plausible explanation for the discrepancy between OLS and IV estimates is that firms voluntarily signing profit-sharing agreements might be experiencing productivity shocks that temporarily reduce the firm's labor share (e.g., because of imperfect rent-sharing).

Appendix Table C.6 analyzes profit and tax shares and reports results consistent with analyses of wages and total compensation. While OLS results find that profit-sharing is strongly correlated with higher profit and tax shares, IV estimates show that these estimates are also biased. Using the reform as an instrument, we find that, for actually treated firms, the profit share significantly decreases by 1.37 ppt (Column 2) and the tax share by 0.4 ppt (Column 4). As a result, shareholders bear about 77% of the cost while the tax authority pays the remaining 23% through lower corporate taxes.

5.4 Real effects

Productivity. Does mandated profit-sharing raise firm productivity? As emphasized in the literature, profit-sharing may raise productivity by encouraging employees to work harder (e.g., leading to more effort, reduced sick days, or fewer strikes). This was also a motivation for the French reform: the "alignment" of shareholders' and workers' interests should result in increased productivity and possibly profits. Panel A of Figure 6 and Appendix Figure C.12 show that this is not the case. There is no evidence that treated firms' TFP (measured using Ackerberg et al. (2015)) or their Return on Assets (ROA, measured as the ratio of a firm's EBITDA–to–net-asset-value) increased after 1991 relative to firms in either control group. Table 5 confirms the absence of impact on firms' productivity using various estimation methods to measure productivity (e.g., Olley and Pakes (1996), Levinsohn and Petrin (2003), Wooldridge (2009), Ackerberg et al. (2015)). We find a precisely estimated zero effects on TFP. For instance, column (1) indicates that we can reject with 95% confidence that mandated profit-sharing increased productivity by more than 0.25%. Note that, of the outcomes we study, productivity is perhaps the one for which the external validity of our results is most limited. Voluntary profit-sharing may have more effect on productivity (workers want to reciprocate) than firm compliance with regulation (workers just take it as given and do not feel compelled to reciprocate).

Finally, we consider "softer" measures of productivity, such as sick leave days and the probability of working extra hours, as reported in the Labor Force Survey. Appendix Table C.7 shows that mandatory profit-sharing does not lead to a reduction in sick days or an increase in extra-time work. These findings suggest that mandatory profit-sharing does not

increase workers' efforts.

Investment. Panel B of Figure 6 and Appendix Figure C.13 plot, respectively, the event study estimates and the raw data on the evolution of investment by treatment group (normalized in levels to 0 in 1990). Investment is defined as the ratio of capital expenditures in tangible assets to the net value of tangible assets. Both figures reveal no discernible reduction in the investment rate after the introduction of mandated profit-sharing. In the raw data, we observe a sharp decline in investment during the 1991-1993 recession, but this downturn affected all firms simultaneously. Column (1) of Table 6 confirms that the reform had no effect on firms' investment ratio. Column (2) shows a small, negative but insignificant effect on investment when normalized by average pre-reform net tangible assets. Column (3) and (4) finds similarly a small, negative insignificant effect on capital growth, using either the log of net assets (Column (3)) or the log of net tangible assets (Column (4)) as dependent variable. Finally, column (5) finds again a small, negative, insignificant effect of mandated profit-sharing on firms' capital-labor ratio, which can also be seen graphically in Appendix Figure C.14.

This finding of a small negative investment response is consistent with the simple calibration of the model described in Section 2.2. As shown in this Section, the cost of capital of a firm subject to profit-sharing is given by:

$$R = \underbrace{\delta + \frac{r}{1-\tau}}_{\text{standard user cost}} + \underbrace{\phi(r_e - \rho)\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}}_{\text{profit-sharing distortion}}, \tag{10}$$

and a simple calibration of the profit-sharing distortion term shows that it represents a small 0.43 ppt wedge in the cost of capital, or less than 2% of the calibrated standard user cost. Given the typical semi-elasticity of investment rate to the cost of capital in the literature (Chodorow-Reich, 2025), this increase in the cost of capital should lead to a decrease in investment of .8 ppt or less, which is in line with the finding in Table 6 of a small, negative, and insignificant effect on investment.

Robustness. In columns (7) and (8) of Appendix Table C.4, we confirm the robustness of our findings on investment and productivity on the balanced sample of firms. In addition, Appendix Figure C.8 and Appendix Table C.5 show that our results are robust to various definitions of the control and treatment groups. Consistent with the small impact on productivity and investment, we find no systematic effects on firm size, measured by value added. Appendix Figure C.15 shows that treated and control firms followed the same trend in terms

of size before and after the 1990 reform.

5.5 Triple-difference analysis

After the 1991 reform, firms above 50 employees are required to share profits with their employees. Whether this requirement is binding in expectation depends on whether the firm typically generates excess profits (i.e., fiscal net income above five percent of book equity). In the data, excess-profits are highly persistent: Appendix Figure C.16 shows that, across all firms and years, there is an 80 percent chance that a firm generates positive excess-profit in year t conditional on generating excess-profits in year t-1. This persistence implies that the requirement to share profits bears more on certain firms (the ones that typically generate higher excess profits) than others. We can use this finding to further refine our identification strategy.

We define $\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}}$ as the firm-level average ratio of the reconstructed regulatory formula for profit-sharing–to–value-added, computed over the pre-reform period. Firms with a higher $\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}}$ are firms that generated larger excess profits in the pre-reform period. Since excess profits are persistent, we expect firms with a higher $\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value dded}}}$ in the treatment group to be more "exposed" to the reform. For these firms, mandated profit-sharing is more likely to lead to actual profit-sharing. We thus estimate the following triple-difference model:[35]

$$\begin{aligned} Y_{icst} \quad = \quad & \phi^T \left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}} \right)_i . \mathbb{1}_{\{i \in \text{Treated}\}} . \mathbb{1}_{\{t \geq 1991\}} + \phi^C \left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}} \right)_i . \mathbb{1}_{\{i \in \text{Control}_l\}} . \mathbb{1}_{\{t \geq 1991\}} \\ & + \xi^T \mathbb{1}_{\{i \in \text{Treated}\}} . \mathbb{1}_{\{t \geq 1991\}} + \xi^C \mathbb{1}_{\{i \in \text{Control}_l\}} . \mathbb{1}_{\{t \geq 1991\}} + \nu \left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}} \right)_i . \mathbb{1}_{\{t \geq 1991\}} \\ & + \alpha_i + \delta_{ct} + \mu_{st} + \omega_{icst} \end{aligned} \tag{11}$$

Equation 11 relies on a weaker identifying assumption than our main specification (Equation 6) since it compares, within each control and treatment group, firms with high vs. low average pre-reform excess-profits. This within-size bucket comparison further alleviates concerns that our main estimates may capture some size effects. Table 7 reports the estimates for ϕ^T and ξ^T. These results are also presented graphically in event study format in Appendix Figure C.17. The discussion below focuses on the table, but the graphical evidence conveys the same pattern. Column (1) shows that for firms with negative average excess-profits

[35] Note that the specification in Equation 11 does not include the interaction of $\left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}} \right)_i \times \mathbb{1}_{\{i \in \text{Treated}\}}$ and $\left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}} \right)_i \times \mathbb{1}_{\{i \in \text{Control}_l\}}$ since these terms are absorbed by the firm fixed-effects α_i.

pre-reform, being in the treatment group increases the probability of profit-sharing by a significant 17 ppt, which represents about half of the overall treatment effect (30 ppt in Panel C, Column (1) of Table 3). Column (1) also shows that the treatment effect is significantly larger for firms with higher average pre-reform excess profits. For a firm with an average pre-reform formula of about 1.3% of its value added, the probability of sharing profits post-reform almost doubles relative to firms with negative pre-reform excess profits. Column (2) shows even stronger effects on the amount of profit-sharing paid by firms. Columns (1) and (2) thus confirm the premise of this triple-difference analysis: Treated firms with larger pre-reform excess profits are more exposed to the policy.

Columns (3)-(6) reinforce our main findings on incidence. They show that, relative to control firms, treated firms with larger average pre-reform excess profits experience a significant increase in their total compensation share and a significant decrease in their profit and tax shares. By contrast, columns (3)-(6) do not show any significant effect for treated firms with negative average pre-reform excess profits. Columns (7) and (8) further support the findings from Section 5.4 as they reveal no significant effects on investment or TFP, even for treated firms more heavily exposed to the reform. Appendix Table C.8 estimates a similar triple-difference equation but replaces the continuous variable $\left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}}\right)$ with a dummy variable equal to one if $\left(\overline{\frac{\text{Formula}_{\text{pre}}}{\text{Value added}}}\right)$ is above its in-sample median value. The results are qualitatively similar.

5.6 Avoidance

As profit-sharing entails a net cost for firm owners, we might expect firms to attempt to avoid it. Avoidance can occur along two main dimensions: the *extensive* and the *intensive* margins.

First, consistently with our economic framework, we find evidence of avoidance at the *extensive margin*: All things equal, firms prefer not to share profits. As we discussed in Section 4, firms reduced their employment below the regulatory threshold (100 employees) before 1991 so that they were no longer mandated to share profits. Figure 7 shows that this is also the case around the 50-employee threshold, after the reform. This figure plots the probability that the firm's employment in t+1 is strictly below the 50-employee cutoff as a function of employment in year t. Panel A focuses on the period around the reform. The gray diamonds correspond to t=1989, so t+1 is the last year before the reform. The dark circles correspond to t=1990, so firms with more than 50 employees in t+1 now have to share profits. Firms around the 50-employee threshold (i.e., between 46 and 57 employees) become significantly more likely to either go below or remain below the threshold once the

regulation starts to kick in at 50 employees. There is thus evidence of significant avoidance of the profit-sharing regulation at the extensive margin. It remains, however, a "local" phenomenon: there is no significant increase in the probability of going below / remaining below the threshold for firms with more than 57 employees or less than 45 employees. Panel B reproduces this exercise on the pre-treatment period and, as expected, finds no effect of this alternative "placebo" treatment. The absence of an effect in 1988 and 1989 also suggests little anticipation by firms prior to the reform.[36]

Second, we find no evidence of avoidance at the *intensive margin*, i.e., firms intentionally reducing excess-profits. While this empirical result may appear surprising, it is consistent with our economic framework, which predicts limited distortions conditional on being subject to profit-sharing (provided the cost of equity is not far from 5%). It may also reflect that workers have strong incentives to monitor profit reporting, since any diversion of cash flows in this context directly reduces their total compensation (see the discussion in Section 2.3). Panel A of Figure 8 plots the average realized (reconstructed) regulatory formula as a share of value added for firms in each group. If firms engage in avoidance, we would expect a significant decline in the regulatory formula for treated firms after 1991. Instead, the evolution is similar across groups over time. Panel B shows the evolution (normalized in levels to 0 in 1990) of the probability that the regulatory formula is positive (and thus that firms are required to share some of their profits). Consistent with Panel A, we do not see any evidence of changes suggestive of avoidance. Appendix Table C.9 confirms these results using our regression framework. Overall, our analysis indicates that entrepreneurs did not evade the regulation by reducing or underreporting excess profits. Instead, avoidance appears confined to the extensive margin, with firms remaining just below the regulatory thresholds.

6 Employee-Level Evidence

6.1 Effects of profit-sharing on employee-level wages

In the last part of the paper, we exploit worker-level data to investigate how mandated profit-sharing affects workers of different skills. We start by reproducing our estimates of the effect of the regulation on employees' compensation using worker-level data.

The matched employer-employee data do not report the amount of profit-sharing received by individual workers, so we impute it. We merge employee-level data with accounting data

[36]It is worth mentioning that there was already significant bunching around the 50-employee threshold before the 1990 reform due to other regulations (see Garicano et al. (2016) and Aghion et al. (2021)). This implies a large drop in the probability of having fewer than 50 employees in t+1 for firms of size 50 versus 49, both before and after the implementation of mandatory profit-sharing.

(which report aggregate profit-sharing). We then assume that individual profit-sharing is paid proportionally to the employee's wage up to a cap determined by law. Formally, we use the following formula:

$$\text{Profit-sharing to employee i in firm j} = \min\left(\min\left(\frac{\text{wage}_i}{\text{wage bill}_j}, \frac{\text{cap}_1}{\text{wage bill}_j}\right) \times \text{RSP}_j, \text{cap}_2\right)$$

The firm's wage bill and employee's wage are reported in the DADS, the total amount of profit-sharing paid to employees (RSP_j) is reported in the tax file. The formula above accounts for the fact that (a) the share of profit-sharing that accrues to any given employee is capped by the law (cap_1) and (b) the total euro amount of profit-sharing an employee can earn in a given year is also capped (cap_2).

Our imputation method is justified by the practice of profit-sharing, which, most of the time, is paid in proportion to wages (DARES (2008)).[37] We also statistically verify that our imputation method is sensible using employee-level data on profit-sharing payout for 2005. The ECMOSS survey provides employee-level information on wages and profit-sharing payouts for 120,103 employees in 10,997 firms. In Appendix Figure C.18, we show the regression result of the *individual* profit-sharing-to-wage ratio on the *firm-level* total profit-sharing payouts-to-total wages ratio (what we use for imputation). We restrict ourselves to firms with more than 12 employees. We find a slope coefficient of 1 and an R^2 of 85%, vindicating our imputation method.

Using this imputation, Table 8 replicates the firm-level incidence analysis of Section 5 with employee-level data, allowing us to control for worker characteristics. We begin with the *firm* sample from Section 5 and use the same treatment assignment: treated if firm employment was between 55–85 in both 1989 and 1990; small control group if between 35–45; and large control group if between 120–300. We then merge this sample with the employer–employee dataset, which provides wages and characteristics for a $1/25^{th}$ random sample of each firm's employees. Finally, we estimate the following intent to treat equation using OLS:

$$Y_{jicst} = \alpha_i + \phi_j + \zeta X_{jt} + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst} \quad (12)$$

j index employees, i the firm they work for, c the county where they are employed, s the industry of their establishment and t the year of observation. In Columns (1) and (5), we include α_i (firm fixed-effects), δ_{ct} (county-by-year fixed-effects), and μ_{st} (industry-by-year

[37] In 2008, 37% of employees received profit-sharing proportionally to their wage, 5% proportionally to their tenure in the firm, 3% uniformly, and finally 54% of employees received profit-sharing based on a formula including mostly a proportional component.

fixed-effects). In columns (2) and (6), we add employee-level controls X_{jt}: gender, age, age^2, tenure, tenure^2, experience, experience^2, and the employee's 2-digit occupation code. In columns (3) and (7), we include employee fixed-effects ϕ_j but do not include employee-level controls. Columns (4) and (8) include all controls. Columns (1)-(4) use log-daily gross wage as the dependent variable; columns (5)-(8) use log-daily total compensation (the sum of gross wage and profit-sharing).

Consistent with the firm-level analysis, we find a null effect on daily gross wages and a positive, statistically significant effect on total compensation in all four specifications. Relative to the large control group, employees working for firms in the treatment group experience an increase in their total compensation of about 1.3% to 1.5%, depending on the control variables included. The effect is smaller and less precisely estimated when estimated against the small control group (about 0.7%-0.8%). We therefore confirm with employee-level data that the wage incidence of mandated profit-sharing is, on average, zero.

Interestingly, estimates with and without individual-level controls tend to be very similar. Appendix Table C.10 displays the evolution of workers' characteristics, such as age, experience, and occupation, for the three groups of firms. Overall, we do not find evidence of a change in workers' observable characteristics in firms sharing their profits after the reform. We conclude that the increase in workers' total compensation found in Section 5 is not the result of a change in workforce composition. This confirms that profit-sharing had little incidence on base wage.

6.2 Profit-sharing and employee risk exposure

One potential explanation for our finding that mandatory profit-sharing does not affect wages is that profit-sharing might have low value for risk-averse workers. However, the data suggest this explanation is unlikely: Profit-sharing introduces little additional risk to workers' total compensation. To assess this more formally, we proceed in two steps.

First, we examine the extent to which profit-sharing contributes to labor income volatility over time. We construct a panel of workers employed in large firms (more than 100 employees) in 1989, who were thus exposed to mandatory profit-sharing. We estimate that the standard deviation of the growth of total compensation is, on average, 1.9% higher than for wages. This modest increase in volatility reflects two factors. First, profit-sharing represents a small fraction of total compensation–around 4% on average–so even if profits are significantly more volatile than wages, it has limited impact on overall income risk. Second, profit-sharing is persistent over time: As already shown in Figure C.16, 80% of firms with excess profits in year $t-1$ also report excess profits in year t.

Second, we assess how much workers actually value profit-sharing. Because our regressions use log compensation as the dependent variable and find a positive effect of mandatory profit-sharing, the results imply a utility gain for workers under a standard Constant Relative Risk Aversion (CRRA) utility function with relative risk aversion (RRA) of 1. In this case, log compensation directly maps to utility, so the increase in expected income outweighs the added risk. To quantify this, we estimate the average certainty equivalent of mandated profit-sharing in our sample, assuming a CRRA utility function. Appendix B describes the methodology, and Appendix Table C.11 reports the ratio of the estimated certainty equivalent to the actual average amount of profit-sharing received by workers, across different values of relative risk aversion. In a simple log specification (RRA=1), one euro of profit-sharing is worth 89 cents. Said differently, workers would be ready to pay 11 cents per euro of profit-sharing to eliminate risk. Even under a high RRA of 5, the value remains substantial: One euro of profit-sharing is still worth 62 cents.

Overall, these results suggest that the additional risk introduced by profit-sharing is modest and does not materially reduce its value to workers. This reinforces our conclusion that risk considerations cannot explain the lack of wage incidence from mandatory profit-sharing.

6.3 Heterogeneity analysis

Another interpretation for the low incidence of mandated profit-sharing on wages is that firms might have a hard time reducing wages (or slowing down their increase). This is especially relevant in France, where the minimum wage is high and binding and where about 98% of workers are covered by collective agreements (OECD and AIAS (2021)). These institutions considerably limit the ability of firms to reduce wages or wage growth for low and middle-skilled workers (Avouyi-Dovi et al. (2013), Fougère et al. (2018), Gautier et al. (2022)). At the same time, there is more flexibility for high-skill white collars (the "cadres").[38] To test this hypothesis, we compare how higher and lower-skill workers are affected by mandated profit-sharing.[39]

We split employees into three categories based on their occupation, available in the employer-employee data: (a) Low Skill (clerks and blue-collar workers) – our reference group, (b) Intermediate Skill (supervisor or skilled technicians), and (c) High Skill (managers, en-

[38]Contrary to other workers, the "cadres" are not paid by the hour. They typically have more autonomy and responsibility in their work. As a result, there is also more flexibility in their compensation.

[39]We use occupations, rather than alternative measures based on wages, for two main reasons. First, occupations in France are hierarchical and persistent over time, providing a good proxy for wages without relying directly on the outcome of interest. Second, collective agreement rely heavily on occupations, rather than wages, to determine wage floors.

gineers, and executives). We augment Equation 12 by interacting the Treatment and Post dummies with the High Skill and Intermediate Skill dummies. Table 9 reports the baseline treatment effect (Treatment x Post) and the triple interactions. Columns (1) and (4) reproduce the average results for the entire workforce (and are thus identical to Table 8, Columns (1) and (5)). In Columns (2) and (4), we estimate the effect by skill group using only firm, industry-year, and county-year fixed effects. In Columns (3) and (6), we add time-varying employee-level controls (gender, age, age^2, tenure, tenure^2, experience, experience^2).[40]

Table 9 shows that mandated profit-sharing does not increase the total compensation of high-skill workers. Relative to low-skill workers in large control firms, the base wage of high-skill workers in treated firms decreases significantly by 2.5% once their employers become subject to profit-sharing requirements (columns (2)-(3), Panel C). Estimates using small control firms are less precise but yield effects of similar magnitude. Overall, both control groups yield estimates of similar magnitude.[41]

As a result of this adjustment to their base wage, the total compensation of high-skill workers in treated firms does not increase following the introduction of mandatory profit-sharing (columns (5)-(6)). In contrast, we find that the increase in total compensation induced by mandated profit-sharing is concentrated among low- and intermediate-skill workers.

The estimates in Table 9 correspond to intent-to-treat effects. We report TSLS estimates (i.e. estimates of the effect of profit-sharing instrumented by our policy shock) in Table 10. To benchmark our results, we report in Columns (1) and (4) OLS estimates of profit-sharing on average wages and total compensation. This specification corresponds to standard cross-sectional regressions implemented in the literature on profit-sharing. Columns (2) and (5) present LATE estimates for the whole population (irrespective of skills). Profit-sharing does not affect wages, but increases total compensation by a highly significant 3.5%.

We finally explore the LATE estimates by skill level in columns (3) and (6). We find that the response of wages to profit-sharing is negative for high-skill workers but zero for low-skill ones. As a result, the effect on total compensation is strongly positive for low and medium-skill workers but not statistically different from zero for the average high-skill

[40]We control for a rich set of covariates to account for individual heterogeneity instead of using a worker fixed effect. Given the somewhat limited size of the sample, there are relatively few moves across firms, making it difficult to estimate a standard two-way fixed effect model. Keeping this caveat in mind, including a worker fixed effect yields qualitatively similar results, albeit estimated with less precision.

[41]Interestingly, Fuest et al. (2018) find that wages respond significantly to the corporate income tax in Germany, whereas our empirical analysis finds no incidence of profit-sharing on wages. While these results may appear contradictory, they likely reflect the differences in labor market institutions between the two countries. Wage rigidity is pervasive in the French labor market (e.g., see Gautier et al. (2022) or Fougère et al. (2018)), which is also characterized by a high binding minimum wage. In France, the share of workers covered by collective agreements exceeds 95%, whereas it is approximately 50% in Germany (OECD economic indicators).

worker. In Appendix Table C.12, we explore robustness of this finding using a continuous transformation of profit-sharing instead of a dummy (we use a square root transformation to accommodate zeros). This alternative specification provides qualitatively similar results.

Overall, the results in this section depict a consistent picture: (a) on average, workers' base wages remain unchanged when their firm becomes subject to mandatory profit-sharing; (b) total compensation increases; (c) the resulting increase in earnings volatility is small; and (d) these effects are concentrated among low- and medium-skill workers, while higher-skill workers benefit significantly less from mandated profit-sharing. One possible interpretation is that wage rigidity at the lower end of the skill distribution limits firms' ability to substitute between wages and profit-sharing, making the French mandatory profit-sharing scheme more progressive within firms.

6.4 Discussion of long-run effects

Previous sections have focused on the short and medium-run effects of profit-sharing on workers and firms. Our Intent-to-Treat methodology is not well suited to evaluate the very long-run effects of profit-sharing. Over time, some large firms are going to shrink and cross back the 50 threshold, while some small firms will grow and become mandated to share profits. To get a sense of the long-run effects of profit-sharing, we study the distribution of wages around the 100-employee threshold before the 1990 reform (i.e., about 20 years after the implementation of the mandatory profit-sharing scheme in France). If the reform led to a gradual substitution between profit-sharing and base wage, we should observe a dip in the average wage paid by firms above the 100-employee threshold. Panel A of Figure 9 displays the average base wage for the pre-reform period (1985-1989), while Panel B focuses on the post-reform period (1992-1997). Starting with Panel A, we do not observe any jump in base wages around the 100-employee threshold. Wages are smooth around the threshold both before and after the reform. In contrast, total compensation is higher on the right-hand side of the threshold as firms are mandated to pay some profit-sharing (Panel C). The gap decreases after the reform as all firms became mandated to share profits (Panel D).

These findings suggest that, even in the long run, mandatory profit-sharing might increase workers' total compensation. This result is, of course, somewhat speculative: Productivity could affect the average wage paid to workers across the size distribution. However, while productivity should create a positive correlation between wages and firm size, the fact that total compensation jumps at the 100-employee threshold seems more consistent with an effect generated by mandatory profit-sharing, the only regulation that kicks in at 100 employees. It is also important to note that the observed increase in total compensation right of the 100

employee threshold is likely a lower bound: We showed in Section 4 that the most profitable firms were sorting on the left-hand side of the 100 employee threshold, which should lead to higher compensation *left of the 100 employee threshold* in the presence of rent-sharing within firms. Finally, note that Figure 9 uses worker-level data to compute wages and total compensation. As a result, under-reporting of employment at the firm level does not affect our measures of income (as opposed to measures of average wages obtained by dividing the firm's wage bill by its employment count). Overall, these results suggest that, in the long run, profit-sharing may have a limited incidence on base wage and a positive effect on worker's total compensation.

7 Conclusion

This paper evaluates the economic effects of a large mandated profit-sharing scheme in France on workers and firms. This scheme requires all firms above a certain size threshold to pay about one-fourth of their excess profits (net income in excess of 5% of book equity) to their employees, proportionally to their wages. We identify the effects of the scheme by exploiting a 1991 reform that reduced the requirement threshold from 100 employees to 50 employees. Our empirical analysis uncovers several important findings.

At the firm level, we find that the total compensation share (wage bill plus profit-sharing over value added) increases by about 1.8 percentage points and that more than 3/4 of this increase in labor cost is borne by firm owners through reduced profits. This increase in total compensation at the firm level conceals some heterogeneity. Using worker-level data, we show that high-skill workers (managers, engineers, executives) do experience a reduction in fixed wages that matches the average profit-sharing they receive through the scheme. In contrast, lower-skill workers fully benefit from firms' requirement to share profits with no incidence on their base wage. A possible interpretation is that lower-skill workers' wages exhibit significant rigidity, which is especially plausible in an economy with extended collective agreements and a binding minimum wage. Overall, mandated profit-sharing, despite its tax advantages, represents a net cost for firm owners, a finding we confirm by showing significant bunching below the 100-employee threshold prior to 1991.

We also exploit this setting to analyze the real effects of profit-sharing. We find that, despite its large magnitude for firm owners – about 10.5% of pre-tax income for firms with positive excess profits – mandated profit-sharing has a very limited effect on firms' productivity and investment. Overall, our analysis suggests that mandated profit-sharing is essentially a redistributive tool, which acts as a non-distortive tax on owners directly paid to employees, particularly lower-skilled, in the same firms.

A. Tables

TABLE 1: Summary statistics: firm-level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Mean	SD	P5	P10	P25	P50	P75	P90	P95
Employment	88	63	30	35	40	63	128	191	225
Sales	8,494.3	8,785.9	1,236.7	1,582.7	2,569.4	5,294.6	11,061.4	19,749.0	27,725.9
Value added	2,345.7	1,974.5	534.8	672.1	963.8	1,574.0	3,136.5	5,265.1	6,709.1
Formula	24.1	41.9	0.0	0.0	0.0	4.4	29.3	76.5	118.5
Profit-sharing	13.7	34.8	0.0	0.0	0.0	0.0	0.0	52.0	93.8
Wage bill	1,300.8	1,000.1	367.4	428.5	575.6	900.8	1,769.3	2,858.7	3,480.0
Tot. compensation	1,320.4	1,026.7	367.7	429.1	576.7	907.5	1,799.2	2,915.9	3,562.0
Profit-sharing / Value added	0.003	0.007	0	0	0	0	0	0.015	0.022
Wages / Value added	0.577	0.113	0.387	0.431	0.504	0.576	0.647	0.71	0.763
Tot. compensation / Value added	0.581	0.111	0.398	0.441	0.511	0.579	0.649	0.712	0.764
Profit / Value added	0.047	0.109	-0.134	-0.048	0.006	0.04	0.099	0.173	0.225
Taxes / Value added	0.034	0.041	0	0	0.002	0.018	0.054	0.097	0.125
Investment rate	0.13	0.22	-0.22	-0.09	0.01	0.1	0.25	0.42	0.52
value added / Employment	26.8	10.2	14.3	16.3	20.0	24.7	31.3	40.6	47.9
Sales / Employment	99.9	75.8	28.2	34.1	47.1	71.0	131.0	211.4	254.6
Firms with excess-profits	0.65								
Firms paying some profit-sharing	0.26								
Number of unique firms	11,374								

	Manufacturing	Construction	Retail	Services	Agriculture
Share	0.45	0.12	0.18	0.24	0.05

Note: This table provides summary statistics of the main firm-level characteristics computed using firms financial statements over the period 1985-1997. Sales, value added, formula, profit-sharing, wages and total compensation are expressed in thousands of Euros (in 1984 value). Total compensation is defined as the sum of the wage bill plus profit-sharing. Taxes stands for corporate income taxes. Formula corresponds to the minimal amount of profit-sharing that should be paid by firms subject to mandatory profit-sharing according to the rule defined by the law. Investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. All ratios are trimmed at the 2.5% and 97.5% percentiles.
Go back to main text

TABLE 2: Summary statistics: worker-level

	Male	Blue-collars	Clerks	Supervisors	Managers	Executives
Share	0.68	0.55	0.19	0.18	0.08	0.01

	Mean	SD	P5	P10	P25	P50	P75	P90	P95
Gross wage (daily)	39.5	17.6	22.9	24.4	27.8	33.9	44.6	62.3	77.8
Tot. compensation (daily)	40.1	18	23.2	24.7	28.2	34.5	45.3	63.6	79.2
Years of experience	15.7	11.5	1.1	2.5	6.1	13.3	23.6	33.5	38
Tenure	6.4	8.8	0	0	0.2	2.9	8.5	18	26.8
Age	36	11	21	23	27	35	44	52	56
Unique workers	128,824								
Observations	449,936								

Note: This table provides summary statistics of the main worker-level characteristics computed using the linked employer-employee data over the period 1985-1997. Gross wage and total compensation are expressed in Euros (in 1984 value). Total compensation is defined as the sum of base wage plus profit-sharing. Profit-sharing is imputed proportionally to the wage using firms' financial statements (see Section 6 for more details). Daily wage and daily total compensation are trimmed at the 2.5% and 97.5% percentiles. Go back to main text

TABLE 3: Effects of profit-sharing on workers' compensation and shareholders' profits

	(1)	(2)	(3)	(4)	(5)	(6)
	$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	$\frac{\text{Profit-sharing}}{\text{Value added}}$	$\frac{\text{Wage}}{\text{Value added}}$	$\frac{\text{Tot. compensation}}{\text{Value added}}$	$\frac{\text{Profits}}{\text{Value added}}$	$\frac{\text{Taxes}}{\text{Value added}}$
Panel A: Relative to large control						
Treatment x Post	0.3638***	0.0047***	0.0011	0.0054***	-0.0053***	-0.0014*
	(0.0096)	(0.0002)	(0.0019)	(0.0018)	(0.0020)	(0.0007)
Panel B: Relative to small control						
Treatment x Post	0.2540***	0.0035***	0.0020	0.0059***	-0.0036**	-0.0013*
	(0.0073)	(0.0001)	(0.0018)	(0.0017)	(0.0018)	(0.0007)
Panel C: Relative to both groups						
Treatment x Post	0.3043***	0.0040***	0.0016	0.0057***	-0.0044***	-0.0013**
	(0.0075)	(0.0001)	(0.0016)	(0.0015)	(0.0017)	(0.0006)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.53	0.50	0.57	0.56	0.35	0.55
Observations	132,589	127,667	123,557	123,542	124,374	124,404

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing at the firm level. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{Value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{Value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{Value added}}$ is the ratio of firms' corporate income taxe to its value added. All the ratios are defined only for firms with positive value added. Treatment is a dummy variable equal to one if a firm has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE 4: Semi-elasticity of wages and total compensation to profit-sharing at the firm level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$\frac{\text{Wage}}{\text{Value added}}$		$\frac{\text{Tot. compensation}}{\text{Value added}}$		$\frac{\text{Wage}}{\text{Value added}}$		$\frac{\text{Tot. compensation}}{\text{Value added}}$	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Panel A: Profit-Sharing Dummy								
$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	-0.0534***	0.0050	-0.0401***	0.0179***				
	(0.0009)	(0.0050)	(0.0009)	(0.0049)				
Panel B: Profit-sharing–to–value-added ratio								
$\frac{\text{Profit-sharing}}{\text{Value added}}$					-3.3884***	0.6129	-2.4510***	1.5095***
					(0.0529)	(0.3857)	(0.0524)	(0.3816)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cragg-Donald F stat.		7,277		7,319		3,971		3,995
Kleibergen-Paap F stat.		1,683		1,687		975		976
Observations	123,538	123,538	123,542	123,542	120,562	120,562	120,461	120,461

Note: This table provides the semi-elasticity of the wage share (respectively the total compensation share) to profit-sharing at the firm level. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Profit-sharing}}{\text{Value added}}$ is the ratio between the amount of profit-sharing paid by a firm and its value added. Column (1), (3), (5) and (7) use OLS estimations. Column (2), (4), (6) and (8) instrument profit-sharing using the interaction between a Treatment dummy, equal to one if the firm has between 55 and 85 employees in 1989 and 1990, and a Post dummy equal to one after 1990. The semi-elasticity is estimated using a two-stage least squares procedure. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE 5: Effects on firms' TFP

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Levinsohn-Petrin	Ackerberg-Caves-Frazer	Olley-Pakes	Olley-Pakes (ACF correction)	Wooldridge (2009)	Levinsohn-Petrin (wage)	Levinsohn-Petrin (ACF correction)	Ackerberg-Caves-Frazer (wage)
Panel A: Relative to large control								
Treatment x Post	-0.0076	-0.0058	-0.0087*	-0.0068	-0.0088*	-0.0060	-0.0031	-0.0049
	(0.0051)	(0.0048)	(0.0047)	(0.0043)	(0.0051)	(0.0047)	(0.0104)	(0.0062)
Panel B: Relative to small control								
Treatment x Post	-0.0037	-0.0023	-0.0034	-0.0013	-0.0042	-0.0039	0.0003	0.0003
	(0.0045)	(0.0043)	(0.0043)	(0.0040)	(0.0046)	(0.0043)	(0.0093)	(0.0061)
Panel C: Relative to both groups								
Treatment x Post	-0.0055	-0.0039	-0.0058	-0.0038	-0.0063	-0.0048	-0.0012	-0.0020
	(0.0041)	(0.0039)	(0.0039)	(0.0036)	(0.0042)	(0.0039)	(0.0085)	(0.0054)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.94	0.86	0.90	0.82	0.95	0.97	0.77	0.98
Observations	122,152	122,180	122,198	122,195	122,168	122,206	106,788	122,212

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing on various definitions of total factor productivity (TFP) at the firm level. Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. It is estimated using: Levinsohn and Petrin (2003) methodology (column (1)), Ackerberg et al. (2015) methodology (column (2)), Olley and Pakes (1996) methodology (column (3)), Olley and Pakes (1996) methodology with Ackerberg et al. (2015) correction (column (4)), Wooldridge (2009) methodology (column (5)), Levinsohn and Petrin (2003) methodology using the wage bill as a free input instead of employment (column (6)), Levinsohn and Petrin (2003) methodology with Ackerberg et al. (2015) correction (column (7)), and Ackerberg et al. (2015) methodology using the wage bill as a free input instead of employment (column (8)). Treatment is a dummy variable equal to one if firms have between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE 6: Effects on firms' investment

	(1)	(2)	(3)	(4)	(5)
	Investment Rate	$\frac{\text{Investment}}{\text{Capital}_{pre}}$	Capital (log)	Tangible Capital (log)	$\log(\frac{\text{Capital}}{\text{Labor}})$
Panel A: Relative to large control					
Treatment x Post	0.0057	-0.0111**	0.0021	-0.0278*	-0.0131
	(0.0036)	(0.0046)	(0.0106)	(0.0160)	(0.0080)
Panel B: Relative to small control					
Treatment x Post	-0.0045	-0.0009	-0.0245**	-0.0054	-0.0060
	(0.0035)	(0.0044)	(0.0097)	(0.0151)	(0.0075)
Panel C: Relative to both groups					
Treatment x Post	0.0002	-0.0055	-0.0126	-0.0153	-0.0092
	(0.0030)	(0.0039)	(0.0087)	(0.0134)	(0.0067)
Firm FE	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.16	0.15	0.91	0.85	0.88
Observations	123,813	125,654	125,933	125,931	124,481

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing on investment at the firm level. The investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. Column (2) normalizes capital expenditures by the average of the net value of tangible assests computed over the pre-policy period. Colums (3) and (4) provides the results for the log of the net value of total assets and of tangible assets respectively. Finally, the capital-labor ratio is the log of net total assets divided by employment. Treatment is a dummy variable equal to one if a firm has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE 7: Heterogenous effect on exposed firms

	(1) $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	(2) $\frac{\text{Profit-sharing}}{\text{Value added}}$	(3) $\frac{\text{Wage}}{\text{Value added}}$	(4) $\frac{\text{Tot. compensation}}{\text{Value added}}$	(5) $\frac{\text{Profits}}{\text{Value added}}$	(6) $\frac{\text{Taxes}}{\text{Value added}}$	(7) Investment Rate	(8) TFP Ackerberg-Caves-Frazer
Panel A: Relative to large control								
Treatment x Post	0.1920***	-0.0001	0.0009	0.0006	0.0012	0.0007	0.0018	-0.0019
	(0.0127)	(0.0002)	(0.0028)	(0.0027)	(0.0031)	(0.0008)	(0.0053)	(0.0071)
Treatment x Post x $\frac{\overline{\text{Formula}_{pre}}}{\text{Value added}}$	17.0863***	0.4995***	0.0089	0.4867**	-0.6436***	-0.2207***	0.3701	-0.4197
	(0.9637)	(0.0217)	(0.2058)	(0.1937)	(0.2208)	(0.0778)	(0.3598)	(0.5113)
Panel B: Relative to small control								
Treatment x Post	0.1594***	0.0014***	0.0023	0.0035	0.0001	-0.0006	-0.0078	0.0004
	(0.0094)	(0.0001)	(0.0026)	(0.0026)	(0.0028)	(0.0008)	(0.0053)	(0.0064)
Treatment x Post x $\frac{\overline{\text{Formula}_{pre}}}{\text{Value added}}$	9.3335***	0.2172***	0.0306	0.2894	-0.4094**	-0.1554**	0.2762	-0.4546
	(0.7733)	(0.0162)	(0.2024)	(0.1961)	(0.2088)	(0.0771)	(0.3553)	(0.4773)
Panel C: Relative to both groups								
Treatment x Post	0.1744***	0.0007***	0.0017	0.0021	0.0006	0.0000	-0.0032	-0.0006
	(0.0098)	(0.0002)	(0.0023)	(0.0023)	(0.0025)	(0.0007)	(0.0046)	(0.0057)
Treatment x Post x $\frac{\overline{\text{Formula}_{pre}}}{\text{Value added}}$	12.7748***	0.3328***	0.0232	0.3823**	-0.5167***	-0.1870***	0.3071	-0.4363
	(0.7865)	(0.0170)	(0.1772)	(0.1689)	(0.1870)	(0.0666)	(0.3118)	(0.4215)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.54	0.51	0.57	0.57	0.35	0.58	0.16	0.87
Observations	132,360	127,597	123,482	123,469	124,301	124,343	123,605	122,087

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing at the firm level, for different levels of *ex-ante* exposure to the reform. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{Value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{Value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{Value added}}$ is the ratio of firms' corporate income taxe to its value added. All ratios are defined only for firms with positive value added. The investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. TFP stands for "Total Factor Productivity". It is computed using the method designed by Ackerberg et al. (2015). Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. Treatment is a dummy variable equal to one if a firm has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. $\frac{\overline{\text{Formula}_{pre}}}{\text{Value added}}$ corresponds to the average pre-reform ratio of the firm-level profit-sharing formula normalized by its value added. We estimate the following equation using OLS:

$$
\begin{aligned}
Y_{icst} \quad = \quad & \phi^T \left(\frac{\overline{\text{Formula}_{\text{pre}}}}{\text{Value added}} \right)_i \cdot \mathbb{1}_{\{i \in \text{Treated}\}} \cdot \mathbb{1}_{\{t \geq 1991\}} + \phi^C \left(\frac{\overline{\text{Formula}_{\text{pre}}}}{\text{Value added}} \right)_i \cdot \mathbb{1}_{\{i \in \text{Control}_l\}} \cdot \mathbb{1}_{\{t \geq 1991\}} \\
& + \xi^T \mathbb{1}_{\{i \in \text{Treated}\}} \cdot \mathbb{1}_{\{t \geq 1991\}} + \xi^C \mathbb{1}_{\{i \in \text{Control}_l\}} \cdot \mathbb{1}_{\{t \geq 1991\}} + \nu \left(\frac{\overline{\text{Formula}_{\text{pre}}}}{\text{value added}} \right)_i \cdot \mathbb{1}_{\{t \geq 1991\}} \\
& + \alpha_i + \delta_{ct} + \mu_{st} + \omega_{icst}
\end{aligned}
$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports ξ^T and ϕ^T when the large control is the reference group. Panel B reports ξ^T and ϕ^T when the small control is the reference group. Panel C reports ξ^T and ϕ^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE 8: Effects on wage and total compensation at the employee level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	log(wage)				log(total compensation)			
Panel A: Relative to large control								
Treatment x Post	0.0028	0.0037	0.0043	0.0044	0.0126***	0.0140***	0.0153***	0.0154***
	(0.0037)	(0.0028)	(0.0031)	(0.0029)	(0.0037)	(0.0029)	(0.0033)	(0.0031)
Panel B: Relative to small control								
Treatment x Post	-0.0005	-0.0016	-0.0013	-0.0021	0.0082*	0.0075**	0.0081*	0.0072*
	(0.0048)	(0.0036)	(0.0041)	(0.0038)	(0.0048)	(0.0037)	(0.0042)	(0.0039)
Panel C: Relative to both groups								
Treatment x Post	0.0022	0.0026	0.0031	0.0030	0.0117***	0.0126***	0.0138***	0.0137***
	(0.0035)	(0.0027)	(0.0030)	(0.0028)	(0.0035)	(0.0028)	(0.0031)	(0.0029)
Employee controls	No	Yes	No	Yes	No	Yes	No	Yes
Employee FE	No	No	Yes	Yes	No	No	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.32	0.63	0.84	0.85	0.32	0.63	0.84	0.84
Observations	436,970	436,335	383,305	382,695	436,820	436,186	383,157	382,548

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing on workers compensation at the employee level. Wage is the employee's daily gross wage. Total compensation is the sum of the employee's daily gross wage and the daily amount of profit-sharing received during the year. Treatment is a dummy variable equal to one if the firm the employee works for has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{jicst} = \alpha_i + \phi_j + \zeta X_{jt} + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, ϕ_j to employee fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. The employee-level controls X_{jt} include: gender, age, age^2, tenure, tenure^2, experience, experience^2, and the employee's 2-digit occupation. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees. The small control group consists of firms with between 35 and 45 employees. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE 9: Effects on employee wage and total compensation: low vs. high skill

	(1)	(2)	(3)	(4)	(5)	(6)
		log(wage)			log(total compensation)	
Panel A: Relative to large control						
Treatment x Post	0.0028	0.0049	0.0065**	0.0126***	0.0152***	0.0169***
	(0.0037)	(0.0032)	(0.0029)	(0.0037)	(0.0033)	(0.0030)
Treatment x Post x Intermediate Skill		-0.0020	-0.0041		-0.0020	-0.0042
		(0.0085)	(0.0077)		(0.0086)	(0.0078)
Treatment x Post x High-Skill		-0.0261*	-0.0276**		-0.0304**	-0.0310**
		(0.0152)	(0.0138)		(0.0153)	(0.0139)
Panel B: Relative to small control						
Treatment x Post	-0.0005	-0.0052	-0.0022	0.0082*	0.0046	0.0076*
	(0.0048)	(0.0044)	(0.0039)	(0.0048)	(0.0045)	(0.0040)
Treatment x Post x Intermediate Skill		0.0087	0.0060		0.0081	0.0055
		(0.0124)	(0.0109)		(0.0125)	(0.0110)
Treatment x Post x High-Skill		-0.0204	-0.0193		-0.0275	-0.0260
		(0.0229)	(0.0207)		(0.0230)	(0.0207)
Panel C: Relative to both groups						
Treatment x Post	0.0022	0.0028	0.0047*	0.0117***	0.0130***	0.0150***
	(0.0035)	(0.0031)	(0.0028)	(0.0035)	(0.0031)	(0.0029)
Treatment x Post x Intermediate Skill		0.0000	-0.0022		-0.0001	-0.0023
		(0.0083)	(0.0075)		(0.0084)	(0.0076)
Treatment x Post x High-Skill		-0.0250*	-0.0262*		-0.0297**	-0.0301**
		(0.0149)	(0.0135)		(0.0150)	(0.0136)
Employee controls	No	No	Yes	No	No	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.32	0.56	0.63	0.32	0.56	0.63
Observations	436,970	436,970	436,335	436,820	436,820	436,186

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing on workers' compensation at the individual level, by skill. Wage is the employee's daily gross wage. Total compensation is the sum of the employee's daily gross wage and the daily amount of profit-sharing received during the year. Treatment is a dummy variable equal to one if the firm the employee works for has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. Intermediate Skill is a dummy equal to one if the employee's job description is supervisor or skilled technician. High-skill is a dummy equal to one for managers, engineers and executives. The baseline skill includes clerks and blue collar-workers. We augment the regression model in Table 8 by interacting the Treatment and Post dummies with the High Skill and Intermediate Skill dummies. We only report the baseline treatment effect (Treatment x Post) and the triple interactions. Column (1) and (3) only include firm, industry-year and province-year fixed-effects. Column (2) and (4) control for employee-level controls X_{jt}: gender, age, age^2, tenure, tenure^2, experience, experience^2. Panel A reports the treatment effect relative to the large control group and Panel B relative to the small control group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

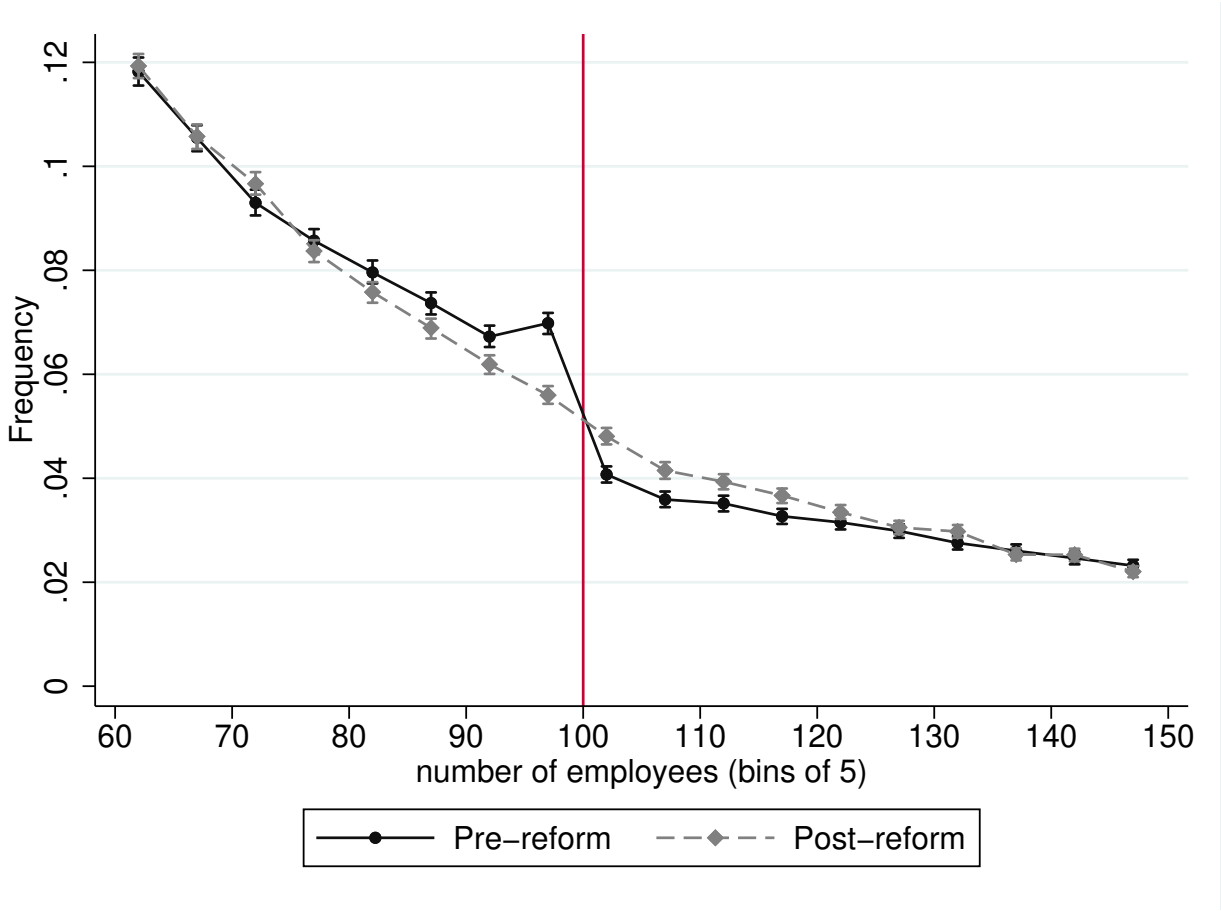
TABLE 10: Effects on employee wage and total compensation: low vs. high skill, IV estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	log(wage)			log(total compensation)		
	OLS	IV	IV	OLS	IV	IV
$\mathbb{1}_{\{\text{profit-sharing}>0\}}$	0.0019	0.0072	0.0136*	0.0281***	0.0350***	0.0422***
	(0.0015)	(0.0075)	(0.0079)	(0.0016)	(0.0076)	(0.0081)
$\mathbb{1}_{\{\text{profit-sharing}>0\}}$ x $\mathbb{1}_{\{\text{Intermediate Skill}\}}$			-0.0058			-0.0072
			(0.0209)			(0.0211)
$\mathbb{1}_{\{\text{profit-sharing}>0\}}$ x $\mathbb{1}_{\{\text{High-skill}\}}$			-0.0823*			-0.0941**
			(0.0429)			(0.0438)
Employee Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
K-P F stat.		1,166	391		1,166	391
K-P F stat. (Intermediate)			194			194
K-P F stat. (High-skill)			67			66
Nul effect on high-skill (p-value)			0.102			0.226
Observations	436,215	436,215	436,215	426,770	436,186	436,186

Note: This table provides the sensitivity of log wage (respectively log total compensation) to profit-sharing at the individual level, by skill. Wage is the employee's daily gross wage. Total compensation is the sum of the employee's daily gross wage and the daily amount of profit-sharing received during the year. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if the firm the employee works for reports a strictly positive amount of profit-sharing on its income statement. Intermediate Skill is a dummy equal to one if the employee's job description is supervisor or skilled technician. High-skill is a dummy equal to one for managers, engineers and executives. The baseline skill includes clerks and blue collar-workers. We augment the regression model in Table 8 by interacting profit-sharing with the High Skill and Intermediate Skill dummies. Columns 1,4 are OLS estimates. In columns 2,3,5,6, estimates instrument profit-sharing variables using the interactions between a Treatment dummy, equal to one if the firm the employee works for has between 55 and 85 employees in 1989 and 1990, a Post dummy, equal to one after 1990, and the skill dummies. All regressions include the following employee-level controls: gender, age, age^2, tenure, tenure^2, experience, experience^2, and the employee's 2-digit occupation. All regressions also include firm fixed-effects, industry-year fixed-effects, and province-year fixed-effects. The semi-elasticity is estimated using a two-stage least squares procedure. K-P F stat. stands for Kleibergen-Paap F statistics. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

B. Figures

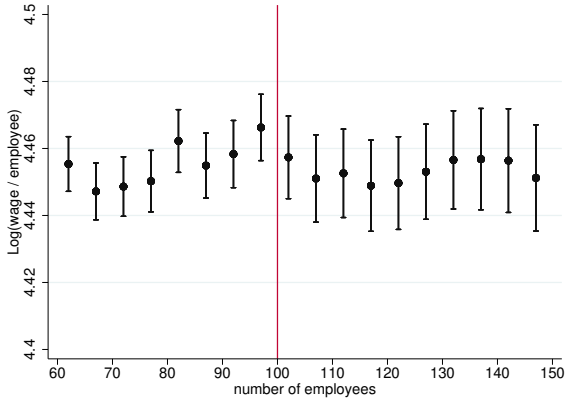
FIGURE 1: Excess mass at the 100 employee threshold



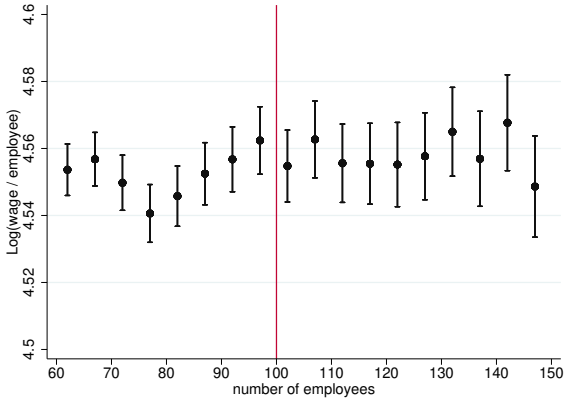
Note: This figure shows the share of firms by employment bins for firms with more than 60 employees and less than 150 employees. We use bins of 5 employees starting at 60 employees. The solid line corresponds to the pre-reform distribution (1985-1989); the dashed line corresponds to the post-reform distribution (1992-1997). The vertical bars are 95% confidence intervals. They are computed using bootstrap. Firm's employment count comes from tax files. Go back to main text

FIGURE 2: Wage bill per employee and number of employees

(A) Pre-reform (1985-1989)

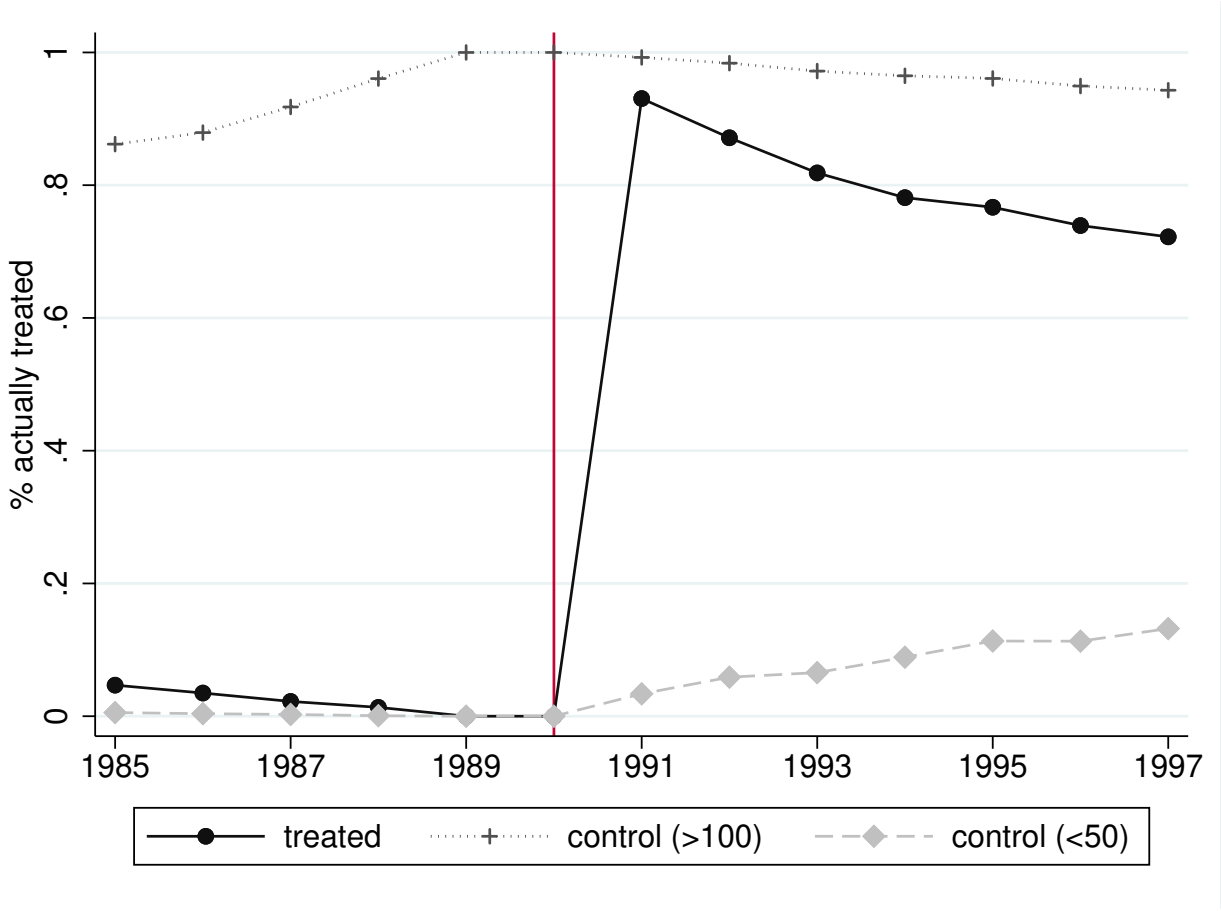


(B) Post-reform (1992-1997)



Note: For each firm in the sample, we compute the log ratio of firms' total wage bill to their number of employees. The figure reports the average value of this log ratio by employment bins, where we use bins of five employees starting at 60 employees. The sample period is 1985-1989 (Panel A) and 1992-1997 (Panel B). Firm's employment count and wage data come from tax files. The vertical bars correspond to 95% confidence intervals. Go back to main text

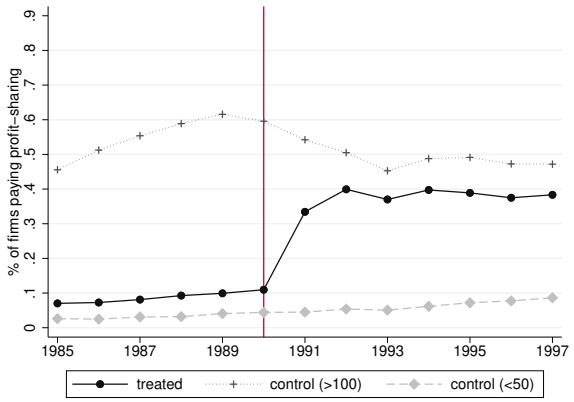
FIGURE 3: Treatment status and actual treatment



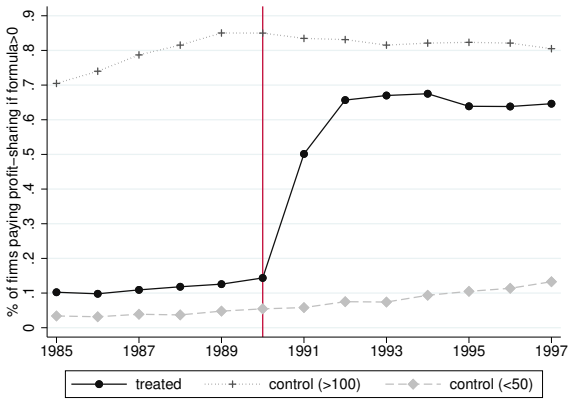
Note: This figure plots the share of firms that are actually mandated to have a profit-sharing scheme by treatment status. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). The vertical red line corresponds to 1990, the year the reform is voted and implemented. Go back to main text

FIGURE 4: Firms sharing profits over time, by treatment status

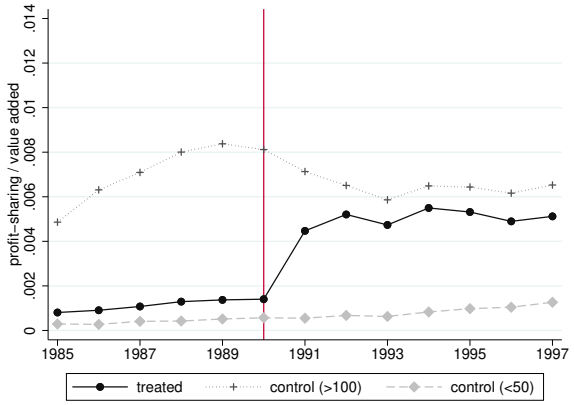
(A) Fraction of firms sharing profits (unconditional)



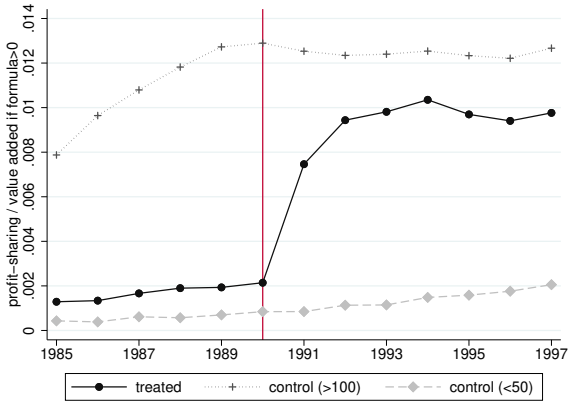
(B) Fraction of firms sharing profits (conditional on positive excess-profits)



(C) Profit-sharing as a share of value added (unconditional)

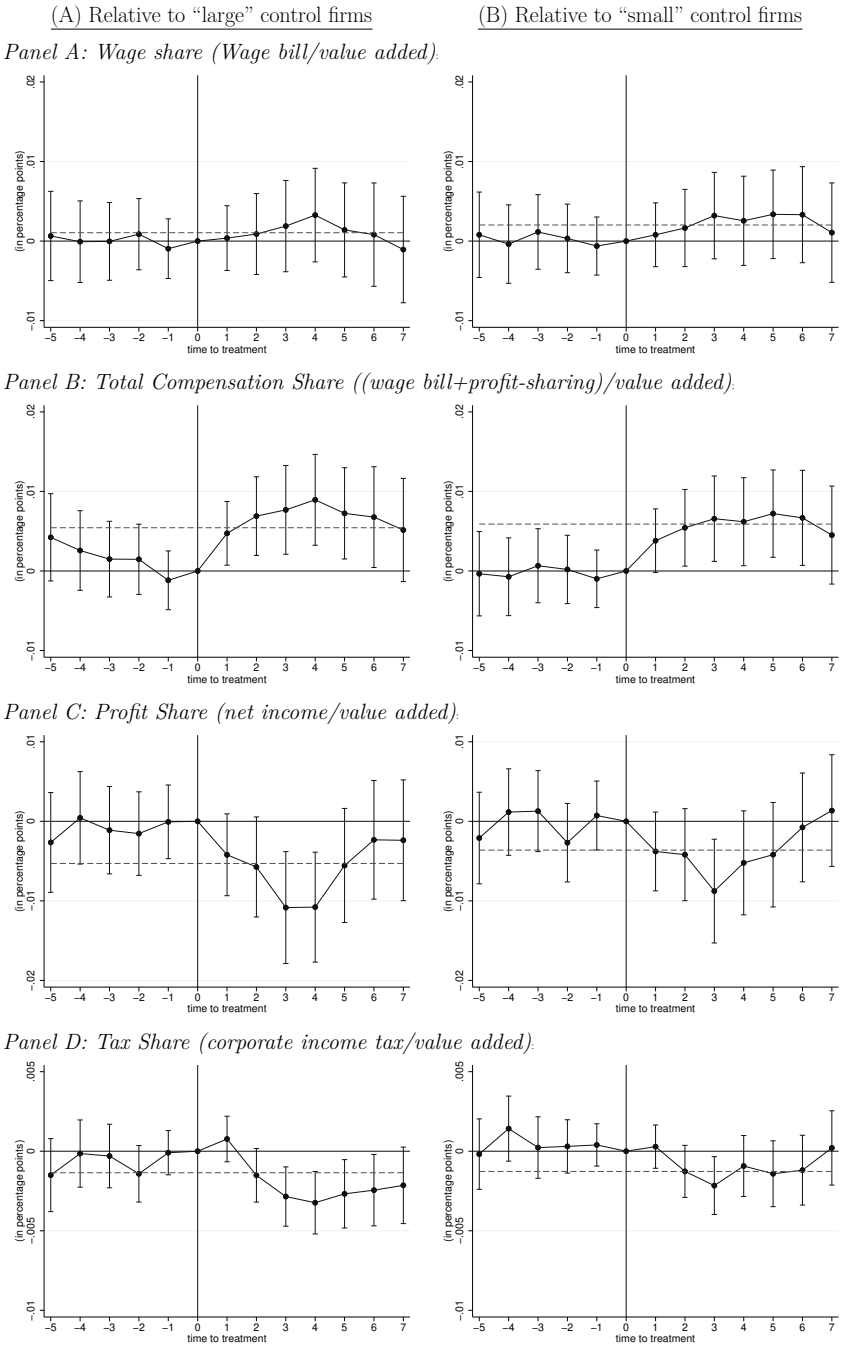


(D) Profit-sharing as a share of value added (conditional on positive excess-profits)



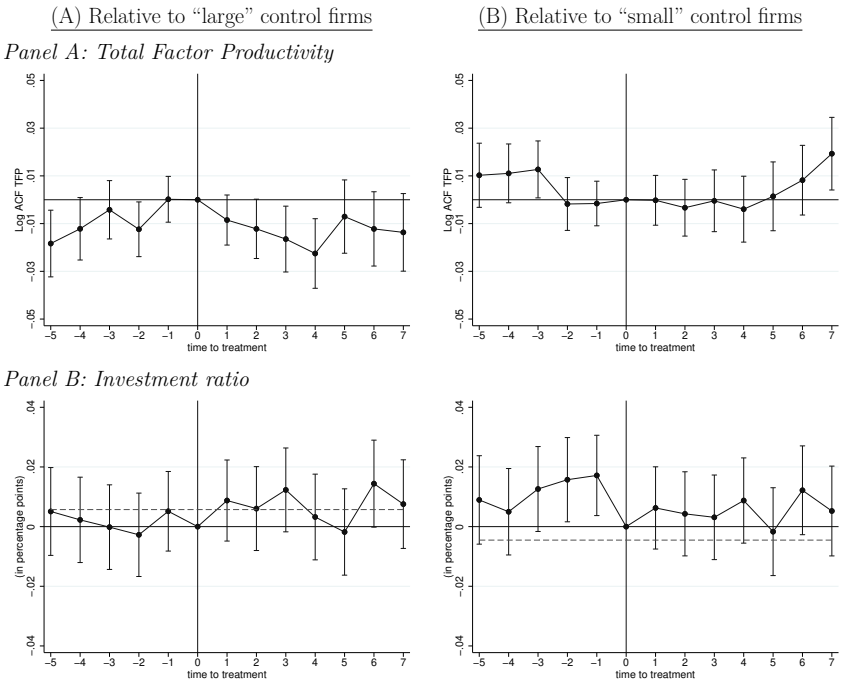
Note: Panel A plots the share of firms within each group that reports a strictly positive amount of profit-sharing on their income statement. Panel B conditions on firms with positive excess-profits. Panel C plots the average ratio of profit-sharing–to–value-added within each group over time. Panel D conditions on firms with positive excess-profits. Excess-profits are defined as accounting net income minus five percent of book equity. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE 5: Event-study: wage share, total compensation share, profit share and tax share



Note: This figure reports event-study plots where we replace the Post dummy in equation (6) by time-to-treatment dummies. We report the coefficients on the time-to-treatment dummies interacted with the treatment dummy, together with their 95% confidence intervals. The left panels correspond to the treatment effect relative to large control firms (firms with between 120 and 300 employees in 1989 and 1990); the right panel relative to the small control firms (firms with between 35 and 45 employees in 1989 and 1990). The dashed gray line reports the difference-in-differences coefficient computed over the whole period. Go back to main text

FIGURE 6: Event-study: TFP and investment ratio

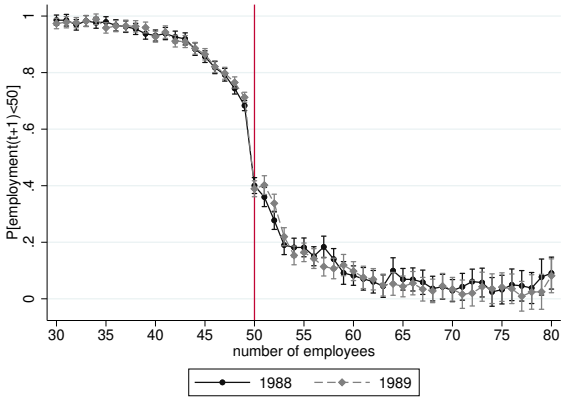


Note: This figure reports event-study plots where we replace the Post dummy in equation (6) by time-to-treatment dummies. We report the coefficients on the time-to-treatment dummies interacted with the treatment dummy, together with their 95% confidence intervals. The left panels correspond to the treatment effect relative to large control firms (firms with between 120 and 300 employees in 1989 and 1990); the right panel relative to the small control firms (firms with between 35 and 45 employees in 1989 and 1990). Total Factor Productivity is computed using Ackerberg et al. (2015) methodology. Investment ratio is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. The dashed gray line reports the difference-in-differences coefficient computed over the whole period. Go back to main text

FIGURE 7: Crossing the 50 employee threshold

(A) Treatment: 1989 vs. 1990

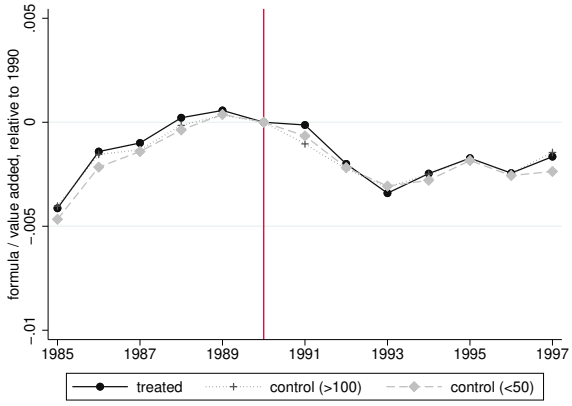
(B) Placebo: 1988 vs. 1989



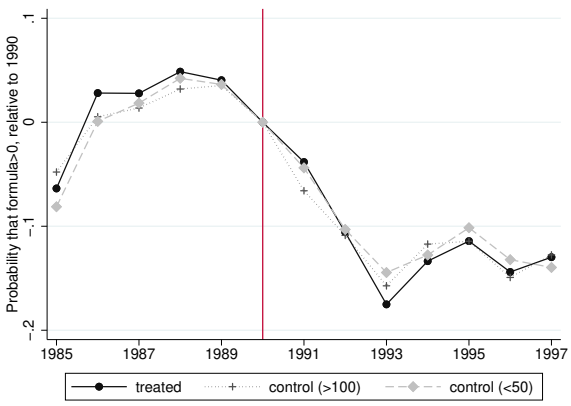
Note: This figure shows the average probability that a firm's employment in year t+1 is strictly lower than 50, by employment counts in t. The sample period is 1989 and 1990 (Panel A), and 1988 and 1989 (Panel B). The vertical bars are 95% confidence intervals. Go back to main text

FIGURE 8: Profit-sharing formula, by treatment status

(A) $\frac{\text{formula}}{\text{value added}}$

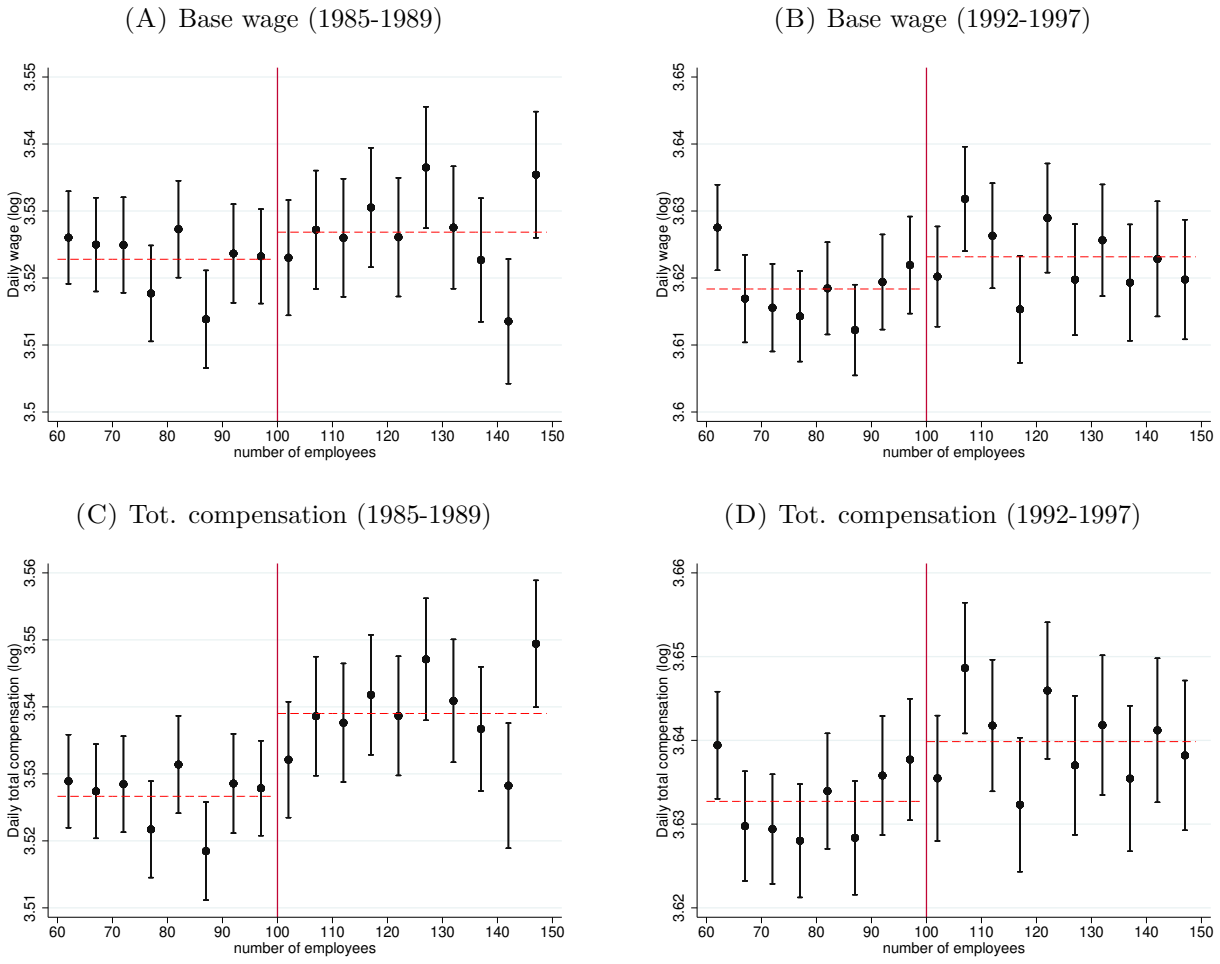


(B) $P(\text{formula} > 0)$



Note: Panel A provides the average formula–to–value-added ratio for firms over time, by treatment status. Panel B shows the probability that the formula is 0 (i.e. firms have negative excess-profits) by year and treatment status. "Formula" corresponds to the regulatory formula used to compute the total dollar amount to be shared with employees (Equation (1)). Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE 9: Average wage and total compensation around the 100 employee threshold



Note: For each worker in the sample, we compute their log daily wage and log daily total compensation. The figure reports the average value of these variables by employment bins, where we use bins of five employees starting at 60 employees. The sample period is 1985-1989 (Panel A and C) and 1992-1997 (Panel B and D). The horizontal dashed line reports the average value of wages (respectively total compensation) computed on each side of the 100 employee threshold. Firm's employment count comes from tax files. Wages come fron linked employer-employee data. The vertical bars correspond to 95% confidence intervals. Go back to main text

References

Ackerberg, D. A., K. Caves, and G. Frazer (2015): "Identification properties of recent production function estimators," *Econometrica*, 83, 2411–2451.

Aghion, P., A. Bergeaud, and J. Van Reenen (2021): "The Impact of Regulation on Innovation," Working Paper 28381, National Bureau of Economic Research.

Askenazy, P., T. Breda, and V. Pecheu (2022): "Under-Reporting of Firm Size Around Size-Dependent Regulation Thresholds: Evidence from France," Working Papers hal-03654324, HAL.

Avouyi-Dovi, S., D. Fougère, and E. Gautier (2013): "Wage Rigidity, Collective Bargaining, and the Minimum Wage: Evidence from French Agreement Data," *The Review of Economics and Statistics*, 95, 1337–1351.

Bach, L. (2017): "Do Sophisticated Entrepreneurs Avoid Taxes More?" Tech. rep., SSE working Paper.

Bachas, P. and M. Soto (2021): "Corporate Taxation under Weak Enforcement," *American Economic Journal: Economic Policy*, 13, 36–71.

Bell, L. A. and D. Neumark (1993): "Lump-sum Payments and Profit-sharing Plans in the Union Sector of the United States Economy," *The Economic Journal*, 103, 602–619.

Berger, D., K. Herkenhoff, and S. Mongey (2022): "Labor Market Power," *American Economic Review*, 112, 1147–93.

Blasi, J. R., R. B. Freeman, C. Mackin, and D. L. Kruse (2008): "Creating a Bigger Pie? The Effects of Employee Ownership, Profit Sharing, and Stock Options on Workplace Performance," Working Paper 14230, National Bureau of Economic Research.

Briand, A. (2021): "Participation, Intéressement et Épartgne Salariale en 2019: Hausse des bénéficiaires de primes," Tech. Rep. 46, DARES Résultats.

Cahuc, P. and B. Dormont (1997): "Profit-sharing: Does it increase productivity and employment? A theoretical model and empirical evidence on French micro data," *Labour Economics*, 4, 293–319.

Chodorow-Reich, G. (2025): "The Neoclassical Theory of Firm Investment and Taxes: A Reassessment." Tech. rep., Harvard University.

Chodorow-Reich, G., M. Smith, O. M. Zidar, and E. Zwick (2024): "Tax Policy and Investment in a Global Economy," Tech. Rep. 32180, NBER.

DARES (2008): "La Participation, l'Intéressement et l'Epargne Salariale en 2007," Tech.

rep., DARES Premiere Syntheses Information.

DiNardo, J. and D. S. Lee (2004): "Economic Impacts of New Unionization on Private Sector Employers: 1984–2001*," *The Quarterly Journal of Economics*, 119, 1383–1441.

Doucouliagos, H., P. Laroche, D. L. Kruse, and T. D. Stanley (2020): "Is Profit Sharing Productive? A Meta-Regression Analysis," *British Journal of Industrial Relations*, 58, 364–395.

FitzRoy, F. and K. Kraft (1987): "Cooperation, Productivity, and Profit Sharing," *The Quarterly Journal of Economics*, 102, 23–35.

Fougère, D., E. Gautier, and S. Roux (2018): "Wage floor rigidity in industry-level agreements: Evidence from France," *Labour Economics*, 55, 72–97.

Fuest, C., A. Peichl, and S. Siegloch (2018): "Do Higher Corporate Taxes Reduce Wages? Micro Evidence from Germany," *American Economic Review*, 108, 393–418.

Garbinti, B., J. Goupille-Lebret, M. Muñoz, S. Stantcheva, and G. Zucman (2023): "Tax Design, Information, and Elasticities: Evidence From the French Wealth Tax," Working Paper 31333, National Bureau of Economic Research.

Garicano, L., C. Lelarge, and J. Van Reenen (2016): "Firm Size Distortions and the Productivity Distribution: Evidence from France," *American Economic Review*, 106, 3439–79.

Gautier, E., S. Roux, and M. S. Castillo (2022): "How do wage setting institutions affect wage rigidity? Evidence from French micro data," *Labour Economics*, 78.

Jäger, S., B. Schoefer, and J. Heining (2021): "Labor in the Boardroom," *Quarterly Journal of Economics*.

Journal Officiel (1990): "LOI n° 90-1002 modifiant l'ordonnance n° 86-1134 du 21 octobre 1986 relative à l'intéressement et à la participation des salariés aux résultats de l'entreprise et à l'actionnariat des salariés," .

Kim, E. H. and P. Ouimet (2014): "Broad-based Employee Stock Ownership: Motives and Outcomes," *Journal of Finance*.

Kline, P., N. Petkova, H. Williams, and O. Zidar (2019): "Who profits from patents? rent-sharing at innovative firms," *Quarterly Journal of Economics*.

Knez, M. and D. Simester (2001): "Firm-Wide Incentives and Mutual Monitoring at Continental Airlines," *Journal of Labor Economics*, 19, 743–72.

Kruse, D. L. (1992): "Profit Sharing and Productivity: Microeconomic Evidence from the United States," *The Economic Journal*, 102, 24–36.

Kruse, D. L., J. R. Blasi, and R. Park (2008): "Shared Capitalism in the U.S. Economy? Prevalence, Characteristics, and Employee Views of Financial Participation in Enterprises," Working Paper 14225, National Bureau of Economic Research.

Lasserre, G. (1968): "La Participation des Salariés aux fruits de l'expansion des entreprises," *Revue d'économie politique*, 78, 70–86.

Lazear, E. P. (1990): "Job Security Provisions and Employment," *The Quarterly Journal of Economics*, 105, 699–726.

Lee, D. and A. Mas (2012): "Long-Run Impacts of Unions on Firms: New Evidence from Financial Markets, 1961-1999," *Quarterly Journal of Economics*.

Levinsohn, J. and A. Petrin (2003): "Estimating Production Functions Using Inputs to Control for Unobservables," *Review of Economic Studies*, 70, 317–341.

Matsa, D. (2019): "Capital Structure and a Firm's Workforce," *Annual Review of Financial Economics*.

Neiman, B. (2014): "The Global Decline of the Labor Share," *The Quarterly Journal of Economics*, 129, 61–103.

OECD (1995): "Profit Sharing in OECD Countries," Employment Outlook, 139-169., OECD.

OECD and AIAS (2021): "Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts," *OECD Publishing, Paris, www.oecd.org/employment/ictwss-database.htm*.

Olley, G. S. and A. Pakes (1996): "The Dynamics of Productivity in the Telecommunications Equipment Industry," *Econometrica*, 64, 1263–1297.

Piketty, T., E. Saez, and G. Zucman (2018): "Distributional National Accounts: Methods and Estimates for the United States," *The Quarterly Journal of Economics*, 133, 553–609.

Prendergast, C. (1999): "The Provision of Incentives in Firms," *Journal of Economic Literature*, 37, 7–63.

Stansbury, A. and L. H. Summers (2020): "The Declining Worker Power Hypothesis: An explanation for the recent evolution of the American economy," Working Paper 27193, National Bureau of Economic Research.

Tolentino, E. (2022): "An evaluation of a mandatory profit-sharing reform in Peru, using quasi-experimental methods," *Journal of Industrial and Business Economics*, 49, 313–334.

Wadhwani, S. and M. Wall (1990): "The Effects of Profit-Sharing on Employment,

Wages, Stock Returns and Productivity: Evidence from UK Micro-Data," *The Economic Journal*, 100, 1–17.

Weitzman, M. L. (1986a): *The Case for Profit-Sharing*, London: Palgrave Macmillan, 14–41.

——— (1986b): "Macroeconomic Implications of Profit Sharing," *NBER Macroeconomics Annual*, 1, 291–335.

Wooldridge, J. (2009): "On estimating firm-level production functions using proxy variables to control for unobservables," *Economics Letters*, 104, 112–114.

A Model Proof

This section provides the derivations of the model described in Section 2.2.

Given all of our assumptions, the cash flow to equity holders (CFE) is simply:

$$\begin{aligned}
CFE = & F(k,l) - wl + (1-\delta)k - (1+r_d)d - \mathcal{T} - RSP \\
= & F(k,l) - wl - \delta k - r_d d + k - d - \mathcal{T} - RSP \\
= & (1-\tau)\left(F(k,l) - wl - \delta k - r_d d\right) + k - d - (1-\tau)RSP \quad \text{(definition of taxes)} \\
= & (1-\tau)\left(F(k,l) - w^*l - \delta k - r_d d\right) + k - d - (1-\tau)(1-\lambda)RSP \quad \text{(wage setting formula)} \\
= & (1-\tau)\left(1 - \tfrac{\gamma(1-\tau)(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)\left(F(k,l) - w^*l - \delta k - r_d d\right) + e\left(1 + \tfrac{\gamma(1-\tau)(1-\lambda)}{1-\gamma\lambda(1-\tau)}\rho\right) \quad \text{(plugging RSP formula)} \\
= & (1-\tau)\left(\tfrac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)\left(F(k,l) - w^*l - \delta k - r_d d\right) + e\left(1 + \tfrac{\gamma(1-\tau)(1-\lambda)}{1-\gamma\lambda(1-\tau)}\rho\right) \quad \text{(rearranging)},
\end{aligned}$$

The NPV of the project for equity holder, V_e is thus:

$$\begin{aligned}
(1+r_e)V_e &= CFE - (1+r_e)e \\
&= (1-\tau)\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)\left(F(k,l) - w^*l - \delta k - r_d d\right) + e\left(\frac{\gamma(1-\tau)(1-\lambda)}{1-\gamma\lambda(1-\tau)}\rho - r_e\right)
\end{aligned}$$

Introduce now $\Delta = r_e - \rho$, the difference between the firm's actual costs of equity and the cost of equity implied by the formula (5% in the French context). Then:

$$(1+r_e)V_e = \left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)\left((1-\tau)\left[F(k,l) - w^*l - \delta k - r_d d\right] - r_e e\right) - e\left(\frac{\gamma(1-\tau)(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)\Delta$$

We assume that the firm's capital structure is fixed: $e/k = \phi$. As a result, r_d and r_e can be considered fixed (i.e., independent of k), and we can define r, the firm's weighted average cost of capital (WACC), as $rk = (1-\tau)r_d d + r_e e$, with r independent of k. This leads to the final expression for the value of shareholders in the first period:

$$V_e = \frac{(1-\tau)\left(\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)\left\{F(k,l) - w^*l - \left(\delta + \frac{r}{1-\tau}\right)k\right\} - \phi\Delta\left(\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)k\right)}{1+r_e} \tag{13}$$

Intuitively, when $\lambda = 1$ – the firm can fully substitute profit-sharing for wages – the value of the firm reverts to the standard formula in the absence of profit-sharing.[42]

From Equation (13), it is straightforward to derive the firm's FOC:

$$\begin{cases} F_l(k,l) = w^* \\ F_k(k,l) = \underbrace{\delta + \dfrac{r}{1-\tau}}_{=R} + \phi\Delta\dfrac{\gamma(1-\lambda)}{1-\gamma(1-\tau)} \end{cases} \tag{14}$$

It is also helpful to note that the profit-sharing formula RSP can be re-written as:

[42] This result echoes the standard argument in Lazear (1990) that, with perfect competition and flexible wage, Employment Protection Laws (e.g., severance payment) are perfectly neutral.

$$
\begin{aligned}
RSP &= \gamma\left\{(1-\tau)(F(k,l)-wl-\delta k-r_d d)-\rho e\right\} \\
&= \frac{\gamma}{1-\gamma(1-\tau)\lambda}\left\{(1-\tau)(F(k,l)-w^*l-\delta k-r_d d)-\rho e\right\} \qquad \text{(wage setting formula)} \\
&= \frac{\gamma(1-\tau)}{1-\gamma(1-\tau)\lambda}\left\{(F(k,l)-w^*l-(\underbrace{\delta+\frac{r}{1-\tau}}_{=R}-\frac{\Delta\phi}{1-\tau})k\right\} \qquad \text{(fixed capital structure)}
\end{aligned}
$$

Proof of Prediction 1. With our Cobb-Douglas assumption, we know that the labor and capital shares can be expressed as:

$$
\frac{w^*l}{F(k,l)}=(1-\alpha)\theta \quad \text{and} \quad \frac{\left(\delta+\frac{r}{1-\tau}+\phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)k}{F(k,l)}=\alpha\theta.
$$

As a result, we can rewrite the RSP after input optimization as:

$$
RSP=\frac{\gamma}{1-\gamma(1-\tau)\lambda}\times F(k,l)\times\left(1-(1-\alpha)\theta-\alpha\theta\frac{R-\frac{\Delta\phi}{1-\tau}}{R+\phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma(1-\tau)}}\right)
$$

Thus, the total compensation share simply writes:

$$
\frac{wl+RSP}{F(k,l)}=\frac{w^*l+(1-\lambda)RSP}{F(k,l)}=(1-\alpha)\theta+\frac{\gamma(1-\lambda)}{1-\gamma(1-\tau)\lambda}\times\left(1-(1-\alpha)\theta-\alpha\theta\frac{R-\frac{\Delta\phi}{1-\tau}}{R+\phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma(1-\tau)}}\right)
$$

This expression is clearly increasing with γ as long as $\lambda<1$. Thus, the total compensation share is higher when the firm has to pay mandated profit-sharing.

Net income corresponds to CFE above and can be simplified into:

$$
\begin{aligned}
\text{Net Income} &= CFE=(1+r_e)V_e+(1+r_e)e \\
&= (1-\tau)\left(\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)\left\{F(k,l)-w^*l-\left(\delta+\frac{r}{1-\tau}+\phi\Delta\left(\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)\right)k\right\}\right)+(1+r_e)\phi k \\
&= F(k,l)\left((1-\tau)\left(\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)(1-\theta)\right)+(1+r_e)\phi\frac{\alpha\theta}{\left(R+\phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)}\right)
\end{aligned}
$$

Thus, the profit share is simply:

$$
\frac{\text{Net Income}}{F(k,l)}=(1-\tau)\left(\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)(1-\theta)\right)+(1+r_e)\phi\frac{\alpha\theta}{\left(R+\phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)}
$$

This expression strictly decreases with γ as long as $\lambda<1$.

Finally, the firm's tax bill

$$\begin{aligned}
\mathcal{T} &= \tau(F(k,l) - wl - r_d d - \delta k - RSP) \\
&= \tau(\text{Net Income} - (k-d) + \mathcal{T}) = \tau(\text{Net Income} - e + \mathcal{T}) \\
\Rightarrow \mathcal{T} &= \frac{\tau}{1-\tau}\left(\text{Net Income} - e\right) \\
\Rightarrow \frac{\mathcal{T}}{F(k,l)} &= \tau\left(\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)(1-\theta)\right) + \frac{\tau}{1-\tau} r_e \phi \frac{\alpha\theta}{\left(R + \phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma\lambda(1-\tau)}\right)},
\end{aligned}$$

which is also decreasing with γ as long as $\lambda < 1$.

Proof of Prediction 2. The effect of profit-sharing on investment and hiring can be directly read from the first-order conditions derived in Equation (14).

Proof of Prediction 3. To discuss bunching, we introduce heterogeneity across firms in terms of productivity. Firm i is characterized by productivity z_i such that $y_i = F_i(k,l) = e^{z_i}F(k,l)$. We assume that profit-sharing is mandated only for firms with more than $\bar{l}$ employees.

We start by leveraging our Cobb-Douglas assumption. We first consider a firm that does not face profit-sharing. That firm selects inputs and has value:

$$\begin{cases}
l^0(z) = e^{\frac{z}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{1-\alpha\theta}{1-\theta}}\left(\frac{\alpha\theta}{R}\right)^{\frac{\alpha\theta}{1-\theta}} \quad \text{and} \quad k^0(z) = e^{\frac{z}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{(1-\alpha)\theta}{1-\theta}}\left(\frac{\alpha\theta}{R}\right)^{\frac{1-(1-\alpha)\theta}{1-\theta}} \\
(1+r_e)V_e^0(z) = e^{\frac{z}{1-\theta}}(1-\tau)(1-\theta)\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{(1-\alpha)\theta}{1-\theta}}\left(\frac{\alpha\theta}{R}\right)^{\frac{\alpha\theta}{1-\theta}}
\end{cases}$$

Consider now a firm who is subject to profit-sharing. Let $\Omega = \phi\Delta\frac{\gamma(1-\lambda)}{1-\gamma(1-\tau)}$ be the increase in its cost of capital. We can similarly find its optimal input and value:

$$\begin{cases}
l^1(z) = e^{\frac{z}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{1-\alpha\theta}{1-\theta}}\left(\frac{\alpha\theta}{R+\Omega}\right)^{\frac{\alpha\theta}{1-\theta}} \quad \text{and} \quad k^1(z) = e^{\frac{z}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{(1-\alpha)\theta}{1-\theta}}\left(\frac{\alpha\theta}{R+\Omega}\right)^{\frac{1-(1-\alpha)\theta}{1-\theta}} \\
(1+r_e)V_e^1(z) = (1-\tau)\left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)(1-\theta)e^{\frac{z}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{(1-\alpha)\theta}{1-\theta}}\left(\frac{\alpha\theta}{R+\Omega}\right)^{\frac{\alpha\theta}{1-\theta}}
\end{cases}$$

Clearly, for a given z, shareholder value V_e is always strictly lower with profit-sharing ($V_e^1(z) < V_e^0(z)$) as long as $\gamma > 0$ and $\lambda < 1$. The firm has a higher cost of capital and needs to cede a share of profits to workers.

Let $\hat{z}$ be the productivity such that a firm hires exactly $\bar{l}$ workers at its optimum (i.e., $l^0(\hat{z}) = \bar{l}$). For $z \leq \hat{z}$, the firm selects $l^0(z)$ and is not subject to profit-sharing. For $z > \hat{z}$, the firm can no longer select $l^0(z)$ since it would then have to pay profit-sharing and its cost of capital would change. Instead, the firm can now either (1) optimize inputs accounting for profit-sharing (i.e., select $l^1(z)$) or (2) remain at $\bar{l}$, optimize its capital stock and not pay profit-sharing. Consider strategy (2). The firm hires $\bar{l}$ workers, optimally purchase

capital stock: $k^2(z) = \left(\frac{\alpha\theta}{R}\right)^{\frac{1}{1-\alpha\theta}} e^{\frac{z}{1-\alpha\theta}} \bar{l}^{\frac{(1-\alpha)\theta}{1-\alpha\theta}}$ and creates shareholder value:

$$\begin{aligned}(1+r_e)V_e^2(z) &= (1-\tau)\left((1-\alpha\theta)e^{\frac{z}{1-\alpha\theta}}\left(\frac{\alpha\theta}{R}\right)^{\frac{\alpha\theta}{1-\alpha\theta}}\bar{l}^{\frac{(1-\alpha)\theta}{1-\alpha\theta}} - w^*\bar{l}\right) \\ &= (1-\tau)\left(\frac{\alpha\theta}{R}\right)^{\frac{\alpha\theta}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{(1-\alpha)\theta}{1-\theta}} e^{\frac{\hat{z}}{1-\theta}}\left((1-\alpha\theta)e^{\frac{z-\hat{z}}{1-\alpha\theta}} - (1-\alpha)\theta\right),\end{aligned}$$

where we used the definition of $\hat{z}$ ($l_0(\hat{z}) = \bar{l}$). We can now calculate the gain to bunching at $\bar{l}$:

$$\begin{aligned}\Gamma(z) &= (1+r_e)\left(V_e^2(z) - V_e^1(z)\right) \\ &= \kappa e^{\frac{z-\hat{z}}{1-\theta}}\left\{(1-\alpha\theta)e^{-\frac{(1-\alpha)\theta}{(1-\alpha\theta)(1-\theta)}(z-\hat{z})} - (1-\alpha)\theta e^{-\frac{z-\hat{z}}{1-\theta}} - \left(\frac{1-\gamma(1-\tau)}{1-\gamma\lambda(1-\tau)}\right)(1-\theta)\left(\frac{R}{R+\Omega}\right)^{\frac{\alpha\theta}{1-\theta}}\right\}\end{aligned}$$

with $\kappa = (1-\tau)\left(\frac{\alpha\theta}{R}\right)^{\frac{\alpha\theta}{1-\theta}}\left(\frac{(1-\alpha)\theta}{w^*}\right)^{\frac{(1-\alpha)\theta}{1-\theta}} e^{\frac{\hat{z}}{1-\theta}}$. The term inside the bracket can be shown to be decreasing with z for $z > \hat{z}$, and it is strictly positive for $z = \hat{z}$ and goes to $-\infty$ as $z \to \infty$. As a result, there exists a unique $\hat{\hat{z}} > \hat{z}$ such that $\Gamma(z) > 0 \Leftrightarrow \hat{\hat{z}} > z \geq \hat{z}$. This proves that all firms with $z \in [\hat{z}, \hat{\hat{z}}]$ will bunch at $\bar{l}$.

B Certainty equivalent

This section provides details about the estimation of the certainty equivalent, $\hat{ps}$, defined as:

$$\mathbb{E}[u(w + \underbrace{\mathbb{E}[ps] - \pi}_{\hat{ps}})] = \mathbb{E}[u(w + ps)],$$

where $u(.)$ is the utility function of an individual, w their wage, ps the amount of profit-sharing they receive, and π is the amount of money they would be ready to forgo to get $\mathbb{E}[ps]$ every period instead of the actual amount of profit-sharing, ps.

We assume that the utility function exhibits constant relative risk aversion such that:

$$u(x) = \begin{cases} \frac{x^{1-\gamma}}{1-\gamma}, & \text{if } \gamma > 1 \\ \log(x), & \text{if } \gamma = 1 \end{cases}$$

Assuming that profit-sharing represents a small fraction of wages, a first-order Taylor expansion around zero with $\gamma > 1$ implies:

$$\mathbb{E}[u(w+\hat{ps})] = \mathbb{E}[(\frac{w}{1-\gamma})^{1-\gamma}(1+\frac{\hat{ps}}{w}))^{1-\gamma}] \approx \mathbb{E}[(\frac{w}{1-\gamma})^{1-\gamma}(1+(1-\gamma)\frac{\hat{ps}}{w}))] \approx \mathbb{E}[(\frac{w}{1-\gamma})^{1-\gamma}] + \hat{ps}\ \mathbb{E}[(\frac{w}{1-\gamma})^{-\gamma}]$$

So that the definition of $\hat{ps}$ combined with the first-order approximation gives us a simple expression for $\hat{ps}$:

$$\hat{ps} \approx \frac{\mathbb{E}[(\frac{w+ps}{1-\gamma})^{1-\gamma}] - \mathbb{E}[(\frac{w}{1-\gamma})^{1-\gamma}]}{\mathbb{E}[(\frac{w}{1-\gamma})^{-\gamma}]} \tag{15}$$

To estimate $\hat{ps}$, we construct a panel of workers who were employed in a firm belonging to the large control group (i.e., employment above 100) in 1989. For each worker and each year, we compute $u(w)$, $u(w + ps)$, and $u'(w)$ for $\gamma \in \{1, 2, 3, 4, 5\}$. Fixing γ, we compute the average of these three terms over the 1984-1997 period and plug them into equation 15.[43]

[43] Using a similar approach, we can show that the same formula applies for $\gamma = 1$, i.e., a log utility function.

C Additional Tables and Figures

TABLE C.1: Robustness check: Winsorizing variables at the 2.5% and 97.5%

	(1) $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	(2) $\frac{\text{Profit-sharing}}{\text{value added}}$	(3) $\frac{\text{Wage}}{\text{value added}}$	(4) $\frac{\text{Tot. compensation}}{\text{value added}}$	(5) $\frac{\text{Profits}}{\text{value added}}$	(6) $\frac{\text{Taxes}}{\text{value added}}$	(7) Investment Rate	(8) TFP Ackerberg-Caves-Frazer
Panel A: Relative to large control								
Treatment x Post	0.3638***	0.0049***	0.0026	0.0073***	-0.0059**	-0.0013	-0.0002	-0.0081
	(0.0096)	(0.0002)	(0.0023)	(0.0022)	(0.0027)	(0.0008)	(0.0044)	(0.0052)
Panel B: Relative to small control								
Treatment x Post	0.2540***	0.0040***	0.0032	0.0075***	-0.0065***	-0.0012	-0.0076*	-0.0022
	(0.0073)	(0.0001)	(0.0021)	(0.0021)	(0.0024)	(0.0008)	(0.0043)	(0.0047)
Panel C: Relative to both groups								
Treatment x Post	0.3043***	0.0044***	0.0029	0.0074***	-0.0063***	-0.0013*	-0.0043	-0.0049
	(0.0075)	(0.0002)	(0.0019)	(0.0019)	(0.0022)	(0.0007)	(0.0037)	(0.0043)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.53	0.54	0.55	0.54	0.32	0.56	0.16	0.86
Observations	132,589	130,954	130,122	130,102	130,974	130,974	130,363	128,682

Note: This table reproduces the main analysis when outcomes are winsorized, instead of trimmed, at the 2.5% and 97.5%. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{value added}}$ is the ratio of firms' corporate income taxe to its value added. All the ratios are defined only for firms with positive value added. Investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. TFP stands for "Total Factor Productivity". It is computed using the method designed by Ackerberg et al. (2015). Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. Treatment is a dummy variable equal to one if firms have between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.2: Type I and type II errors using the regulatory profit-sharing formula

	$\mathbb{1}_{\{\text{Formula=0}\}}$	$\mathbb{1}_{\{\text{Formula>0}\}}$
$\mathbb{1}_{\{\text{Profit-sharing=0}\}}$	0.39	0.03
$\mathbb{1}_{\{\text{Profit-sharing>0}\}}$	0.13	0.45

Note: $\mathbb{1}_{\{\text{Profit-sharing>0}\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\mathbb{1}_{\{\text{Formula>0}\}}$ is a dummy variable equal to 1 if a firm's regulatory formula is positive. Formula corresponds to the minimal amount of profit-sharing that should be paid by firms according to the rule defined by the law. We find consistent results for 84% of firms: 39% have a negative formula and don't pay profit-sharing while 45% have a positive formula and pay some profit-sharing. Only 13% of firms have a negative formula and still pay some profit-sharing while 3% of firms have a positive formula but don't pay any profit-sharing. The variables are computed for all firms with employment between 50 and 300 over the period 1992-1997. Go back to main text

Table C.3: Incidence on workers and shareholders conditional on firms' profits

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	$\frac{\text{Profit-sharing}}{\text{value added}}$	$\frac{\text{Wage}}{\text{value added}}$	$\frac{\text{Tot. compensation}}{\text{value added}}$	$\frac{\text{Profits}}{\text{value added}}$	$\frac{\text{Taxes}}{\text{value added}}$	$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	$\frac{\text{Profit-sharing}}{\text{value added}}$	$\frac{\text{Wage}}{\text{value added}}$	$\frac{\text{Tot. compensation}}{\text{value added}}$	$\frac{\text{Profits}}{\text{value added}}$	$\frac{\text{Taxes}}{\text{value added}}$
Panel A: Relative to large control												
Treatment x Post	0.2121***	0.0002**	0.0020	0.0019	-0.0000	-0.0003	0.0401***	0.0003***	0.0037	0.0037	-0.0022	-0.0004
	(0.0090)	(0.0001)	(0.0022)	(0.0021)	(0.0024)	(0.0003)	(0.0076)	(0.0001)	(0.0029)	(0.0029)	(0.0034)	(0.0004)
Treatment x Post x $\frac{\text{Formula}}{\text{value added}}$	14.9437***	0.4536***	-0.0285	0.4230***	-0.5886***	-0.1661***						
	(0.6191)	(0.0133)	(0.1173)	(0.1172)	(0.1183)	(0.0247)						
Treatment x Post x $\mathbb{1}_{\{\text{Tercile 2}\geq\frac{\text{Formula}}{\text{value added}}>\text{Tercile 1}\}}$							0.3405***	0.0016***	-0.0009	0.0007	-0.0025	-0.0012**
							(0.0158)	(0.0002)	(0.0033)	(0.0033)	(0.0039)	(0.0006)
Treatment x Post x $\mathbb{1}_{\{\frac{\text{Formula}}{\text{value added}}>\text{Tercile 2}\}}$							0.5200***	0.0101***	-0.0034	0.0065*	-0.0094**	-0.0033***
							(0.0140)	(0.0003)	(0.0034)	(0.0034)	(0.0039)	(0.0009)
Panel B: Relative to small control												
Treatment x Post	0.1209***	0.0002**	0.0023	0.0025	0.0015	-0.0002	0.0086	0.0001	-0.0004	-0.0004	0.0015	0.0005
	(0.0065)	(0.0001)	(0.0020)	(0.0020)	(0.0021)	(0.0003)	(0.0059)	(0.0001)	(0.0028)	(0.0028)	(0.0032)	(0.0004)
Treatment x Post x $\frac{\text{Formula}}{\text{value added}}$	15.6810***	0.4053***	-0.0637	0.3277***	-0.5145***	-0.1456***						
	(0.5434)	(0.0122)	(0.1103)	(0.1107)	(0.1080)	(0.0235)						
Treatment x Post x $\mathbb{1}_{\{\text{Tercile 2}\geq\frac{\text{Formula}}{\text{value added}}>\text{Tercile 1}\}}$							0.3235***	0.0015***	0.0040	0.0056*	-0.0007	-0.0016***
							(0.0118)	(0.0001)	(0.0031)	(0.0031)	(0.0036)	(0.0005)
Treatment x Post x $\mathbb{1}_{\{\frac{\text{Formula}}{\text{value added}}>\text{Tercile 2}\}}$							0.5393***	0.0101***	-0.0002	0.0097***	-0.0103***	-0.0036***
							(0.0129)	(0.0003)	(0.0033)	(0.0033)	(0.0037)	(0.0009)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.63	0.75	0.64	0.63	0.45	0.92	0.69	0.69	0.63	0.62	0.44	0.81
Observations	126,830	124,688	120,736	120,703	121,409	121,640	126,830	124,688	120,736	120,703	121,409	121,640

Note: This table reports Intent to Treat estimates of the impact of mandatory profit-sharing at the firm level, by level of *formula*. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{value added}}$ is the ratio of firms' corporate income tax to its value added. All ratios are defined only for firms with positive value added. We report the results of the following regression:

$$\begin{aligned} Y_{icst} \quad = \quad & \gamma^T \pi_{it}.\mathbb{1}_{\{i\in\text{Treated}\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_1^T \mathbb{1}_{\{i\in\text{Treated}\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_2^T \pi_{it}.\mathbb{1}_{\{i\in\text{Treated}\}} + \gamma^C \pi_{it}.\mathbb{1}_{\{i\in\text{Control}_l\}}.\mathbb{1}_{\{t\geq 1991\}} \\ & + \theta_1^C \mathbb{1}_{\{i\in\text{Control}_l\}}.\mathbb{1}_{\{t\geq 1991\}} + \theta_2^C \pi_{it}.\mathbb{1}_{\{i\in\text{Control}_l\}} + \mu_1 \pi_{it}.\mathbb{1}_{\{t\geq 1991\}} + \mu_2 \pi_{it} + \alpha_i + \delta_{ct} + \mu_{st} + \epsilon_{icst}. \end{aligned}$$

Treatment is a dummy variable equal to one if a firm has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. $\frac{\text{Formula}}{\text{value added}}$ is the ratio of firms' minimal amount of profit-sharing that should be paid according to the law (see Equation (1)) to its value added. $\mathbb{1}_{\{\text{Tercile 2}\geq\frac{\text{Formula}}{\text{value added}}>\text{Tercile 1}\}}$ is a dummy variable equal to one if firms' $\frac{\text{Formula}}{\text{value added}}$ is comprised between the first and second terciles of the sample's distribution. $\mathbb{1}_{\{\frac{\text{Formula}}{\text{value added}}>\text{Tercile 2}\}}$ is a dummy variable equal to one if firms' $\frac{\text{Formula}}{\text{value added}}$ is above the second tercile of the sample's distribution. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.4: Robustness check: Balanced sample of firms

	$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	$\frac{\text{Profit-sharing}}{\text{value added}}$	$\frac{\text{Wage}}{\text{value added}}$	$\frac{\text{Tot. compensation}}{\text{value added}}$	$\frac{\text{Profits}}{\text{value added}}$	$\frac{\text{Taxes}}{\text{value added}}$	Investment Rate	TFP Ackerberg-Caves-Frazer
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Relative to large control								
Treatment x Post	0.3995***	0.0052***	0.0008	0.0057***	-0.0033	-0.0016*	0.0074*	-0.0063
	(0.0118)	(0.0002)	(0.0022)	(0.0021)	(0.0023)	(0.0009)	(0.0042)	(0.0056)
Panel B: Relative to small control								
Treatment x Post	0.2909***	0.0040***	0.0027	0.0071***	-0.0039*	-0.0008	-0.0036	-0.0050
	(0.0091)	(0.0002)	(0.0021)	(0.0020)	(0.0020)	(0.0009)	(0.0041)	(0.0050)
Panel C: Relative to both groups								
Treatment x Post	0.3407***	0.0046***	0.0019	0.0064***	-0.0036*	-0.0012	0.0015	-0.0056
	(0.0094)	(0.0002)	(0.0018)	(0.0018)	(0.0019)	(0.0008)	(0.0036)	(0.0045)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.54	0.50	0.58	0.58	0.37	0.55	0.15	0.88
Observations	89,993	87,186	85,628	85,624	86,282	85,415	85,827	84,634

Note: This table reproduces the main analysis on a balanced sample of firms observed between 1985 and 1997. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{value added}}$ is the ratio of firms' corporate income taxe to its value added. All the ratios are defined only for firms with positive value added. Investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. TFP stands for "Total Factor Productivity". It is computed using the method designed by Ackerberg et al. (2015). Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. Treatment is a dummy variable equal to one if firms have between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.5: Robustness check: Dividing the treatment group into two subgroups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	$\frac{\text{Profit-sharing}}{\text{value added}}$	$\frac{\text{Wage}}{\text{value added}}$	$\frac{\text{Tot. compensation}}{\text{value added}}$	$\frac{\text{Profits}}{\text{value added}}$	$\frac{\text{Taxes}}{\text{value added}}$	Investment Rate	TFP Ackerberg-Caves-Frazer
Panel A: bigger treatment group against large control								
Treatment x Post	0.3400***	0.0044***	0.0024	0.0068***	-0.0067***	-0.0031***	0.0002	-0.0071
	(0.0112)	(0.0002)	(0.0022)	(0.0021)	(0.0024)	(0.0009)	(0.0043)	(0.0055)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.44	0.45	0.57	0.57	0.34	0.55	0.17	0.80
Observations	73,344	69,114	67,929	68,049	68,439	68,584	68,780	67,102
Panel B: smaller treatment group against small control								
Treatment x Post	0.2337***	0.0031***	0.0028	0.0064***	-0.0036**	-0.0014**	-0.0018	0.0021
	(0.0074)	(0.0001)	(0.0018)	(0.0018)	(0.0019)	(0.0007)	(0.0035)	(0.0044)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.46	0.41	0.53	0.53	0.33	0.54	0.15	0.76
Observations	111,777	108,914	104,258	104,109	104,988	104,888	104,013	103,085

Note: This table reproduces the main analysis for two subgroups of treated firms. Panel A compares treated firms with employment between 70 and 85 to control firms with employment between 120 and 300, measured in 1990. Panel B compares treated firms with employment between 55 and 69 to control firms with employment between 35 and 45, measured in 1990. Panel A and Panel B display the results of two separate regressions. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{value added}}$ is the ratio of firms' corporate income taxe to its value added. All the ratios are defined only for firms with positive value added. Investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. TFP stands for "Total Factor Productivity". It is computed using the method designed by Ackerberg et al. (2015). Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. Treatment is a dummy variable equal to one if firms have between 55 and 85 employees in 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation for each subsample of interest using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.6: Semi-elasticity of profits and taxes to profit-sharing at the firm level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$\frac{\text{Profits}}{\text{value added}}$		$\frac{\text{Taxes}}{\text{value added}}$		$\frac{\text{Profits}}{\text{value added}}$		$\frac{\text{Taxes}}{\text{value added}}$	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
Panel A: Profit-Sharing Dummy								
$\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	0.0538***	-0.0137***	0.0238***	-0.0042**				
	(0.0010)	(0.0053)	(0.0004)	(0.0020)				
Panel B: Profit-sharing to value added ratio								
$\frac{\text{Profit-sharing}}{\text{value added}}$					3.5778***	-1.3055***	1.9958***	-0.4681***
					(0.0564)	(0.4075)	(0.0282)	(0.1573)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cragg Donald F stat		7,277		7,319		3,971		3,995
Kleibergen Paap F stat		1,683		1,687		975		976
Observations	123,538	123,538	123,542	123,542	120,562	120,562	120,461	120,461

Note: This table provides the semi-elasticity of the net-income share (respectively the tax share) to profit-sharing at the firm level. $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Profits}}{\text{value added}}$ is the ratio of firms' net income to its value added. $\frac{\text{Taxes}}{\text{value added}}$ is the ratio of firms' corporate income taxes to its value added. $\frac{\text{Profit-sharing}}{\text{value added}}$ is the ratio between the amount of profit-sharing paid by a firm and its value added. Column (1), (3), (5) and (7) use OLS estimations. Column (2), (4), (6) and (8) instrument profit-sharing using the interaction between a Treatment dummy, equal to one if the firm has between 55 and 85 employees in 1989 and 1990, and a Post dummy equal to one after 1990. The semi-elasticity is estimated using a two-stage least squares procedure. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.7: Additional measures of productivity and working conditions

	(1)	(2)	(3)
	$\mathbb{1}_{\{\text{Sick leave}\}}$	$\mathbb{1}_{\{\text{Overtime}\}}$	$\frac{\text{Actual hours - Usual hours}}{\text{Usual hours}}$
Panel A: Relative to large control			
Treatment x Post	-0.0012	0.0007	-0.0002
	(0.0021)	(0.0019)	(0.0011)
Panel B: Relative to small control			
Treatment x Post	-0.0035	0.0022	-0.0019*
	(0.0022)	(0.0020)	(0.0011)
Panel C: Relative to both groups			
Treatment x Post	-0.0022	0.0013	-0.0010
	(0.0020)	(0.0017)	(0.0010)
Firm-size FE	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes
Adj R^2	0.00	0.01	0.01
Observations	201,775	201,775	108,272

Note: This table reports estimates of the impact of mandatory profit-sharing at the individual level. $\mathbb{1}_{\{\text{Sick leave}\}}$ is a dummy variable equal to 1 if a worker declares fewer working hours during the reference week due to sick leave. $\mathbb{1}_{\{\text{Overtime}\}}$ is a dummy variable equal to 1 if a worker declares working more hours than the usual number of hours during the reference week. Finally, $\frac{\text{Actual hours - Usual hours}}{\text{Usual hours}}$ is the difference between the declared number of hours worked during the reference week and the usual number of hours worked, expressed as a fraction of usual working time. These three measures are computed using the labor force survey. Treatment is a dummy variable equal to one if the individual works in a firm with employment between 50 and 99. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_T + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_T corresponds to group fixed-effects (i.e., treatment group, small control group, large control group), δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 100 and 500 employees. The small control group consists of firms with between 20 and 49 employees. Standard errors (in parenthesis) are robust to heteroskedasticity. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.8: Heterogenous effect on exposed firms

	(1) $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$	(2) $\frac{\text{Profit-sharing}}{\text{value added}}$	(3) $\frac{\text{Wage}}{\text{value added}}$	(4) $\frac{\text{Tot. compensation}}{\text{value added}}$	(5) $\frac{\text{Profits}}{\text{value added}}$	(6) $\frac{\text{Taxes}}{\text{value added}}$	(7) Investment Rate	(8) TFP Ackerberg-Caves-Frazer
Panel A: Relative to large control								
Treatment x Post	0.2004***	0.0011***	0.0024	0.0031	-0.0024	-0.0004	0.0025	-0.0051
	(0.0124)	(0.0002)	(0.0027)	(0.0026)	(0.0029)	(0.0007)	(0.0052)	(0.0068)
Treatment x Post x $\mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}}$	0.3266***	0.0074***	-0.0023	0.0051	-0.0061	-0.0027**	0.0058	-0.0029
	(0.0185)	(0.0003)	(0.0037)	(0.0035)	(0.0039)	(0.0013)	(0.0070)	(0.0093)
Panel B: Relative to small control								
Treatment x Post	0.1730***	0.0019***	0.0013	0.0032	-0.0006	-0.0004	-0.0047	-0.0015
	(0.0088)	(0.0001)	(0.0024)	(0.0024)	(0.0026)	(0.0007)	(0.0051)	(0.0060)
Treatment x Post x $\mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}}$	0.1624***	0.0032***	0.0023	0.0062*	-0.0068*	-0.0032**	-0.0004	-0.0042
	(0.0142)	(0.0002)	(0.0035)	(0.0034)	(0.0036)	(0.0013)	(0.0069)	(0.0085)
Panel C: Relative to both groups								
Treatment x Post	0.1850***	0.0015***	0.0019	0.0032	-0.0014	-0.0004	-0.0014	-0.0032
	(0.0094)	(0.0001)	(0.0022)	(0.0021)	(0.0024)	(0.0006)	(0.0045)	(0.0054)
Treatment x Post x $\mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}}$	0.2371***	0.0051***	0.0002	0.0057*	-0.0065**	-0.0030***	0.0024	-0.0036
	(0.0147)	(0.0003)	(0.0031)	(0.0030)	(0.0033)	(0.0011)	(0.0060)	(0.0077)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.54	0.51	0.57	0.57	0.35	0.58	0.16	0.87
Observations	132,360	127,597	123,482	123,469	124,301	124,343	123,605	122,087

Note: $\mathbb{1}_{\{\text{Profit-sharing}>0\}}$ is a dummy variable equal to 1 if a firm reports a strictly positive amount of profit-sharing on its income statement. $\frac{\text{Tot. compensation}}{\text{value added}}$ is the ratio of firms' wage bill plus profit-sharing to its value added. $\frac{\text{Profits}}{\text{value added}}$ is the ratio of firms' net income to its value added. All ratios are defined only for firms with positive value added. Investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. TFP stands for "Total Factor Productivity". It is computed using the method designed by Ackerberg et al. (2015). Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. Treatment is a dummy variable equal to one if a firm has between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. $\mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}}$ is a dummy variable equal to one when a firm's average pre-reform ratio of profit-sharing formula over value added is above its in-sample median value. We estimate the following equation using OLS:

$$\begin{aligned} Y_{icst} = \; & \phi^T \mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}} . \mathbb{1}_{\{i\in\text{Treated}\}} . \mathbb{1}_{\{t\geq 1991\}} + \phi^C \mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}} . \mathbb{1}_{\{i\in\text{Control}_l\}} . \mathbb{1}_{\{t\geq 1991\}} \\ & + \xi^T \mathbb{1}_{\{i\in\text{Treated}\}} . \mathbb{1}_{\{t\geq 1991\}} + \xi^C \mathbb{1}_{\{i\in\text{Control}_l\}} . \mathbb{1}_{\{t\geq 1991\}} + \nu \mathbb{1}_{\{\frac{\text{Formula}_{pre}}{\text{value added}}>\text{Median}\}} . \mathbb{1}_{\{t\geq 1991\}} \\ & + \alpha_i + \delta_{ct} + \mu_{st} + \omega_{icst} \end{aligned}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports ξ^T and ϕ^T when the large control is the reference group. Panel B reports ξ^T and ϕ^T when the small control is the reference group. Panel C reports ξ^T and ϕ^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.9: Avoidance at the intensive margin

	(1)	(2)	(3)	(4)
	Labor share	$\frac{\text{Excess-profits}}{\text{value added}}$	$\frac{\text{Formula}}{\text{value added}}$	$\mathbb{1}_{\{\text{Formula}>0\}}$
Panel A: Relative to large control				
Treatment x Post	0.0025	0.0007	0.0001	0.0010
	(0.0015)	(0.0012)	(0.0002)	(0.0089)
Panel B: Relative to small control				
Treatment x Post	0.0010	-0.0004	-0.0000	-0.0156*
	(0.0014)	(0.0011)	(0.0002)	(0.0082)
Panel C: Relative to both groups				
Treatment x Post	0.0017	0.0001	0.0000	-0.0080
	(0.0013)	(0.0010)	(0.0002)	(0.0074)
Firm FE	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes
Adj R^2	0.69	0.48	0.47	0.29
Observations	125,399	124,375	126,849	130,866

Note: This table investigates whether firms mandated to share profits after the 1990 reform were able to optimize their excess-profits in order to reduce the amount of profits distributed to their employees. The labor share corresponds to the ratio of wages over value added, as defined in the regulatory formula. Excess-profits corresponds to firms' profits minus 5% of equity. Formula corresponds to the regulatory formula that determines the amount of profit-sharing that must be paid to employees, defined in Equation 1. Treatment is a dummy variable equal to one if firms have between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.10: Composition of the workforce

	(1) Age	(2) $\mathbb{1}_{\{\text{Male}\}}$	(3) Experience	(4) $\mathbb{1}_{\{\text{Clerk}\}}$	(5) $\mathbb{1}_{\{\text{Blue-collar}\}}$	(6) $\mathbb{1}_{\{\text{Supervisor}\}}$	(7) $\mathbb{1}_{\{\text{Manager}\}}$
Panel A: Relative to large control							
Treatment x Post	0.2869**	-0.0054	0.2477**	0.0005	-0.0017	0.0040	-0.0028
	(0.1136)	(0.0040)	(0.1169)	(0.0039)	(0.0047)	(0.0044)	(0.0028)
Panel B: Relative to small control							
Treatment x Post	-0.3510**	0.0073	-0.2705*	-0.0065	-0.0063	0.0147***	-0.0012
	(0.1488)	(0.0050)	(0.1539)	(0.0051)	(0.0058)	(0.0055)	(0.0036)
Panel C: Relative to both groups							
Treatment x Post	0.1540	-0.0027	0.1394	-0.0009	-0.0027	0.0062	-0.0024
	(0.1094)	(0.0038)	(0.1126)	(0.0037)	(0.0045)	(0.0042)	(0.0027)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.20	0.36	0.21	0.30	0.39	0.17	0.21
Observations	433,176	449,775	430,004	449,775	449,775	449,775	449,775

Note: This table studies the evolution of the characteristics of workers employed in firms mandated to share profits after the 1990 reform. Experience corresponds to the number of years of potential experience in the labor market. Clerk, Blue-collar, Supervisor and Manager correspond to the 1 digit occupation code. Treatment is a dummy variable equal to one if firms have between 55 and 85 employees in 1989 and 1990. Post is a dummy variable equal to one after 1990, the introduction of the reform. We estimate the following equation using OLS:

$$Y_{icst} = \alpha_i + \delta_{ct} + \mu_{st} + \beta^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \beta^C \mathbb{1}_{\{i \in \text{Control}\}} \times \mathbb{1}_{\{t \geq 1991\}} + \epsilon_{icst}$$

α_i corresponds to firm fixed-effects, δ_{ct} to county-by-year fixed-effects, and μ_{st} to industry-by-year fixed-effects. Panel A reports β^T when the large control is the reference group. Panel B reports β^T when the small control is the reference group. Panel C reports β^T when both small and large firms are used as controls. The large control group consists of firms with between 120 and 300 employees in 1989 and 1990. The small control group consists of firms with between 35 and 45 employees in 1989 and 1990. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

TABLE C.11: Certainty equivalent for various parameters of Relative Risk Aversion (RRA)

	(1)	(2)	(3)	(4)	(5)
RRA	1	2	3	4	5
$\frac{\widehat{\overline{\text{PS}_{CE}}}}{\overline{\text{PS}}}$	0.89	0.80	0.73	0.67	0.62

Note: This table reports the ratio between the average certainty equivalent, estimated in our sample, and the average value of profit-sharing received by workers. The certainty equivalent is estimated on a panel of individuals working in a large firm (above 100 employees) in 1989. We assume that utility is CRRA with a coefficient of relative risk aversion ranging from 1 (column (1)) to 5 (column (5)). Details of the estimation are provided in Appendix Section B. Go back to main text

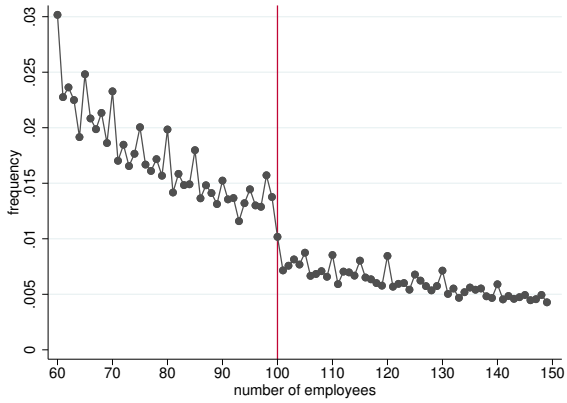
TABLE C.12: Robustness: Effects on workers' compensation, square root specification

	(1)	(2)	(3)	(4)	(5)	(6)
	Wage (sqrt)			Total compensation (sqrt)		
	OLS	IV	IV	OLS	IV	IV
Profit-sharing (sqrt)	0.2604***	-0.0019	0.0328	0.2842***	0.0873***	0.1257***
	(0.0080)	(0.0270)	(0.0284)	(0.0058)	(0.0270)	(0.0284)
Profit-sharing (sqrt) x $\mathbb{1}_{\{\text{Intermediate Skill}\}}$			-0.0387			-0.0501
			(0.0733)			(0.0738)
Profit-sharing (sqrt) x $\mathbb{1}_{\{\text{High-skill}\}}$			-0.3603**			-0.3822**
			(0.1515)			(0.1537)
Employee Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paap F stat.		749	254		749	253
K-P F stat. (Intermediate)			125			125
K-P F stat. (High-skill)			48			48
Nul effect on high-skill (p-value)			0.027			0.088
Observations	426,770	426,149	426,149	426,481	426,481	426,481

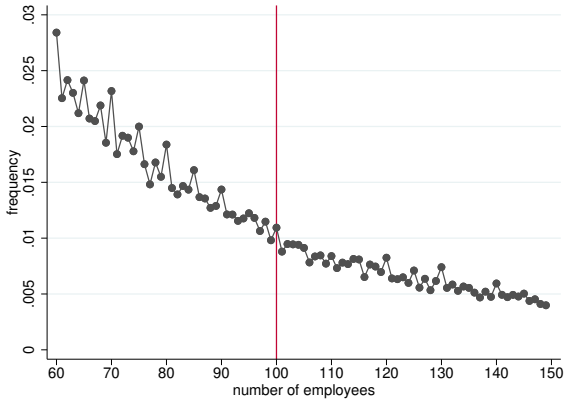
Note: This table shows the effects of profit-sharing on wages and total compensation, at the individual level, by skill, using a square root transformation. Wage is the employee's daily gross wage. Total compensation is the sum of the employee's daily gross wage and the daily amount of profit-sharing received during the year. Profit-sharing (sqrt) is the square root of the daily amount of profit-sharing received by the employee during the year. Intermediate Skill is a dummy equal to one if the employee's job description is supervisor or skilled technician. High-skill is a dummy equal to one for managers, engineers and executives. The baseline skill includes clerks and blue collar-workers. All estimates instrument profit-sharing variables using the interactions between a Treatment dummy, equal to one if the firm the employee works for has between 55 and 85 employees in 1989 and 1990, a Post dummy, equal to one after 1990, and the skill dummies. All regressions include the following employee-level controls: gender, age, age^2, tenure, tenure^2, experience, experience^2, and the employee's 2-digit occupation. All regressions also include firm fixed-effects, industry-year fixed-effects, and province-year fixed-effects. The effect of profit-sharing is estimated using a two-stage least squares procedure. K-P F stat. stands for Kleibergen-Paap F statistics. Standard errors (in parenthesis) are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5% and 10% confidence level. Go back to main text

FIGURE C.1: Distribution of employment around the 100 employee threshold

(A) Pre-reform (1985-1989)



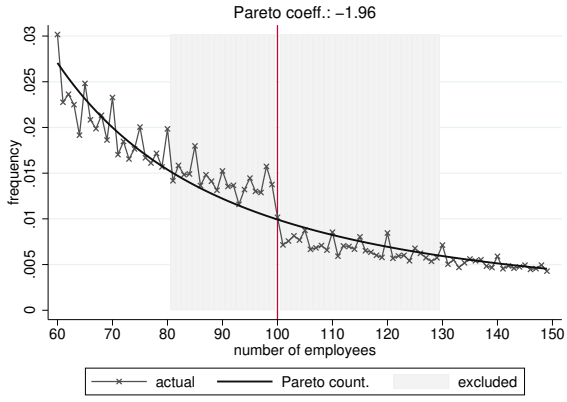
(B) Post-reform (1992-1997)



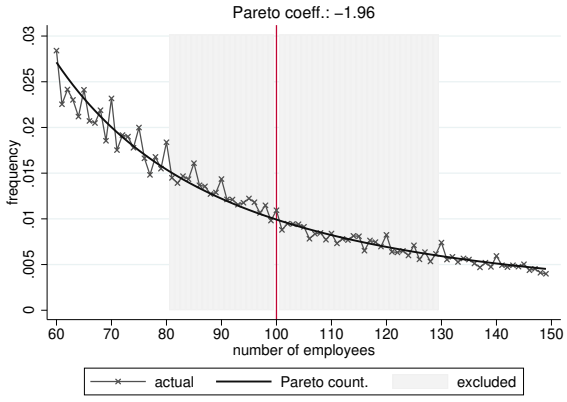
Note: This figure shows the share of firms by employment count for firms with more than 60 employees and less than 150 employees. Panel A corresponds to the pre-reform years (1985-1989): only firms above 100 employees have to share profits. Panel B corresponds to the post-reform years (1992-1997): the threshold for profit-sharing decreases to 50 employees. Firm's employment count comes from tax files. Go back to main text

FIGURE C.2: Distribution of employment around the 100 employee threshold with Pareto counterfactual

(A) Pre-reform (1985-1989)

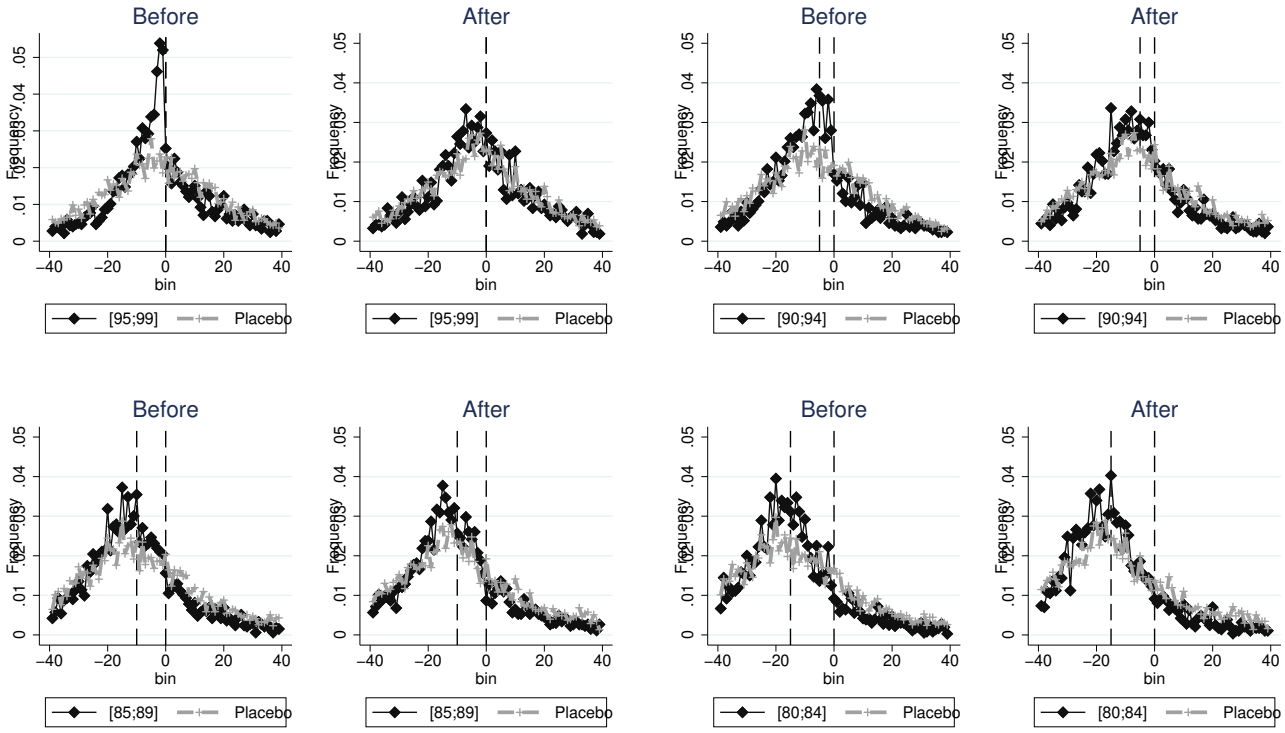


(B) Post-reform (1992-1997)



Note: This figure shows the share of firms by employment count for firms with more than 60 employees and less than 150 employees, compared to a Pareto distribution. Panel A corresponds to the pre-reform years (1985-1989); Panel B to the post-reform years (1992-1997). The Pareto distribution is estimated separately for each sub-period on firms with employment between 60-80 and 130-150. Firm's employment count comes from tax files. Go back to main text

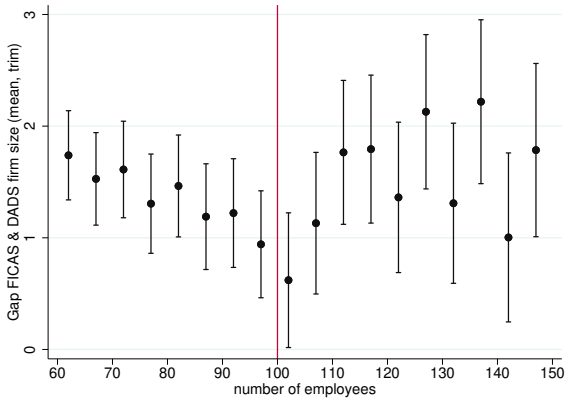
FIGURE C.3: Distribution of 3-year normalized change in employment



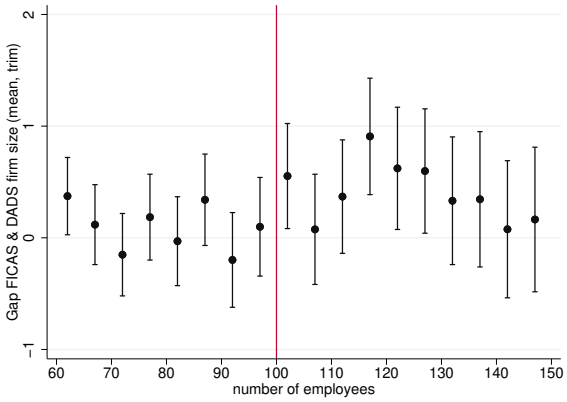
Note: This figure shows the distribution of normalized change in employment from year t to t+3, for pre-reform (left panel, t∈[1985-1987]) and post-reform (right panel, t∈[1994-1996]). Treated firms (solid dark line) are firms with 95-99 employees (respectively 90-94, 85-89, and 80-84 employees). Control firms (dashed gray line) are firms in the 125-149 employee range. For treated firms, the normalized change in employment is $L_{t+3} - 100$. For control firms, it is defined in Equation 5. Go back to main text

FIGURE C.4: Differences between employment counts in FICAS and DADS, by employment bins

(A) Pre-reform (1985-1989)

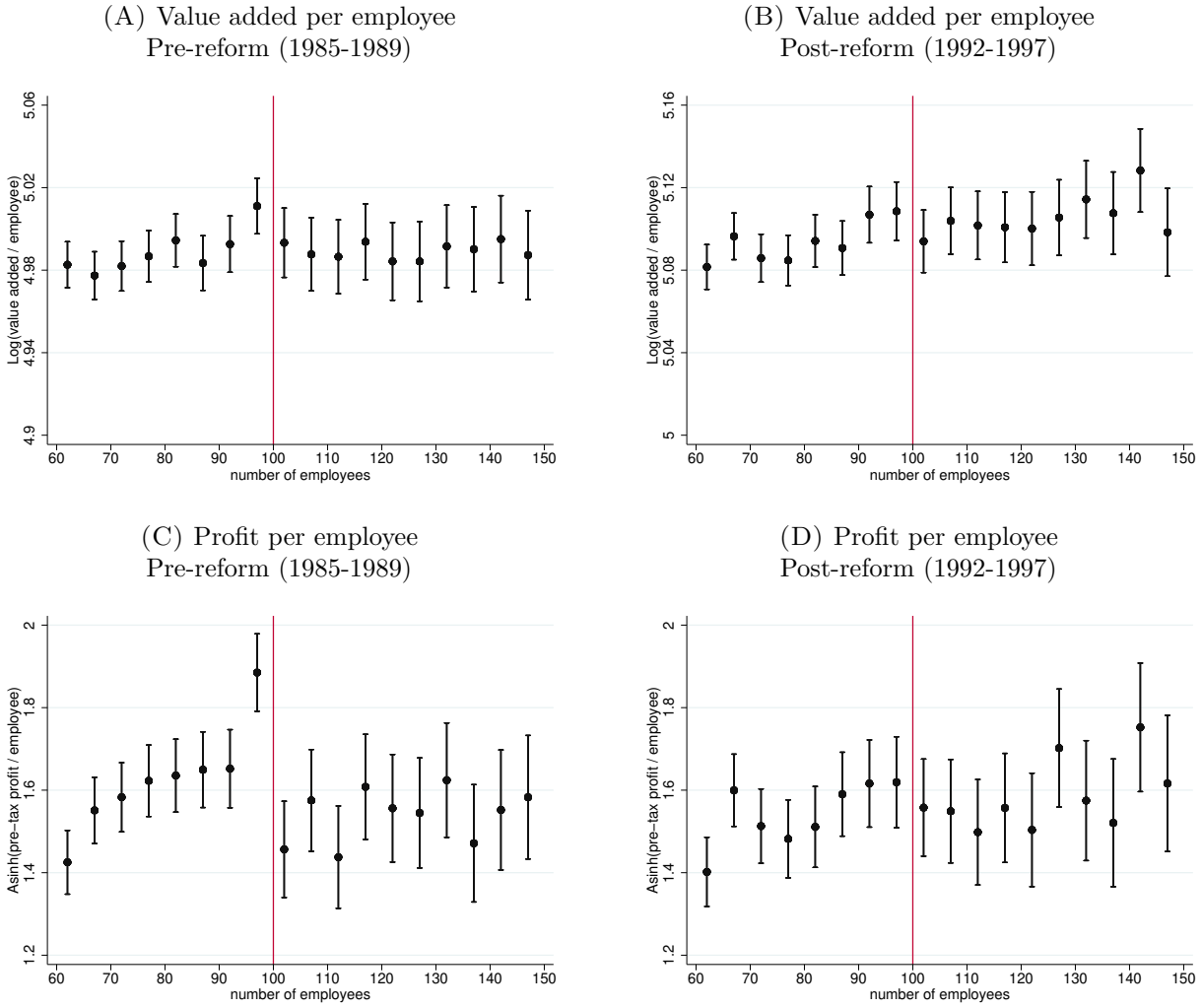


(B) Post-reform (1992-1997)



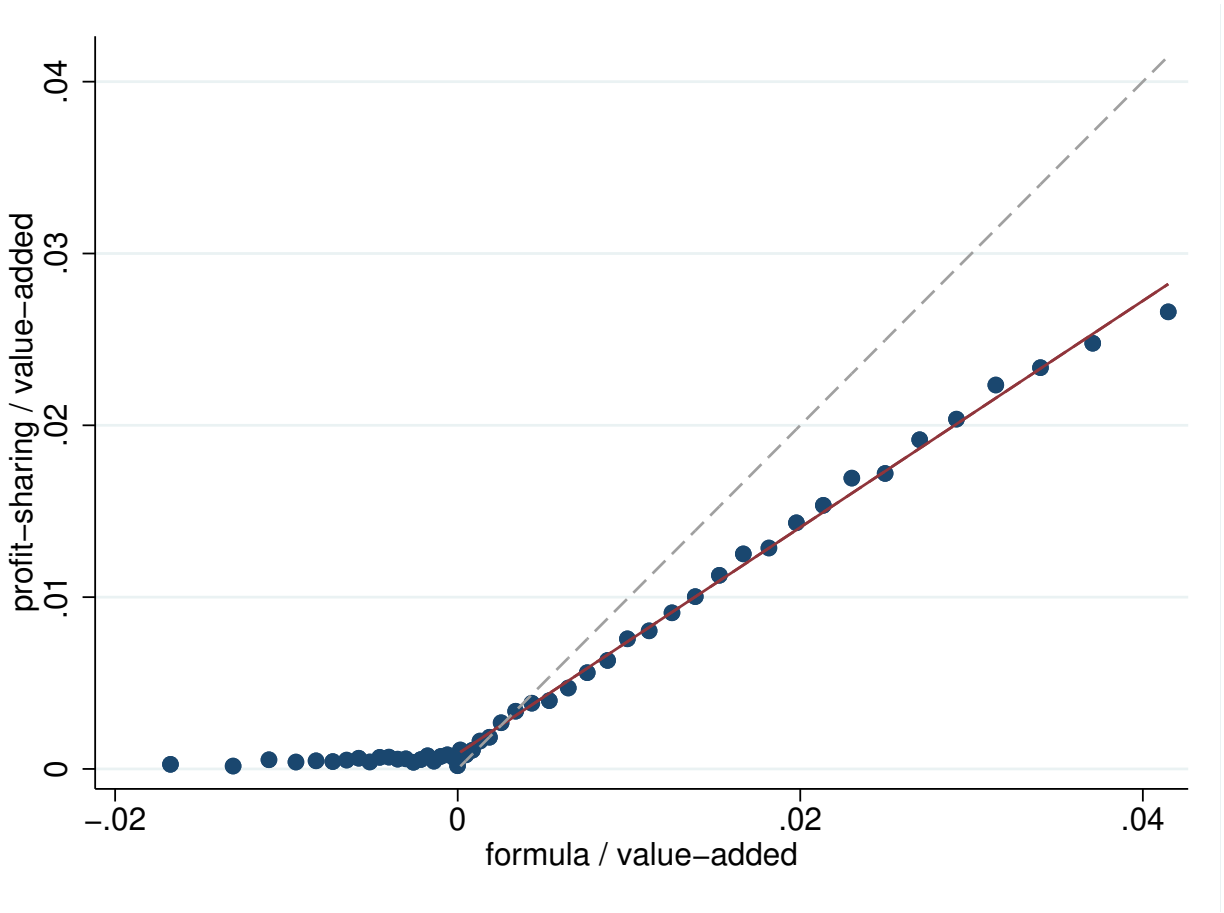
Note: For each firm in the sample, we compute the difference between the employment count reported in the balance sheet data (FICAS) and the one reported in the linked employer-employee data (panel DADS). The figure reports the average difference by employment bins, using five-employee bins starting at 60 employees. The sample period is 1985-1989 (Panel A) and 1992-1997 (Panel B). The vertical bars correspond to 95% confidence intervals. Go back to main text

FIGURE C.5: Value added and profit per employee, by employment bins



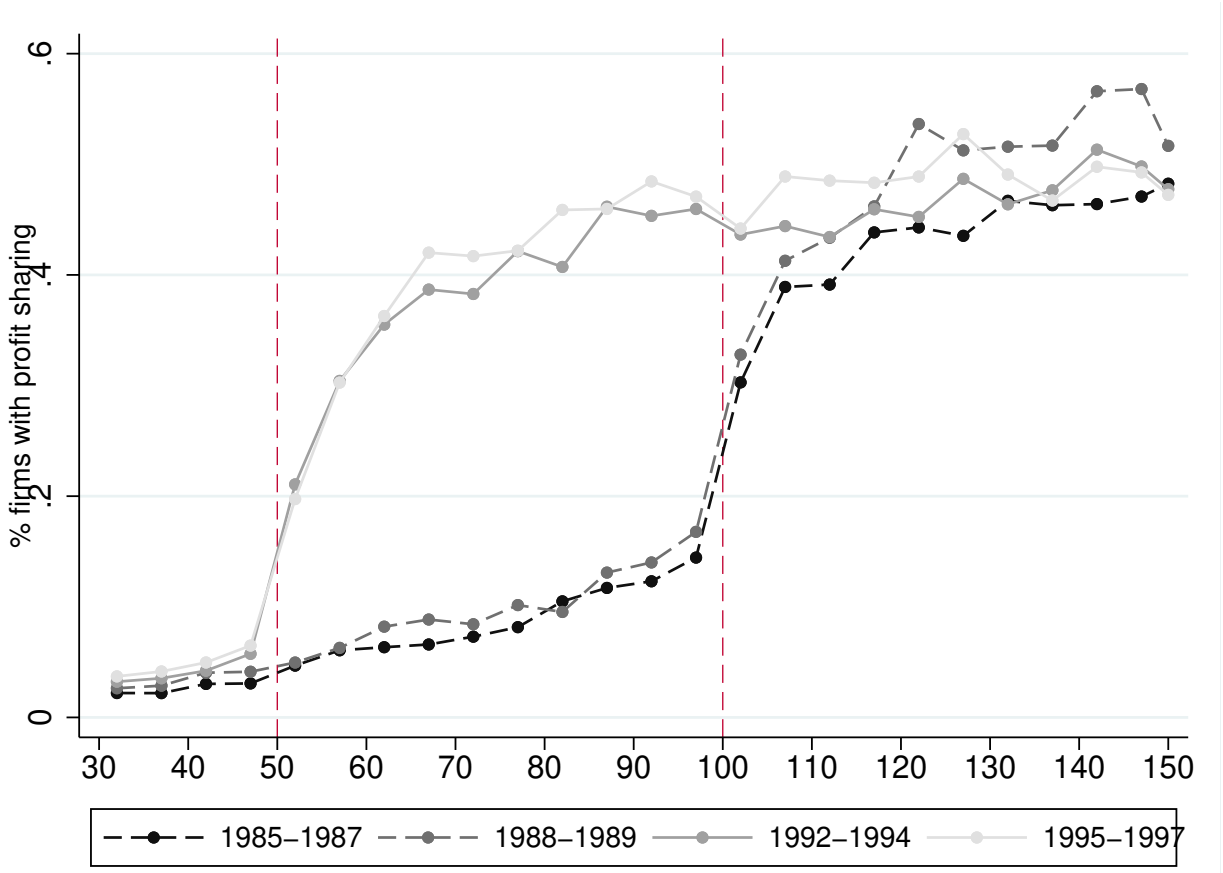
Note: For each firm in the sample, we compute the log ratio of firms' value added to their number of employees (Panel A and B), and the hyperbolic sine transformation of the ratio of firms' pre-tax profit to their number of employees (Panel C and D). The figure reports the average values of these log ratios by employment bins, where we use bins of five employees starting at 60 employees. The sample period is 1985-1989 (Panel A and C) and 1992-1997 (Panel B and D). Firm's employment count, value added and profits come from tax files. The vertical bars correspond to 95% confidence intervals. Go back to main text

FIGURE C.6: Measurement error in the reconstituted regulatory formula



Note: This figure reports a binned scatter plot of firms' profit-sharing against the regulatory formula, both normalized by value added. The sample corresponds to firms with more than 50 employees and less than 300 employees between 1992-1997, i.e. the sample of firms in the post-reform period that are required to share profits with their employees. The x-axis corresponds to 50 bins of the regulatory formula for profit-sharing reconstituted using the tax files and normalized by firms' value added. The y-axis corresponds to the average amount of profit-sharing actually paid, normalized by value added. We estimate a coefficient of 0.66 (standard errors: 0.0006), and a R^2 of 0.996. The gray dashed line represents the 45-degree line. Go back to main text

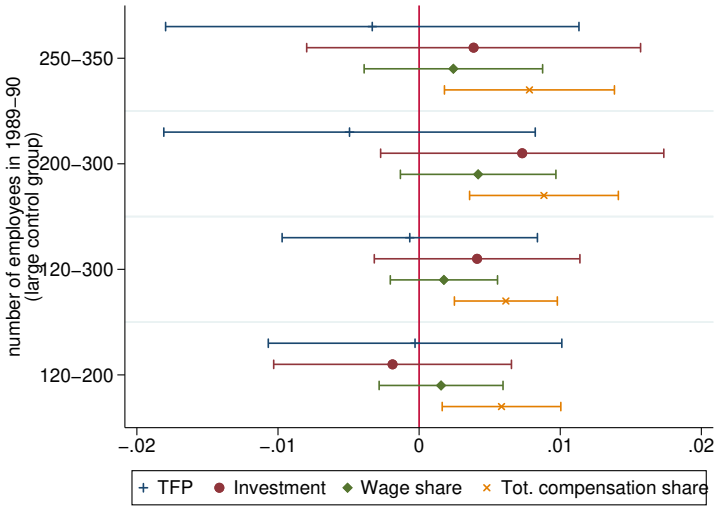
FIGURE C.7: Share of firms reporting some profit-sharing



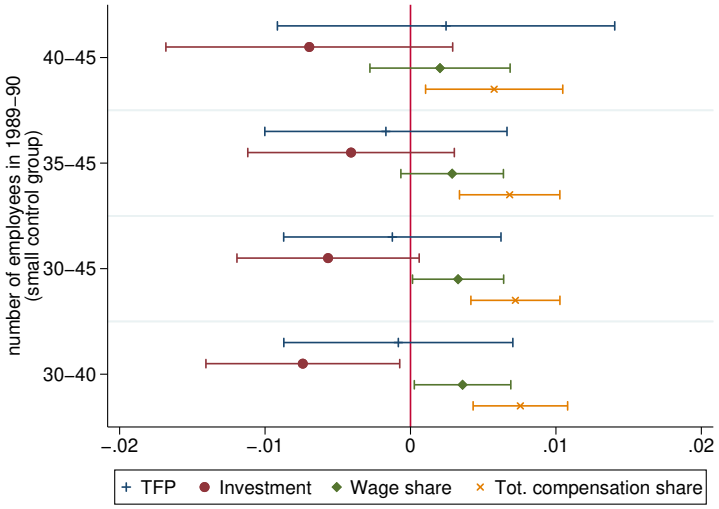
Note: The figure shows the share of firms that report positive profit-sharing on their income statement (y-axis) by employment counts (x-axis), where employment counts are binned in groups of 5 (i.e., 30-34, 35-39,..., 145-149). The figure reports this relation between probability to share profits and number of employees for four different periods: 1985-1987 (pre-reform), 1988-1989 (pre-reform), 1992-1994 (post-reform), 1995-1997 (post-reform). Go back to main text

FIGURE C.8: Robustness check: Definition of the control groups

(A) Large control



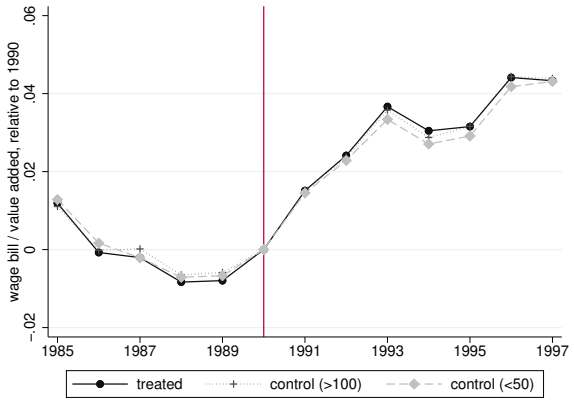
(B) Small control



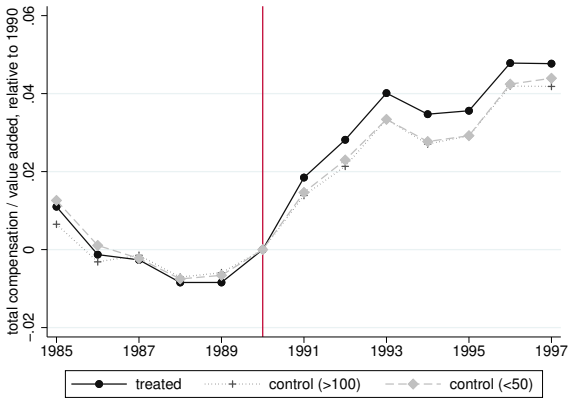
Note: This figure plots β_T from equation 6 for various definitions of the control groups. Panel A reports the coefficients for the impact of profit-sharing on wage share, total compensation share, investment and TFP using the large control group as a reference. Panel B does the same, but uses the small control group as a reference. The total compensation share is the ratio of firms' wage bill plus profit-sharing to its value added. Investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. TFP stands for "Total Factor Productivity". It is computed using the method designed by Ackerberg et al. (2015). Firms' TFP is computed separately for each 2-digit industry using the NAF classification measured in 1990. The horizontal bars are 95% confidence intervals. Go back to main text

FIGURE C.9: Wage and total compensation share in value added over time, by treatment status

(A) Wage share

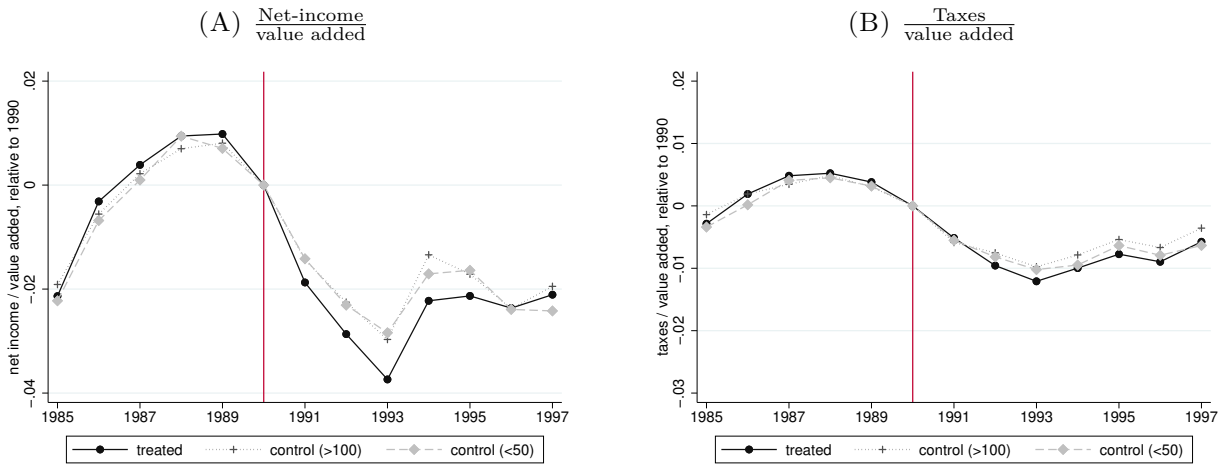


(B) Total compensation share



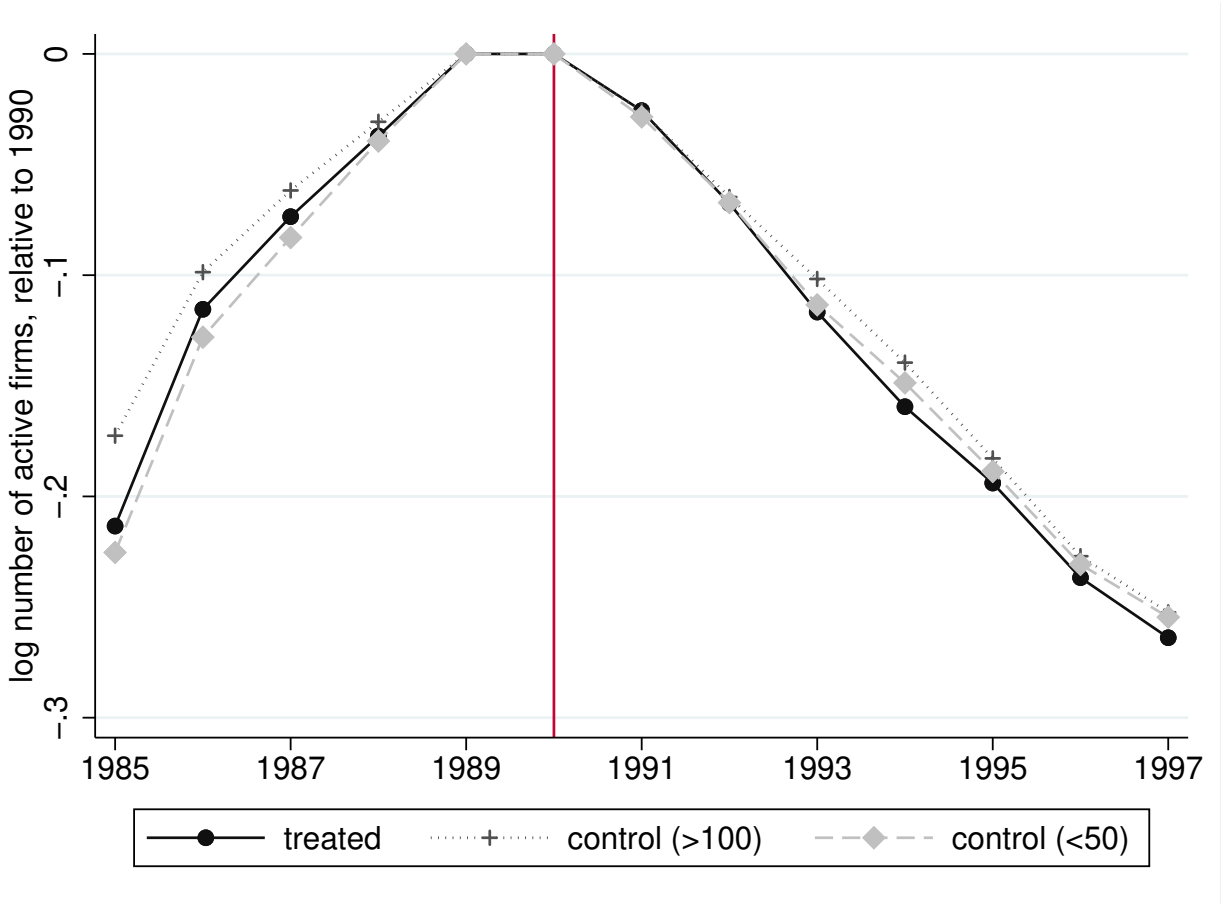
Note: The wage share is defined as the ratio of a firm's wage bill to its value added. Each year, we compute the difference between a firm's wage share and its wage share in 1990. Panel A reports the average of this relative wage share for each group over time. Panel B repeats this exercise for the total compensation share, defined as the ratio of a firm's wage bill plus profit-sharing to its value added. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE C.10: Profit and tax shares in value added over time, by treatment status



Note: The profit share is defined as the ratio of a firm's accounting net income to its value added. The taxe share is defined as the ratio of a firm's corporate taxes to its value added. All the ratios are defined only for firms with positive value added. Each year, we compute the difference between a firm's outcome and its outcome in 1990. The figure reports the average of these relative shares for each group over time. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

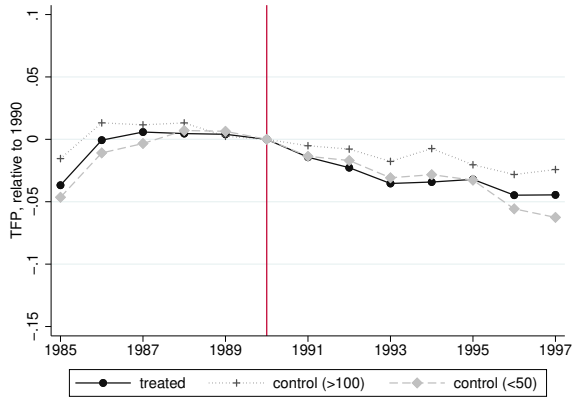
FIGURE C.11: Attrition by group



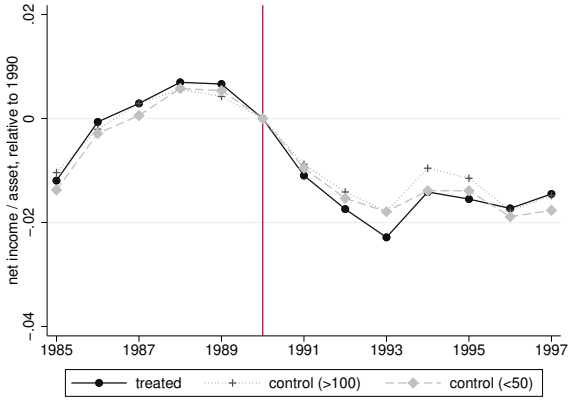
Note: This figure reports for each group the log number of active firms, normalized to zero in 1990. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE C.12: Total Factor Productivity and Return on Asset (ROA), by treatment status

(A) TFP



(B) ROA



Note: TFP is firms' total factor productivity computed using the method of Ackerberg et al. (2015). It is computed separately for each 2-digit industry using the NAF classification measured in 1990. Return on Assets correspond to pre-tax income over net assets. Each year, we compute the difference between a firm's TFP and its TFP in 1990 (similarly for the ROA). The figure reports the average of this relative value for each treatment group over time. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE C.13: Investment rate by treatment status

Note: The investment rate is defined as capital expenditures in tangible assets normalized by the net value of tangible assets. Each year, we compute the difference between a firm's investment ratio and its investment ratio in 1990. The figure reports the average of this relative investment ratio for each group over time. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

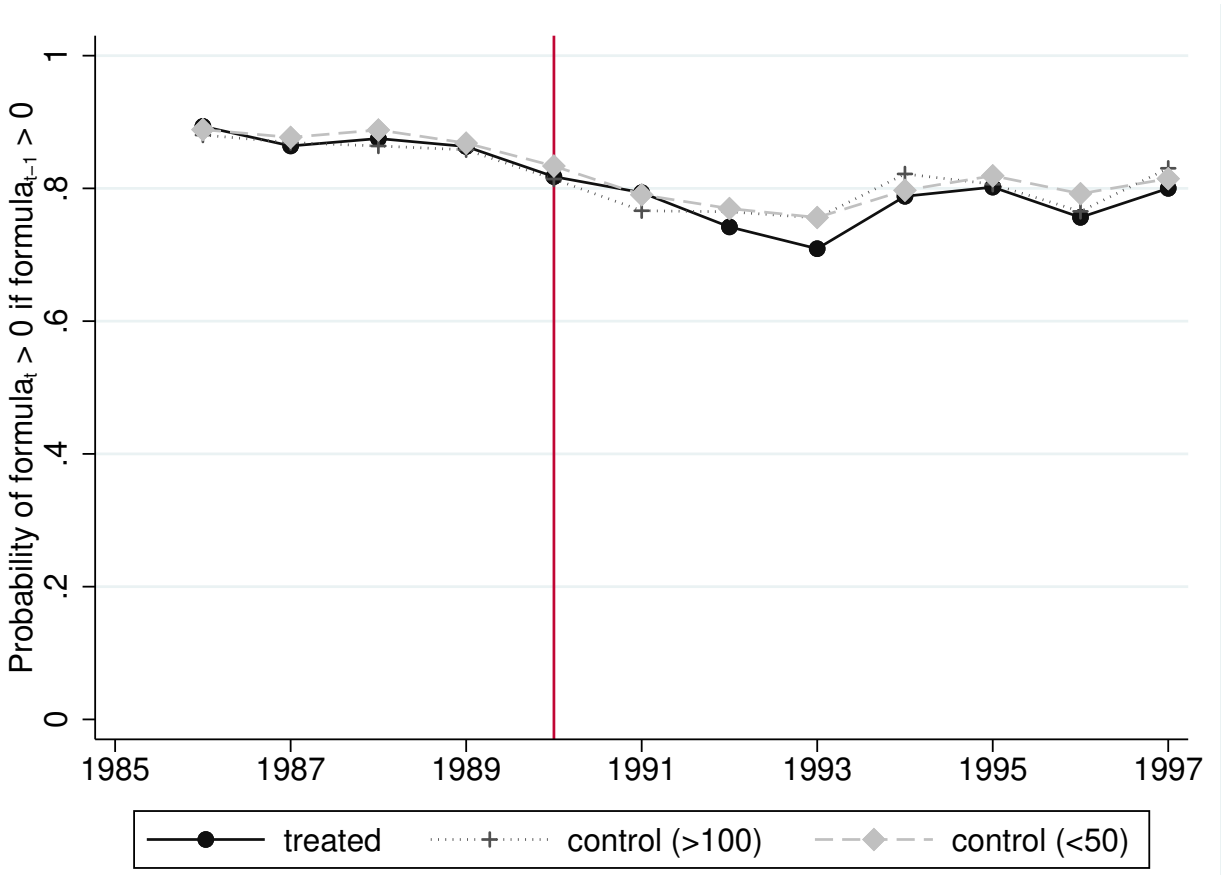
FIGURE C.14: Capital-labor ratio, by treatment status

Note: This figure reports for each group size of firms the log of the average capital-labor ratio. The capital-labor ratio is defined as net total assets divided by the number of employees in the firm. Each year, we compute the difference between a firm's capital-labor ratio and its capital-labor ratio in 1990. The figure reports the average of this relative capital-labor ratio for each treatment group over time. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE C.15: Firm size, by treatment status

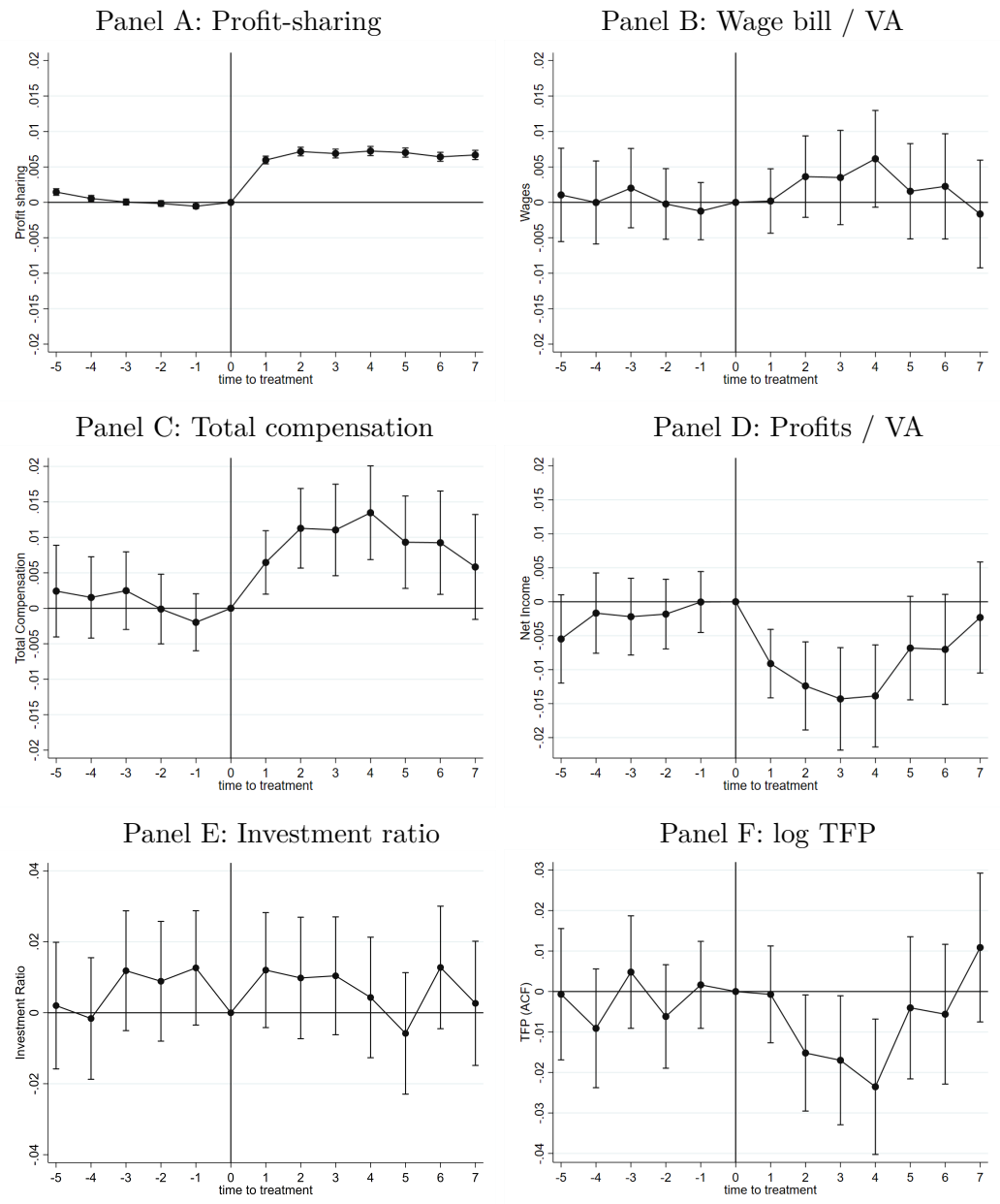
Note: This figure reports for each group size of firms the log of the average value added produced. Each year, we compute the difference between a firm's value added and its value added in 1990. The figure reports the average of this relative value added for each treatment group over time. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE C.16: Persistence of profit-sharing at the firm level



Note: This figure reports for each group size of firms the average probability to have a positive formula in t conditionally on having a positive formula in $t-1$. Treated firms have between 55 and 85 employees in 1989 and 1990 (dark solid dots). Control (>100) are firms with between 120 and 300 employees in 1989 and 1990 (dotted dark gray crosses). Control (<50) are firms with between 35 and 45 employees in 1989 and 1990 (dashed light gray diamonds). Go back to main text

FIGURE C.17: Triple difference: Top vs Bottom half of Pre-Reform Formula

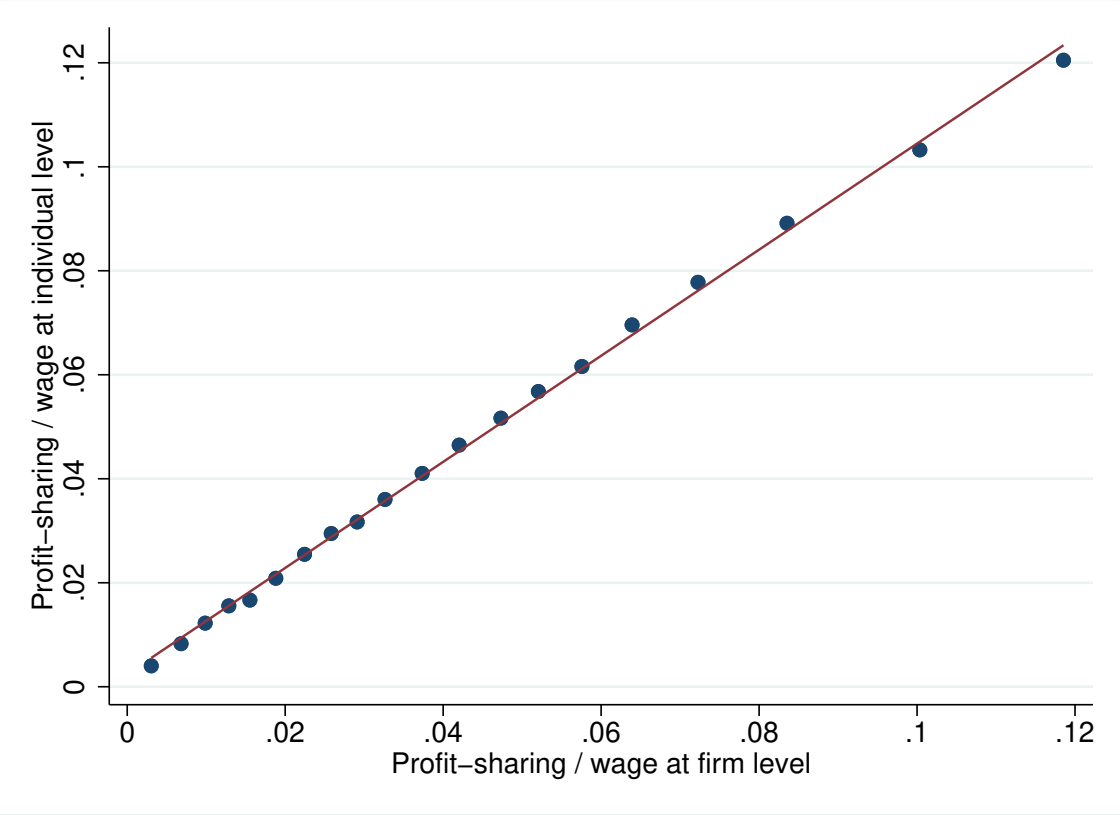


Note: This figure reports results of a triple difference design. We run the following regression:

$$
\begin{aligned}
Y_{icst} \quad = \quad & \sum_{k=-5}^{k=7} \phi_k^T \mathbb{1}_{\{i \in \text{Treated}\}} \times \mathbb{1}_{\{t=1990+k\}} \times \mathbb{1}_{\{\overline{\frac{\text{Formula}_{pre}}{\text{value added}}} > \text{Median}\}} + \xi^T \mathbb{1}_{\{i \in \text{Treated}\}} \cdot \mathbb{1}_{\{t=1990+k\}} + \\
& \phi_k^C \mathbb{1}_{\{i \in \text{Control}\}} \times 1_{\{t=1990+k\}} \times 1_{\{\overline{\frac{\text{Formula}_{pre}}{\text{value added}}} > \text{Median}\}} + \xi^C \mathbb{1}_{\{i \in \text{Control}_l\}} \cdot \mathbb{1}_{\{t=1990+k\}} + \\
& \nu_k \mathbb{1}_{\{t=1990+k\}} \times \mathbb{1}_{\{\overline{\frac{\text{Formula}_{pre}}{\text{value added}}} > \text{Median}\}} + \alpha_i + \delta_{ct} + \mu_{st} + \omega_{icst}
\end{aligned}
$$

where $\mathbb{1}_{\{i \in \text{Treated}\}}$ is an indicator that takes the value one if the firm is treated. $\mathbb{1}_{\{\overline{\frac{\text{Formula}_{pre}}{\text{value added}}} > \text{Median}\}}$ takes the value one when the profit-sharing formula (equation 1) normalized by VA, averaged over the pre-period, is greater than its median. We report the coefficients ϕ_k^T along with their 95% confidence intervals, clustering error terms at the firm level. Y_{icst} is the outcome variable for firm i, observed in province c, industry s at time t. Go back to main text

FIGURE C.18: Sensitivity of profit-sharing payout to wages in a cross-section of employees



Note: We use the ECMOSS survey wave of 2005. This survey contains individual-level data on 120,103 employees in 10,997 firms. This figure is the binned scatter plot of individual profit-sharing to wage ratio against *firm-level* profit-sharing to wage ratio. In the note below, we report the result of the simple regression:

$$P_{i,f} = a + b.\widehat{P_f} + \epsilon_{i,f}$$

where $P_{i,f} = \left(\frac{\text{PS payout}_{i,f}}{\text{wage}_{i,f}}\right)$ is the ratio of profit-sharing payout to wage of employee i in firm f. $\widehat{P_f}$ is the ratio of total profit sharing payouts and wages at the firm level (what we use for imputation). If all firms pay out profit-sharing as a fixed proportion of wages, we should have: $R^2 = 1$, $a = 0$ and $b = 1$. We find $\hat{a} = 0$, $\hat{b} = 1.02$, with a clustered t statistics at the firm level of 111.0 and a $R^2 = 0.85$. In the Figure and regression, we restrict ourselves to firms which have at least 12 employees present in the survey. Go back to main text