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A Seat at the Table: The Effects of Workers' Representation on Firm Performance and Jobs

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A Seat at the Table: The Effects of Workers' Representation on Firm Performance and Jobs*

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Abstract

Institutions representing the workers' voice have long been a contentious topic in the economic literature. Against a backdrop of inconclusive evidence and limited use of credible identification strategies, we study the impact of the 2015 policy change that introduced mandatory board-level employee representation in firms with over 1,000 employees in France. Using rich linked employer-employee data and two empirical strategies—a difference-in-differences and a difference-in-discontinuity approach—we examine how the reform affected firms and workers. Our results show a positive impact on job quality, with no evidence of adverse effects on firm performance, and heterogeneous effects between manufacturing and service sectors.

Keywords: Workers' Voice, Employee Representation, Job Quality, Corporate Governance, Difference-in-Discontinuity Design.
JEL: J31, J53, K31.

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1 Introduction

Interest in alternative forms of corporate governance emphasizing greater workers' participation has recently increased, after decades of rising inequality and surging corporate profits in advanced economies.[1] Evidence is growing that power imbalances between employers and employees are a crucial driver of these trends (DiNardo et al., 1996; Card and DiNardo, 2002; Kristal and Cohen, 2017; Stansbury and Summers, 2020; Farber et al., 2021) and the COVID-19 crisis, which worsened pre-existing inequalities (Blundell et al., 2020), has amplified calls to reduce power imbalances within the firm (Ferreras et al., 2022).

Needless to say, institutions that support the workers' voice have been controversial since their inception, with a substantial body of literature providing conflicting views on their effects on firms and workers (Freeman and Medoff, 1984; Bennett and Kaufman, 2007; Addison, 2009; Hansmann and Kraakman, 2009).

The debate about employee representation is rooted in one of the fundamental questions in the theory of the firm (Alchian and Demsetz, 1972; Marglin, 1974; Landes, 1986): Who should control the firm? Corporate law, particularly in the US, has traditionally held that firms should be controlled exclusively by their owners or shareholders (Hansmann and Kraakman, 2009). The rationale for strong shareholder rights is famously captured in Friedman (1970)'s assertion that "The social responsibility of business is to increase its profits." From this perspective, granting workers greater decision-making authority is expected to have adverse consequences for firms and broader social welfare because more powerful workers will raise wages above competitive levels, extracting excessive rents.[2] This creates a classic "hold-up" problem, deterring investment, reducing productivity and innovation, and increasing the likelihood of firm closures, i.e. effectively "eating up the firm" (Jensen and Meckling, 1979). Worker participation is viewed as disruptive to efficient operations since it restricts managerial flexibility and fosters organizational slack. If this is the case, owners and shareholders are the only agents naturally incentivized to maximize firm value. Therefore, granting them strong control and property rights over the firm becomes a necessary condition for achieving growth (Alchian and Demsetz, 1972). As a consequence, unions and other forms of employee representation are considered detrimental to growth and predominantly viewed in a negative light.

In contrast, many Western European countries have a longstanding tradition of integrating workers into corporate governance. For example, in 18 of the 28 EU member

[1] For example, Piketty (2020) advocates expanding the German codetermination model (*Mitbestimmung*), which includes "quasi-parity" representation. Similarly, US Senator Elizabeth Warren's 2018 *Accountable Capitalism Act*, which proposed granting employees the right to elect 40% of the board in companies with revenue exceeding 1 billion, sparked heated public debates and reemerged during the 2020 Democratic primary.

[2] Note that since Freeman and Medoff (1984) this perspective is often referred to as the "monopoly face" of unions.

states, as well as in Norway, employees are legally entitled to elect representatives to supervisory boards or boards of directors (Gold and Waddington, 2019). This governance model embodies the principle that employees, as stakeholders, should have a voice in the firm's decision-making processes. From a theoretical viewpoint, the proponents of greater workers' representation tend to challenge the competitive labor market assumptions of shareholder value theory and argue that employee representation is needed to offset various imperfections in markets, employment contracts and the firm's internal governance (Kaufman, 2007b).[3] Supporters of employee representation argue that mechanisms like exit-entry adjustments and individual bargaining often fail to provide essential public goods—such as safety standards, layoff policies, and labor law compliance—that benefit all employees. Moreover, collective voice institutions may reduce turnover costs. In environments characterized by uncertainty and asymmetric information, employees may be deterred from investing in firm-specific skills without assurances of job security. Additionally, limited information-sharing can lead to organizational slack, hindering overall efficiency. A stronger collective voice built through employee representation can mitigate these issues. It can reduce the risk of workers' exploitation and wage suppression (Frege and Godard, 2014; Anderson, 2017), and foster both job quality and firm performance (Hirschmann, 1970; Freeman and Medoff, 1984).

To take stock, theoretically, board-level employee representation could have both positive and negative implications for firms and workers, and the question becomes essentially an empirical one. Unfortunately, the empirical literature reports mixed results and does not provide any conclusive answer (Addison, 2009; Conchon, 2011; Jäger et al., 2021). Assessing the impact of workers' voice institutions is difficult because firms with and without employee representation tend to differ systematically in ways that complicate direct comparisons. Furthermore, employee representation often coexists with other labor regulations, making it difficult to disentangle the effects of employee representation from those that can be attributed to other policies (Garicano et al., 2016). Many of the previous studies on this topic lack empirical designs capable of addressing these concerns, and this limits the reliability of their findings (Jäger et al., 2021).

To the best of our knowledge, only a few recent studies employ more rigorous empirical strategies and reveal either negligible or small positive effects on wages and job security in Germany, Finland, and Norway (Harju et al., 2025; Jäger et al., 2021). While Harju et al. (2025) report modest improvements in subjective job satisfaction, evidence on non-pecuniary aspects of job quality remains limited. In terms of firm outcomes, this evidence is fairly consistent in suggesting that codetermination has a neutral effect on

[3]Note that early institutionalist labor economists developed a similar argument, focusing on the concept of "labor problems" that characterize the economy, which they traced back to defects and maladjustments in the existing institutional structure. Accordingly, they emphasized that unions and other forms of employee representation play a crucial role in addressing these labor problems (for a thorough discussion see Kaufman, 2007a).

productivity, revenue, and profitability (Jäger et al., 2021). This indicates that while worker representation may not dramatically alter firm financial performance, it could yield some benefits for workers, even though further research is needed to understand the scope of these effects and their validity in different contexts.

In this contribution, we study the effect of board-level employee representation in France. We leverage a policy reform in 2015 through which employees in large firms are allocated some control rights by law in the form of board-level employee representation. The empirical strategy exploits plausibly exogenous variation in the assignment and timing of the treatment employing a difference-in-difference and difference-in-discontinuity design. We combine several administrative data sources provided by the French statistical office (INSEE), including employer-employee data and firm balance sheet records for the 2011-2019 period.

The French context offers a unique lens through which to examine board-level employee representation, as its traditionally adversarial labor relations contrast sharply with the more cooperative environments of industrial relations found in Germany or Scandinavian countries. This contrast raises the question of whether the effectiveness of board-level representation is shaped by the broader industrial relations climate. On the one hand, board-level employee representation is a cooperative institution, hence friendlier labor-management relations may trigger its full benefits (Freeman and Medoff, 1984). On the other hand, if the effectiveness of workers' voice mechanisms hinges on the strength of workers' bargaining power, a more conflictual union environment—such as France's—may be crucial to reveal its effectiveness (Lewin, 2007; Béroud et al., 2008). Thus, the French case provides a relevant and important test of the impact of workers' representation in a system of industrial relations that differs significantly from the few countries for which we have credible empirical evidence (Germany, Finland, and Norway).

Our findings show that board-level employee representation generally has no significant effect on wages or the labor share, although some specifications do indicate a modest positive impact. Conversely, results consistently suggest that board-level representation enhances job security, as evidenced by reduced separation rates and a decline in the use of fixed-term contracts. Moreover, in line with existing evidence, we find no indication of adverse effects on firm performance, in contrast with the expectations of shareholder rights theory.

The rest of the paper is organised as follows. In section 2, we briefly describe the French institutional context and the policy change we use for identification. Section 3 presents our empirical strategy and the data. Results are presented in section 4. Section 5 concludes.

2 Institutional Background and Reform

Employee representation is set within a complex system of industrial relations and it is essential to understand institutional contexts in any evaluation of corporate governance models.[4]

Board-level employee representation in France. The French system of employee representation has constitutional foundations, as articulated in the Preamble to the 1946 Constitution, which states the right of "*all workers to take part, through their representatives, in the collective determination of working conditions and in company management*". Today the most typical forms of employee representation, i.e. works councils and board-level participation, are mandatory for companies after a specific threshold number of employees has been reached. Employee representation is thus primarily defined by the labor code, even though this governance model has evolved gradually over time and through fragmented acts of legislation (Laulom, 2012; Lafuente Hernández, 2022).

Since the nationalizations of 1944-45,[5] one-third of the board seats in France were reserved for employee representatives proposed by trade unions and chosen via a system of establishment-level elections (Steinhouse, 2001; Sturmthal, 1953). This practice was formalized and extended through Law 1983-675 on the democratization of the public sector, mandating board-level employee representation in all companies with majority state ownership.[6] Depending on workforce size, employees can hold up to one-third of board seats. The privatization wave of the late 1980s and early 1990s, however, reshaped this landscape. Therefore, the 1994 Privatization Act required that companies maintain the level of employee representation present at the time of privatization (Lafuente Hernández, 2022). Nevertheless, board-level employee representation remained limited in French firms. By 2007, only around 160 companies had at least one employee director, with 61% in the public sector and 39% in the private sector—of which 87% were formerly state-owned companies (Conchon, 2009, 2013).

Extending board-level employee representation to large private companies was a central element of François Hollande's presidential campaign, who took office in 2012. The proposal aimed to counteract the decline of France's industrial sector, which had fallen to roughly 10% of total value added and employment, a trend partly attributed to short-term corporate governance practices and shareholder primacy (Rehfeldt, 2019). As promised, Law n° 2013-504 of June 14, 2013, on safeguarding employment, mandated that French companies employing at least 5,000 employees at the end of two consecutive years in France, or 5,000 employees worldwide including subsidiaries, must include worker representatives on their boards. Specifically, these companies were required to have one

[4]While we have to be brief in our presentation of the French system, for a more comprehensive and detailed overview, the reader is referred to Laulom (2012) and Laroche (1998).

[5]The most popular being Renault, Banque de France, Charbonnages de France and SNFC..

[6]Defined as firms where the state holds over 50% of the capital.

employee representative, or two if the board consisted of 12 or more directors. The process for appointing employee directors had to be explicitly defined in the company's articles of association and could be conducted either through direct election by employees or by appointment through the works council or the trade union with the strongest internal representation. Crucially, employee directors were granted the same status, powers, voting rights, obligations, and responsibilities as all other board members.

Subsequently, the Law n° 2015-994 on Social Dialogue and Employment (SDE), enacted on August 17, 2015, further amended this framework by lowering the threshold for private companies required to appoint employee directors to those employing at least 1,000 employees at the end of two consecutive years in France, or 5,000 employees worldwide. The appointment of these employee directors was required to occur no later than the first ordinary general meeting following January 1, 2017.[7]

Confounding Policy. French labor law is well known for linking regulatory obligations to firm size, with multiple labor regulations often taking effect simultaneously once a firm crosses specific workforce thresholds (Garicano et al., 2016; Aghion et al., 2023).[8] This institutional feature is especially relevant for our context, as the 1,000-employee threshold that triggers mandatory board-level employee representation coincides with the application of another piece of labor regulation.

Specifically, firms with at least 1,000 employees have been subject to stricter collective dismissal rules since the enactment of the *Loi de modernisation sociale* on January 17, 2002. In particular, Articles L.1233-71 to L.1233-76 of the *Code du Travail* mandates that employers offer a redeployment leave (*congé de reclassement*) lasting between four and twelve months during which employees receive professional training and individualized job-search assistance to facilitate their reintegration into the labor market (Blanchard and Tirole, 2004).

This policy overlap presents an additional challenge for identification, as it makes it more difficult to isolate the specific effect of board-level employee representation activated at the same size threshold. To address this concern, our empirical strategy leverages plausibly exogenous variation in the timing of the policy reform, comparing differences between the pre- and post-treatment periods, as detailed in Section 3.

The French system of industrial relations. The French system has been described as a system of "polarised pluralism" (Van Ruysseveldt and Visser, 1996). Given the lack of a historical compromise between capital and labor, the relations between unions and employers' organization are rather hostile. Therefore, both unions and employer associations typically opposed the extension of board-level employee representation to private companies, and employers saw meetings with employee representatives

[7]This policy is codified in the French Commercial Code, Article L225-27-1. The official text is available at https://www.legifrance.gouv.fr/.

[8]The official and standardized method for counting employees has been established since 2004 in the Code du Travail, Articles L.1111-2 and L.1111-3.

as a source of additional costs (Laroche, 1998). Moreover, since labor and capital are often unable to reach agreements, the State has often intervened to regulate employment relationships, thus playing a direct role in this context (Crouch, 1994).

The French system has also been described as paradoxical (Laroche, 1998), since the coverage of collective bargaining is among the broadest in the OECD area, while unionization density is among the lowest. The main reason for this is that through collective agreement extension procedures, unions and employers negotiate agreements that apply not only to unionized workers, but to all employees in a given sector. Low union membership does not indicate an absence of union representation for employees, and, despite the low union density, unions are deeply rooted in French society: they are present in the majority of the largest corporate employers, and can coordinate strong mobilization of workers on key issues (Laroche, 1998).

It is, however, important to remember that the French industrial relations system has, over time, experienced two major trends, also seen in other European countries. First, union density dropped from 23 percent in the 1970s to just 7 per cent in 2014. Second, employment relations became increasingly decentralized toward the company/establishment level (Rehfeldt, 2019).

3 Empirical Strategy

Having set our research in context, we can now illustrate our identification strategy. Isolating the effect of workers' voice institutions is challenging because firms with and without employee representation tend to differ substantially from one another, making simple comparisons between treated and untreated firms difficult to interpret (Jäger et al., 2021). To overcome this challenge, we exploit the 2015 Law on "Social Dialogue and Employment", which introduced a legal requirement for firms to establish board-level worker representation if they employ at least 1,000 employees for two consecutive years. The firm-size threshold introduces a discontinuity in treatment assignment, generating plausibly exogenous variation that we exploit in our analysis.

However, as outlined in Section 2, this policy coincides with an earlier employment protection regulation from 2002, which also activates at the 1,000-employee threshold. The co-occurrence of these policies at the same cutoff raises concerns about confounding effects, as the estimated impact of worker representation may be contaminated by the simultaneous effects of enhanced employment protection (Blanchard and Tirole, 2004).[9]

To address this identification challenge, we leverage the timing of the reform and incorporate pre-treatment information to mitigate confounding bias, following Grembi

[9] A regression discontinuity design is a common choice to evaluate such policy reforms assigning treatment based on a firm size threshold. However, given the confounding policy we would not be able to separate the effects of the two policies from each other.

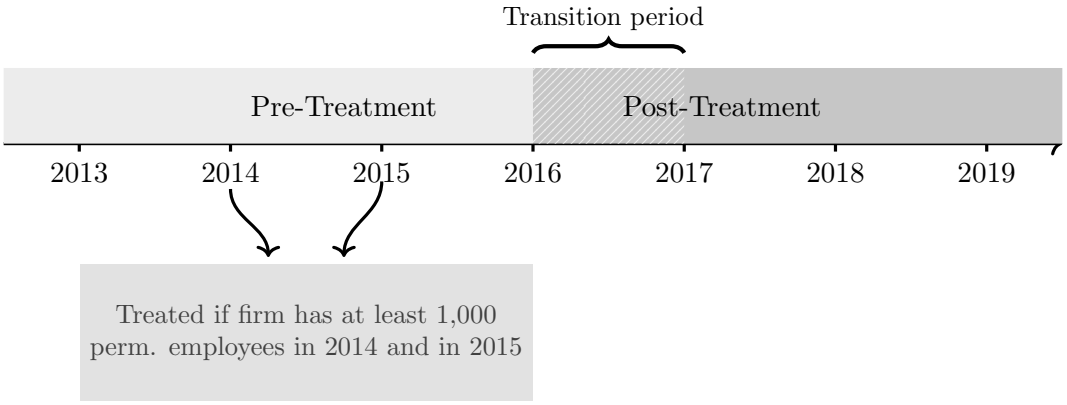


Figure (1) Timing of Treatment

et al. (2016). Assuming the effects of the 2002 employment protection law evolve uniformly over time, differencing pre- and post-reform outcomes allows us to net out its influence. Building on this, we implement a difference-in-differences (Diff-in-Diff) design comparing changes over time for firms around the threshold. To account for the discontinuous assignment mechanism, we complement this with a difference-in-discontinuity (Diff-in-Disc) approach. Together, these designs exploit both temporal and cross-sectional variation generated by the reform.

Treatment Indicator. Figure 1 illustrates the timing of our empirical setting. The Law on "Social Dialogue and Employment" came into force on August 17, 2015. We classify firms as treated if they employed at least 1,000 employees at the end of both 2014 and 2015. Given the local nature of our empirical strategy, we focus on a sample of firms located around the policy threshold. Details on the construction of the sample are provided in Section 4. The treatment period begins in 2016; however, firms were granted a transition period until January 1, 2017 to appoint employee representatives to the board.

Difference-in-Difference. We first consider a diff-in-diff model specified as follows

$$y_{it} = \beta^{DiD}(D_i^{2014,2015} \times 1\{t > 2015\}) + \theta_i + \tau_t + \varepsilon_{it}, \tag{1}$$

where y_{it} is firm i's respective outcome of interest in year t, $D_i^{2014,2015}$ is a binary indicator of whether the firm's number of employees in 2014 and 2015 is at least 1,000, respectively and $1\{t > 2015\}$ is a binary indicator of whether year t is in the post-policy period. In our baseline specification we include firm and year fixed effects denoted by θ_i and τ_t, respectively, whereas ε_{it} is the idiosyncratic error term. Standard errors are clustered at the firm level. The coefficient of interest is β^{DiD}, which captures the effect of the right of board-level employee representation in the post-reform period compared to the pre-reform years. The validity of our diff-in-diff approach relies on two key assumptions:

(i) parallel trends and (ii) no anticipation.

Parallel Trend Assumption. A key identifying assumption of our empirical strategy is that, in the absence of the reform, average outcomes for the treatment and control groups would have followed parallel trends. However, by design, only large firms with at least 1,000 employees were eligible for treatment. Large firms often differ systematically from smaller firms, including in their growth trajectories. Moreover, macroeconomic shocks—such as the sovereign debt crisis—may have affected large and small firms differently, potentially introducing bias and violating the parallel trends assumption.

We implement several strategies to mitigate these concerns. First, as described in Section 4, our baseline specification focuses on a local sample of firms near the threshold. Intuitively, firms sufficiently close to the threshold are more likely to exhibit similar trends in the absence of treatment. Second, to assess the robustness of our results to the specific sample choice, we provide estimates across multiple bandwidths, following the approach of Calonico et al. (2018, 2020). Third, in Section 6, we explicitly test the sensitivity of our findings by estimating results for varying bins around the threshold. Finally, we estimate several alternative model specifications, varying the set of fixed effects included.

No Anticipation. The diff-in-diff design relies on the no anticipation assumption for identification, meaning the treatment has no effect prior to its implementation. In other words, firms should not alter their behavior in expectation of the reform. However, since the law came into force on August 17, 2015, firms may have adjusted their employment levels before the end of 2015 to avoid crossing the treatment threshold. Given the often adversarial relationship between employers and employee representation in France, such strategic manipulation around the threshold is not implausible in this context.

We address this concern in two ways. First, in Section 4, we formally test for potential manipulation following the density test approach of Cattaneo et al. (2018, 2020). Second, to further mitigate concerns related to anticipation or strategic behavior, we incorporate an intent-to-treat design in our robustness checks, presented in Section 6.

Difference-in-Discontinuity. In addition, we combine the features of the diff-in-diff design with a regression discontinuity design in a diff-in-disc design. Intuitively, this design compares the discontinuity in the outcome variable below and above the firm-size threshold after the policy change to the analogous discontinuity before the policy change. We estimate the following model:

$$y_{it} = \beta^{DiRD}(D_i^{2014,2015} \times 1\{t > 2015\}) + [f(z_i^{2015}) \times 1\{t > 2015\}] + \theta_t, \tau_i + \varepsilon_{it}, \qquad (2)$$

where $f(z_i^{2015})$ are polynomials of the running variable (employment in 2015) separately for each side of the threshold. This design applies a local linear regression, i.e., we fit a polynomial to the observations distributed on either side of the cutoff, both before and after the treatment in 2016.

Continuity assumption. The validity of the Diff-in-Disc design relies on the continuity assumption, which requires that predetermined variables evolve smoothly around the threshold (Hahn et al., 2001). This assumption is testable on observables and implies that firms cannot manipulate their size precisely to avoid or gain treatment (Lee, 2008; Lee and Lemieux, 2010). As noted above, we conduct density tests to assess potential manipulation and provide additional robustness checks, including an intent-to-treat specification, in Section 6.

4 Data and Descriptive Statistics

Our empirical analysis is based on administrative data sources from the French National Statistical Office (*Institut national de la ntatistique et des études économiques - INSEE*). Our principal data source is a linked employer-employee data set built from the Annual Declaration of Social Data: Job positions (*Déclaration Annuelle des Données Sociales (DADS): fichier Postes*. This is collected through mandatory fiscal reports that all establishments with employees must submit to the social security authorities yearly by the reference date (December 31st). These data are ideal for our research question since the law requires firms to introduce board-level worker representation if they surpass the threshold at the end of the year. The unit of observation is the job position (*post*), defined as a worker-establishment pair.[10]

We restrict our sample to principal jobs[11] and exclude firms labeled as 'household employers' (*employeurs particuliers*) and those engaged in public administration (*fonction publique*). The DADS provides us with worker-level information on total gross salary, start and end dates of job posts, type of the contract as well as the sector of the firm. We match these information to detailed balance sheet information from the Annual structural statistics of companies database (*fichier FARE*). This is constructed from the fiscal statements that all French firms must submit to the tax authorities. Further details on the construction of our variables can be found in Table 10.

[10]Note that DADS *Postes* does not allow the tracking of workers over time, since the worker identification number is not constant across years.

[11]See the definition in Section 3.2.1 (pp.17-18) of the *DADS 2010 Guide méthodologique*. To be classified as principal (or *non-annexe*), a job should last more than 30 days and involve more than 120 worked hours, with more than 1.5 hours worked per day; or the net salary should be more than three times the monthly minimum salary. Apprentices are not defined as principal jobs, since they work less than 120 hours a year.

Table (1) Summary Statistics, 2011-2019

Sample:	Full Sample		Firms below threshold		Firms above threshold		Difference	
Period:	Prepolicy	Postpolicy	Prepolicy	Postpolicy	Prepolicy	Postpolicy	Prepolicy	Postpolicy
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline sample								
Mean hourly wage	20.057	21.995	20.282	22.081	19.736	21.866	-0.546	-0.215
Top 10/ Bottom 10	2.249	6.240	2.256	8.700	2.239	2.534	-0.016	-6.166
Labor share	0.579	0.589	0.566	0.582	0.597	0.601	0.031***	0.019*
Separation rate	0.111	0.154	0.109	0.153	0.113	0.156	0.004	0.003
Share of Fixed Contracts	0.054	0.053	0.054	0.055	0.052	0.050	-0.002	-0.005*
Labor productivity	58.359	52.037	59.810	52.981	56.283	50.608	-3.526	-2.373
Profit margin	0.045	0.046	0.050	0.049	0.039	0.041	-0.011	-0.008
Capital intensity	0.087	0.104	0.096	0.116	0.075	0.085	-0.021*	-0.031*
Intangible investment ratio	0.123	0.125	0.134	0.133	0.106	0.112	-0.028**	-0.021*
Tangible investment ratio	0.684	0.681	0.681	0.664	0.688	0.707	0.007	0.044**
Observations	2780	2996	1635	1801	1145	1195		

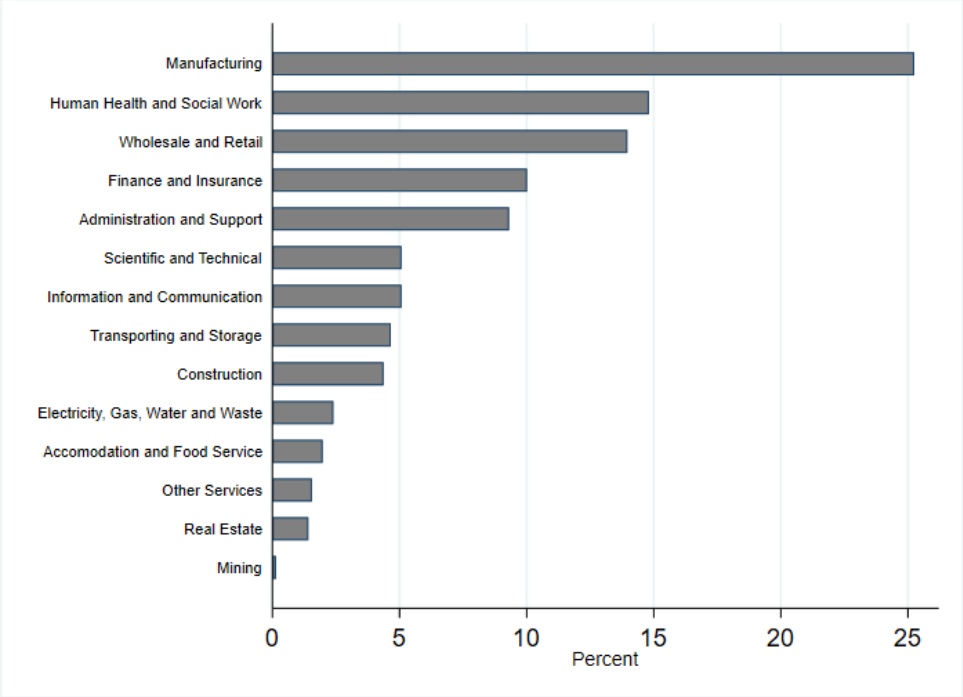
Notes: The baseline sample includes firms whose number of employees in 2015 falls within a bandwidth of 250 around the policy threshold. The table illustrates differences between the pre- and post-treatment periods and between firms above and below the policy threshold of 1,000 employees. Significance levels: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Bandwidth selection. In our empirical strategy we draw on a local sample around the policy threshold. We employ three distinct approaches to determine the bandwidth for this analysis. First, we utilize the optimal bandwidth selection approach proposed by Calonico et al. (2014). More precisely, we use the MSE- and CER-optimal bandwidth selection that give us the optimal point estimator and the optimal confidence intervals, respectively, and are therefore complementary. We also adopt a universal bandwidth approach. This method includes all firms with employment in 2015 within a 250-employee bandwidth around the threshold: firms with 750–999 employees form the control group, and firms with 1000–1250 employees constitute the treatment group. Unlike the data-driven methods, this universal bandwidth provides a consistent sample across all outcome variables.

Descriptive Statistics. Table 1 presents summary statistics for our baseline sample, covering the years 2012–2019. The first two columns report changes in key variables for the full sample between the pre-treatment and post-treatment periods. During the post-treatment period, we observe an increase in mean hourly wages, the labor share, and capital intensity. In contrast, labor productivity exhibits a notable decline, accompanied by a rise in the separation rate, while other outcome variables remain relatively stable.

Columns (3)–(8) break down the statistics by firms below and above the policy threshold. In the pre-treatment period, differences between the two groups are relatively minor, although some gaps persist in labor share, capital intensity, and the intangible investment ratio into the post-treatment period. Notably, in the post-treatment period, treated firms (i.e., those above the threshold) display more pronounced differences relative to control

Figure (2) Industry Composition in 2015, baseline sample



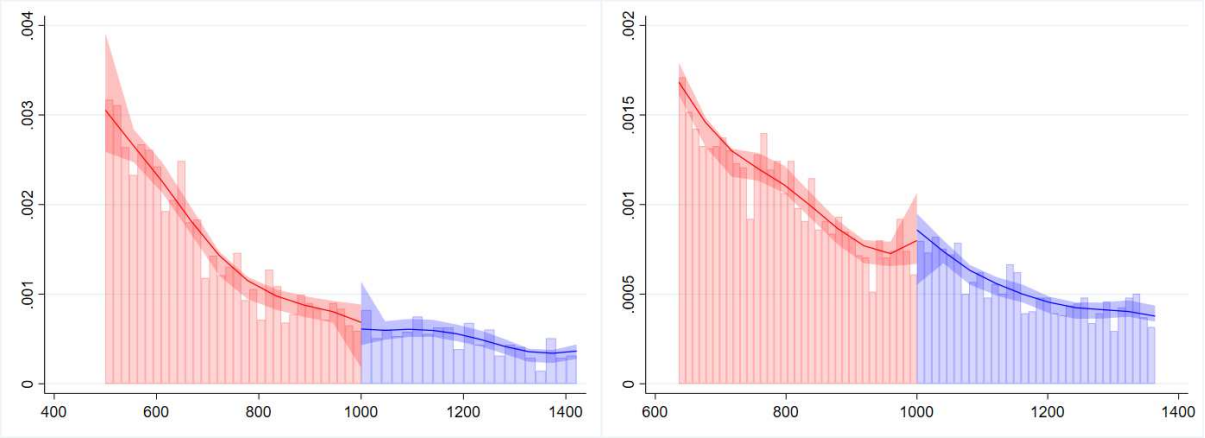
firms. In particular, treated firms show a higher tangible investment ratio and a lower share of fixed-term contracts.

Figure 2 illustrates the industry composition of our baseline sample in 2015, with the majority of firms active in manufacturing. Other prominent industries include human health and social work, wholesale and retail trade, and finance.

Manipulation of threshold A potential concern is that firms might strategically adjust their size to avoid being subject to the 2015 law by remaining just below the threshold of 1,000 employees. Given the traditionally conflictual nature of French industrial relations, such behavior is not implausible. To address this concern, we test for manipulation of the running variable using the local polynomial density estimator proposed by Cattaneo et al. (2018, 2020). This approach allows us to formally test for discontinuities in the density of the running variable at the policy threshold. Intuitively, if firms do not manipulate their size, the density around the cutoff should remain continuous (Lee, 2008; McCrary, 2008).

Figure 3 presents density plots of firm size around the 1,000 employee threshold for two periods: the year 2015 in which the law was enacted in Panel (a) and the post-treatment period (2016–2019) in Panel (b). For 2015 the estimated discontinuity is 0.986 with a p-value of 0.324, indicating no statistically significant evidence of manipulation. Similarly, for the pooled post-treatment period (2016–2019), the discontinuity estimate is -0.962 with a p-value of 0.336, providing again no evidence of systematic manipulation at the threshold. These findings align with previous literature, such as Harju et al. (2025), which also found no indication of firms manipulating their size to avoid board-

Figure (3) McCrary Test



(a) 2015 (b) 2016-2019

Notes: This figure reports the density plots for continuity at the policy threshold of 1,000 employees. Panel (a) reports results for 2015. Panel (b) reports the results separately for the pooled post-reform period, 2016-2019.

level employee representation. This may be surprising, given the hostility of employers towards unionization and workers' voice, but it is possible that employers underestimate the consequences of crossing the threshold or do not perceive them as a threat.

5 Results

In this section, we present the results of our diff-in-diff and diff-in-disc analyses, which assess the impact of board-level employee representation on job quality and firm performance. Given the local nature of our treatment variable—as detailed in Section 4—we construct three local samples around the threshold. These are based on the optimal bandwidth selection procedure proposed by Calonico et al. (2014), applying both the MSE-optimal and CER-optimal bandwidths. For comparison, we also include results using a fixed bandwidth of 250 employees.

Wages and the Labor Share. Wages are a central dimension of job quality and a primary concern for worker representatives. Both supportive and critical perspectives suggest that board-level employee representation can raise wages in the short run (Freeman and Medoff, 1984; Freeman and Lazear, 1994). This effect may operate through several channels—for instance, by increasing workers' bargaining power. The collective voice perspective also emphasizes indirect channels, such as improved workplace conditions, job satisfaction, and productivity. Additionally, representation may enhance compliance with labor standards, including minimum wage laws and collective agreements.

To evaluate these effects, we analyze mean hourly wages. The results shown in Table

Table (2) Results: Effect on Wages and Labor Share

	Mean Hourly Wage (log)		Top 10/ Bottom 10		Labor Share	
	Diff-in-Diff (1)	Diff-in-Disc (2)	Diff-in-Diff (3)	Diff-in-Disc (4)	Diff-in-Diff (5)	Diff-in-Disc (6)
MSERD bandwidth selection						
Treatment	0.003	0.024	-0.019	0.338	-0.010	-0.007
	(0.012)	(0.016)	(0.264)	(0.518)	(0.009)	(0.017)
Observations	2102	2102	4101	4101	3165	3165
h	99	99	181	181	203	203
CERRD bandwidth selection						
Treatment	0.002	0.011	0.032	0.635	-0.008	0.013
	(0.014)	(0.021)	(0.392)	(0.677)	(0.010)	(0.018)
Observations	1416	1416	2707	2707	2147	2147
h	68	68	123	123	141	141
Universal bandwidth, $h = 250$						
Treatment	0.018*	-0.001	0.022	0.120	-0.010	-0.011
	(0.010)	(0.012)	(0.193)	(0.421)	(0.008)	(0.015)
Observations	5776	5776	5776	5776	4035	4035
h	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

2 offer mixed evidence on the impact of board-level employee representation on wages.

While the estimates generally point to a positive relationship, most specifications are statistically insignificant. A long-standing hypothesis in the literature suggests that worker representation may help compress wage distributions (Freeman and Medoff, 1984; Farber et al., 2021). To explore this possibility, we examine its impact on within-firm wage inequality using the ratio of the top 10% to bottom 10% of hourly wages. Yet, the estimates reported in Table 2 are statistically insignificant across all specifications. Consistent with these findings, Table 3 does not provide clear evidence that any specific segment of the wage distribution benefits disproportionately from employee representation.

Table (3) Effects on Wage Structure

	10Pc (log)		25Pc (log)		50Pc (log)		75Pc (log)		90Pc (log)	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MSERD bandwidth selection										
Treatment	0.017	-0.006	0.009	-0.001	0.002	0.006	-0.007	0.013	-0.013	0.039*
	(0.018)	(0.027)	(0.014)	(0.023)	(0.011)	(0.015)	(0.013)	(0.018)	(0.016)	(0.023)
Observations	2402	2402	2349	2349	2139	2139	2191	2191	2247	2247
h	112	112	110	110	101	101	103	103	105	105
CERRD bandwidth selection										
Treatment	0.013	-0.024	-0.004	-0.009	-0.007	-0.013	-0.003	-0.003	-0.002	0.027
	(0.026)	(0.034)	(0.019)	(0.028)	(0.013)	(0.018)	(0.014)	(0.022)	(0.019)	(0.028)
Observations	1592	1592	1554	1554	1416	1416	1438	1438	1492	1492
h	77	77	75	75	69	69	70	70	72	72
Universal bandwidth, $h = 250$										
Treatment	0.034***	0.012	0.022**	0.004	0.017*	-0.003	0.012	-0.005	0.008	-0.001
	(0.013)	(0.018)	(0.010)	(0.015)	(0.009)	(0.011)	(0.010)	(0.014)	(0.011)	(0.018)
Observations	5776	5776	5776	5776	5776	5776	5776	5776	5776	5776
h	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (4) Effects on Job Security

	Separation Rate		Share of Fixed Contracts	
	Diff-in-Diff (1)	Diff-in-Disc (2)	Diff-in-Diff (3)	Diff-in-Disc (4)
MSERD bandwidth selection				
Treatment	0.000	-0.024	-0.010***	-0.016***
	(0.011)	(0.015)	(0.003)	(0.005)
Observations	4035	4035	3428	3428
h	178	178	159	159
CERRD bandwidth selection				
Treatment	-0.006	-0.036**	-0.011***	-0.022***
	(0.013)	(0.018)	(0.004)	(0.005)
Observations	2661	2661	2333	2333
h	121	121	109	109
Universal bandwidth, $h = 250$				
Treatment	-0.002	-0.014	-0.004	-0.011***
	(0.009)	(0.013)	(0.003)	(0.004)
Observations	5776	5776	5776	5776
h	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Turning to the labor share—defined as the ratio of total labor costs to value added, and often interpreted as an indicator of worker bargaining power—the estimates in Table 2 remain close to zero across most specifications. This suggests that, on average, board-level employee representation has little or no effect on the labor share. This is in line with recent evidence for Germany and Finland (Jäger et al., 2021; Harju et al., 2025)

Effects on Job Security. A key prediction of the workers' voice model (Hirschmann, 1970; Freeman and Medoff, 1984) is that strengthening workers' representation reduces turnover by allowing employees to express concerns, prompting internal improvements such as higher wages or higher workplace safety. In addition, employee representation may promote more sustainable decision-making, potentially lowering the risk of layoffs. Table 4 presents the results. Across all specifications, we find a negative treatment effect on the separation rate, indicating increased job security. Estimates from the diff-in-diff specification are generally smaller in magnitude than those from the diff-in-disc approach. The diff-in-disc estimates suggest reductions in the separation rate ranging from 1.4 to

3.6 percentage points, with only the largest effect statistically significant at the 5% level. This is broadly in line with the findings of Harju et al. (2025).

We also examine the effect of board-level employee representation on the share of fixed-term contracts. Since workers typically prefer permanent employment for its greater security, a reduction in fixed-term contracts can be seen as an improvement in job quality. Table 4 shows consistent negative effects across all specifications. The estimates indicate a reduction in the share of fixed-term contracts ranging from 1.0 to 2.2 percentage points. Overall, our findings suggest that board-level employee representation leads to a moderate increase in job security.

Effects on Firm Performance Finally, we examine the impact of employee board-level representation on various measures of firm performance. Specifically, we consider labor productivity, profit margin, and capital intensity as our primary performance indicators. Our findings tend to suggest zero effects on firm performance. However, for the specification with the universal bandwidth we find some evidence of positive effects on labor productivity and profit margin. It is possible that employee representation influences firm investment decisions. Therefore, in columns (7) to (10), we explore the effects on the ratio of intangible investment and tangible investments to total investment. All of our estimates are positive even though most of them are statistically insignificant. Notably, there is some evidence suggesting a shift toward investments in intangible assets. These findings challenge the hold-up hypothesis, which posits that involving workers in firm governance may discourage capital investment.

Production vs. Service Sector. As employment relations typically differ substantially between the production and service sectors,[12] we investigate potential differences across these sectors. The results are presented in Tables 6 to 9. In the service sector, we find some evidence of a positive effect on wages. Specifically, using the diff-in-disc estimate with the MSERD bandwidth, we observe a 3.9% increase in wages, significant at the 5% level. The manufacturing sector, however, shows negligible wages effects. For job security, the patterns are reversed: the production sector exhibits a clear negative effect on separation rates, with estimates indicating a decline between 1.8 and 10 percentage points, while the service sector shows no significant change. Both sectors demonstrate reductions in the share of fixed-term contracts. The production sector also shows signs of improved firm performance. The investment behavior differs markedly between sectors: service sector firms redirect investments toward intangible assets, whereas production sector firms increase investment in tangible assets.

[12]The production sector is defined according to NACE Rev. 2 codes: Mining and quarrying (05–09), Manufacturing (10–33), Utilities and waste management (35–39), Construction (41–43), Transportation (49–53), and Information and communication (58–63). All other sectors are classified as services.

Table (5) Effects on Firm Performance

	Labor Productivity (log)		Profit Margin		Capital Intensity		Intangible Inv. Ratio		Tangible Invest. Ratio	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MSERD bandwidth selection										
Treatment	0.038	0.056	0.010	0.012	0.002	0.007	0.010	0.046*	0.045	0.057
	(0.040)	(0.070)	(0.008)	(0.012)	(0.007)	(0.009)	(0.017)	(0.024)	(0.030)	(0.046)
Observations	2453	2453	2356	2356	2392	2392	2602	2602	1824	1824
h	150	150	143	143	144	144	163	163	117	117
CERRD bandwidth selection										
Treatment	0.029	0.070	0.017	0.003	-0.000	0.014	0.008	0.035	0.058	0.054
	(0.050)	(0.088)	(0.010)	(0.012)	(0.010)	(0.013)	(0.018)	(0.033)	(0.038)	(0.053)
Observations	1625	1625	1545	1545	1552	1552	1725	1725	1180	1180
h	104	104	99	99	100	100	113	113	81	81
Universal bandwidth, $h = 250$										
Treatment	0.060*	0.092	0.012**	0.017*	0.001	0.003	0.012	0.023	0.030	0.048
	(0.033)	(0.057)	(0.006)	(0.010)	(0.005)	(0.008)	(0.013)	(0.022)	(0.019)	(0.037)
Observations	4275	4275	4323	4323	4287	4287	4163	4163	4227	4227
h	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (6) Effect on Wages and Labor Share - Production vs. Service Sectors

	Mean Hourly Wage (log)				Top 10/ Bottom 10				Labor Share			
	Production		Service		Production		Service		Production		Service	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MSERD bandwidth selection												
Treatment	-0.003	-0.016	0.013	0.039**	-0.079	-0.019	0.294	0.868	-0.012	0.008	-0.004	-0.024
	(0.017)	(0.030)	(0.016)	(0.017)	(0.050)	(0.111)	(0.481)	(0.891)	(0.013)	(0.025)	(0.011)	(0.020)
Observations	840	840	1262	1262	1718	1718	2383	2383	1738	1738	1427	1427
h	99	99	99	99	181	181	181	181	203	203	203	203
CERRD bandwidth selection												
Treatment	-0.009	-0.022	0.011	0.024	-0.098	-0.018	0.509	1.173	-0.008	0.019	-0.004	0.009
	(0.023)	(0.035)	(0.015)	(0.024)	(0.060)	(0.131)	(0.687)	(1.206)	(0.015)	(0.029)	(0.013)	(0.020)
Observations	567	567	849	849	1088	1088	1619	1619	1170	1170	977	977
h	68	68	68	68	123	123	123	123	141	141	141	141
Universal bandwidth, $h = 250$												
Treatment	0.008	-0.008	0.026	0.008	-0.034	-0.088	0.236	0.549	-0.013	0.002	-0.003	-0.025
	(0.011)	(0.020)	(0.016)	(0.016)	(0.041)	(0.087)	(0.342)	(0.681)	(0.011)	(0.022)	(0.010)	(0.018)
Observations	2350	2350	3426	3426	2350	2350	3426	3426	2185	2185	1850	1850
h	250	250	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (7) Effect on Job Security - Production vs. Service Sectors

	Separation Rate				Share of Fixed Contracts			
	Production		Service		Production		Service	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MSERD bandwidth selection								
Treatment	-0.026**	-0.076**	0.028	0.016	-0.012**	-0.009	-0.007	-0.019***
	(0.011)	(0.030)	(0.020)	(0.020)	(0.005)	(0.006)	(0.005)	(0.007)
Observations	1696	1696	2339	2339	1425	1425	2003	2003
h	178	178	178	178	159	159	159	159
CERRD bandwidth selection								
Treatment	-0.040**	-0.103**	0.021	0.006	-0.012**	-0.010	-0.011*	-0.029***
	(0.016)	(0.043)	(0.021)	(0.020)	(0.005)	(0.008)	(0.006)	(0.008)
Observations	1066	1066	1595	1595	946	946	1387	1387
h	121	121	121	121	109	109	109	109
Universal bandwidth, $h = 250$								
Treatment	-0.018*	-0.067***	0.013	0.021	-0.006	-0.014**	-0.003	-0.008
	(0.010)	(0.024)	(0.015)	(0.018)	(0.004)	(0.006)	(0.004)	(0.006)
Observations	2350	2350	3426	3426	2350	2350	3426	3426
h	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (8) Effect on Firm Performance - Production vs. Service Sectors

	Labor Productivity (log)				Profit Margin				Capital Intensity			
	Production		Service		Production		Service		Production		Service	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MSERD bandwidth selection												
Treatment	0.057	-0.020	-0.014	0.108	0.014	0.027	0.001	-0.003	0.013*	0.005	-0.010	0.007
	(0.053)	(0.105)	(0.063)	(0.081)	(0.011)	(0.020)	(0.011)	(0.010)	(0.008)	(0.014)	(0.011)	(0.011)
Observations	1334	1334	1119	1119	1262	1262	1094	1094	1278	1278	1114	1114
h	150	150	150	150	143	143	143	143	144	144	144	144
CERRD bandwidth selection												
Treatment	0.029	-0.027	0.019	0.138	0.029*	0.010	-0.000	-0.007	0.009	0.004	-0.011	0.020
	(0.070)	(0.146)	(0.073)	(0.098)	(0.015)	(0.019)	(0.011)	(0.011)	(0.010)	(0.016)	(0.015)	(0.018)
Observations	856	856	769	769	822	822	723	723	824	824	728	728
h	104	104	104	104	99	99	99	99	100	100	100	100
Universal bandwidth, $h = 250$												
Treatment	0.082*	0.048	0.003	0.126	0.013*	0.024	0.008	0.009	0.006	0.011	-0.007	-0.003
	(0.043)	(0.085)	(0.053)	(0.076)	(0.007)	(0.016)	(0.008)	(0.012)	(0.007)	(0.011)	(0.007)	(0.011)
Observations	2298	2298	1977	1977	2315	2315	2008	2008	2303	2303	1984	1984
h	250	250	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (9) Effect on Investment Ratios - Production vs. Service Sectors

	Intangible Investment Ratio				Tangible Investment Ratio			
	Production		Service		Production		Service	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MSERD bandwidth selection								
Treatment	-0.005	-0.016	0.033	0.111**	0.099**	0.151**	-0.028	-0.057
	(0.016)	(0.028)	(0.036)	(0.043)	(0.040)	(0.070)	(0.043)	(0.062)
Observations	1427	1427	1175	1175	977	977	847	847
h	163	163	163	163	117	117	117	117
CERRD bandwidth selection								
Treatment	-0.024	-0.037	0.044	0.105*	0.137***	0.136*	-0.062	-0.060
	(0.020)	(0.030)	(0.032)	(0.060)	(0.052)	(0.076)	(0.048)	(0.068)
Observations	932	932	793	793	657	657	523	523
h	113	113	113	113	81	81	81	81
Universal bandwidth, $h = 250$								
Treatment	-0.004	-0.018	0.039	0.071*	0.048*	0.115**	0.011	-0.032
	(0.013)	(0.024)	(0.025)	(0.040)	(0.025)	(0.057)	(0.030)	(0.047)
Observations	2243	2243	1920	1920	2282	2282	1945	1945
h	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

6 Robustness checks

Heterogeneity Analysis To explore potential heterogeneity in the treatment effects, we estimate our econometric models (1) and (2) on different subsamples, defined based on firms' baseline characteristics in 2015. First, we distinguish firms according to whether their profits in the baseline year (2015) were above or below the median. Existing literature often suggests that unions and worker representation institutions tend to have a more pronounced positive impact on wages and job quality in more profitable firms. The results of this analysis are reported in Tables 11 to 14. However, our estimates largely confirm the main results and do not reveal substantial heterogeneity based on firm profitability. Second, we further differentiate firms based on whether their investment in intangible assets in 2015 was above or below the median. Investment in intangible assets is commonly used as a proxy for distinguishing high-knowledge firms from low-knowledge firms, which are typically characterized by different employment relations and organizational practices. The corresponding results are presented in Tables 15 to 18. Again, our findings are broadly consistent across both groups and align with the main results. Notably, however, we observe divergent investment dynamics: firms above the median exhibit a tendency to further increase their share of intangible assets, whereas firms below the median show a relative shift toward tangible assets.

Alternative Fixed Effects Specifications. In Tables 19 to 21, we examine the robustness of our results to alternative fixed effects specifications. The first of the four panels includes only year fixed effects, which account for common aggregate shocks over time. To control for sector-specific dynamics and heterogeneous shocks across industries, we then introduce industry-by-year fixed effects. Finally, we combine these with firm fixed effects, which absorb time-invariant firm-level heterogeneity and help address concerns related to potential differential attrition across firms over time. The results indicate that controlling for firm fixed effects and sectoral shock dynamics is indeed relevant. However, including both firm fixed effects and industry-by-year fixed effects does not alter the interpretation or significance of our main findings.

Bandwidth sensitivity. Our empirical strategy relies on drawing a local sample around the policy threshold, comparing firms of slightly different sizes. However, the choice of bandwidth may influence the results, as emphasized by Calonico et al. (2014). To address this concern, we systematically vary the bandwidth to assess the robustness of our findings and explore potential heterogeneity in treatment effects by firm size. Specifically, we re-estimate our difference-in-differences and difference-in-discontinuity models, as defined in equations (1) and (2), using bandwidths ranging from 30 to 250 employees, increasing in steps of 10.

Figures 4 to 7 present the results of this bandwidth sensitivity analysis. As expected, the confidence intervals generally widen as the bandwidth narrows, reflecting the reduced sample size when focusing on observations closer to the cutoff. This pattern suggests that at least some of the null results we observe may be attributed to limited statistical power, rather than the true absence of an effect. Despite some fluctuations in the point estimates across different bandwidths, the overall interpretation of our main results remains unchanged.

Donut-hole regression. Although we find no evidence of manipulation or heaping around the cutoff in Section 4, we provide additional robustness checks by implementing so-called donut-hole regressions (Barreca et al., 2011). Specifically, we systematically exclude observations in the immediate vicinity of the 1,000-employee threshold to account for potential undetected measurement error or endogenous sorting. We progressively widen the excluded window around the threshold, ranging from 0 to 50 employees in increments of 5, using the universal bandwidth sample. Figures 8 to 11 demonstrate that our main results are not driven by data irregularities or manipulation near the threshold. Interestingly, however, when examining the estimates for labor productivity, we observe that excluding observations within 5 to 10 employees of the cutoff yields consistently positive treatment effects.

Intent-to-treat design. In addition, we provide further robustness relying on an intent-to-treat design. As the law came into force on August 17, 2015, employment at the end of 2015 may be affected because firms may want to avoid treatment. Therefore, we group firms into a treatment and control group based on whether their employment in 2014 is above or below the 1,000-employee threshold. This has the advantage that we can be confident that there is no manipulation around the threshold, while the *true* treatment status in 2016 is partly based on the number of employees in 2014. The results from the intent-to-treat design, presented in the appendix A.6, confirm the general picture presented, even though the results tend to be less significant.

7 Conclusion

Interest in board-level employee representation has surged in recent years. Despite a large body of literature examining the effects of codetermination on firm performance and worker outcomes, the evidence remains mixed, often based on limited or non-credible identification strategies (Jäger et al., 2021). Our study contributes to an emerging strand of research that employs more robust empirical designs (Jäger et al., 2021; Harju et al., 2025). Specifically, we exploit the introduction of mandatory board-level employee representation for firms in France with at least 1,000 employees at the end of two consecutive

years. We treat this reform as a quasi-natural experiment by leveraging both the discontinuity in assignment and the variation in timing, using a combination of difference-in-differences and difference-in-discontinuity approaches.

Our results indicate that board-level employee representation has, at best, modest positive effects on wages and the labor share, with most specifications suggesting no significant impact. However, we consistently find that board-level representation improves job security, as evidenced by reductions in separation rates and decreased reliance on fixed-term contracts. Moreover, we find no indication of negative effects on firm performance, aligning with recent evidence from other countries and contradicting shareholder rights theory, which typically predicts efficiency losses due to employee influence.

An interesting aspect of our findings lies in their consistency with studies from institutional settings that differ substantially from the French context. France is often characterized by a more conflictual system of industrial relations compared to the cooperative environments typical of Germany or Scandinavian countries. Nevertheless, our results align with those of Jäger et al. (2021), Harju et al. (2025), and Blandhol et al. (2020), suggesting that the effects of board-level employee representation are remarkably similar across countries with varying institutional foundations. This raises important questions about the universality of the mechanisms through which employee voice operates in corporate governance.

While our study adds to the growing body of credible evidence on this topic, it also highlights the need for further research. On the one hand, existing findings refute overly negative perspectives on employee representation rooted in shareholder rights theory. On the other hand, proponents of codetermination may hold overly optimistic expectations that are not supported by empirical evidence. Board-level employee representation may produce positive effects in certain areas, without disrupting firm performance or decision-making processes.

It is worth recalling that the reform we study was introduced in part as a response to concerns over the decline of the French manufacturing sector, as emphasized during President Hollande's campaign (Rehfeldt, 2019). However, employee representatives, while present on boards, often occupy only a minority of seats and additionally appear to hold limited influence, e.g. having only limited access to key board committees (Harnay et al., 2025). This raises an important policy question: would increasing the number or influence of employee representatives on corporate boards lead to different outcomes?

Overall, while codetermination in its current form does not appear to fundamentally alter firm performance, it does contribute to enhanced job security, with little downside risk. Future research should explore whether expanding employee influence within boards, particularly through greater committee participation or additional seats, might amplify these benefits.

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A Supplemental Appendix

A.1 Variable Definitions and Data Sources

Table (10) Variable Definitions and Data Sources

Variable	**Definition**	**Data Source**
Mean Hourly Wage	Gross annual remuneration divided by total hours worked per year.	DADS Postes
Top 10 / Bottom 10	Ratio of the 90th to the 10th percentile of hourly wages within the firm.	DADS Postes
Labor Share	Ratio of total labor costs to value added.	FARE
Separation Rate	Job exits between $t-1$ and t, divided by average firm employment over the two years.	DADS Postes
Labor Productivity	Value added divided by total hours worked.	FARE & DADS Postes
Profit Margin	Operating profit divided by turnover.	FARE
Capital Intensity	Total capital stock divided by total hours worked.	FARE
Intangible Investment Ratio	Share of total investment devoted to intangible assets.	FARE
Tangible Investment Ratio	Share of total investment devoted to tangible assets.	FARE

A.2 Heterogeneity analysis

Table (11) Effect on Wages and Labor Share - High vs. Low Profitable Firms

	Mean Hourly Wage (log)				Top 10/ Bottom 10				Labor Share			
	Below Median		Above Median		Below Median		Above Median		Below Median		Above Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MSERD bandwidth selection												
Treatment	0.019	0.013	-0.026	0.002	-0.082	-0.109	0.068	0.867	-0.009	0.003	-0.009	-0.016
	(0.021)	(0.030)	(0.017)	(0.029)	(0.054)	(0.111)	(0.674)	(1.344)	(0.013)	(0.025)	(0.012)	(0.022)
Observations	738	738	823	823	1498	1498	1601	1601	1628	1628	1514	1514
h	99	99	99	99	181	181	181	181	203	203	203	203
CERRD bandwidth selection												
Treatment	0.007	-0.007	-0.005	-0.009	-0.138**	-0.005	0.151	1.464	-0.010	0.014	-0.004	0.014
	(0.029)	(0.037)	(0.020)	(0.039)	(0.067)	(0.135)	(0.954)	(1.702)	(0.015)	(0.028)	(0.014)	(0.023)
Observations	493	493	519	519	949	949	1067	1067	1097	1097	1039	1039
h	68	68	68	68	123	123	123	123	141	141	141	141
Universal bandwidth, $h = 250$												
Treatment	0.008	0.003	0.028	-0.007	-0.047	-0.128	0.077	0.398	-0.009	-0.005	-0.009	-0.016
	(0.011)	(0.022)	(0.019)	(0.022)	(0.042)	(0.093)	(0.477)	(1.149)	(0.011)	(0.022)	(0.011)	(0.020)
Observations	2104	2104	2236	2236	2104	2104	2236	2236	2053	2053	1956	1956
h	250	250	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (12) Effect on Job Security - High vs. Low Profitable Firms

	Separation Rate				Share of Fixed Contracts			
	Above Median		Below Median		Above Median		Below Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MSERD bandwidth selection								
Treatment	-0.032***	-0.047*	0.003	-0.043**	-0.015***	-0.020***	-0.003	-0.010
	(0.010)	(0.028)	(0.018)	(0.021)	(0.006)	(0.008)	(0.005)	(0.008)
Observations	1477	1477	1581	1581	1279	1279	1320	1320
h	178	178	178	178	159	159	159	159
CERRD bandwidth selection								
Treatment	-0.035**	-0.063	-0.017	-0.058**	-0.012**	-0.024**	-0.003	-0.013
	(0.015)	(0.043)	(0.014)	(0.024)	(0.005)	(0.010)	(0.005)	(0.008)
Observations	941	941	1053	1053	814	814	935	935
h	121	121	121	121	109	109	109	109
Universal bandwidth, $h = 250$								
Treatment	-0.025***	-0.051**	-0.008	-0.022	-0.009*	-0.017**	0.000	-0.010
	(0.009)	(0.024)	(0.015)	(0.019)	(0.005)	(0.007)	(0.004)	(0.007)
Observations	2104	2104	2236	2236	2104	2104	2236	2236
h	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (13) Effect on Firm Performance - High vs. Low Profitable Firms

	Labor Productivity (log)				Profit Margin				Capital Intensity			
	Above Median		Below Median		Above Median		Below Median		Above Median		Below Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MSERD bandwidth selection												
Treatment	0.065	0.050	0.009	0.062	0.016	0.029	0.003	-0.004	-0.007	0.005	0.011	0.009
	(0.058)	(0.112)	(0.055)	(0.086)	(0.013)	(0.022)	(0.010)	(0.011)	(0.009)	(0.015)	(0.011)	(0.011)
Observations	1199	1199	1238	1238	1141	1141	1199	1199	1157	1157	1219	1219
h	150	150	150	150	143	143	143	143	144	144	144	144
CERRD bandwidth selection												
Treatment	0.078	0.057	-0.016	0.080	0.032	0.014	0.003	-0.007	-0.005	0.003	0.005	0.026
	(0.079)	(0.140)	(0.063)	(0.111)	(0.021)	(0.024)	(0.009)	(0.011)	(0.011)	(0.014)	(0.016)	(0.020)
Observations	771	771	847	847	728	728	809	809	730	730	814	814
h	104	104	104	104	99	99	99	99	100	100	100	100
Universal bandwidth, $h = 250$												
Treatment	0.082*	0.086	0.039	0.093	0.013	0.022	0.010	0.012	-0.009	-0.003	0.012*	0.009
	(0.047)	(0.085)	(0.047)	(0.077)	(0.009)	(0.018)	(0.007)	(0.012)	(0.008)	(0.012)	(0.007)	(0.012)
Observations	2078	2078	2169	2169	2084	2084	2208	2208	2076	2076	2182	2182
h	250	250	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (14) Effect on Investment Ratios - High vs. Low Profitable Firms

	Intangible Investment Ratio				Tangible Investment Ratio			
	Above Median		Below Median		Above Median		Below Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
MSERD bandwidth selection								
Treatment	-0.013	0.036	0.034	0.057	0.083**	0.067	0.012	0.046
	(0.017)	(0.031)	(0.029)	(0.037)	(0.037)	(0.061)	(0.045)	(0.069)
Observations	1288	1288	1297	1297	873	873	943	943
h	163	163	163	163	117	117	117	117
CERRD bandwidth selection								
Treatment	-0.001	0.025	0.017	0.047	0.072	0.056	0.047	0.051
	(0.021)	(0.048)	(0.028)	(0.044)	(0.046)	(0.063)	(0.060)	(0.083)
Observations	824	824	893	893	597	597	575	575
h	113	113	113	113	81	81	81	81
Universal bandwidth, $h = 250$								
Treatment	-0.012	0.015	0.036*	0.032	0.049**	0.083*	0.012	0.014
	(0.013)	(0.025)	(0.021)	(0.036)	(0.023)	(0.043)	(0.029)	(0.060)
Observations	2022	2022	2119	2119	2058	2058	2146	2146
h	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (15) Effect on Wages and Labor Share - High vs. Low Knowledge Firms

	Mean Hourly Wage (log)				Top 10/ Bottom 10				Labor Share			
	Below Median		Above Median		Below Median		Above Median		Below Median		Above Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MSERD bandwidth selection												
Treatment	-0.001	-0.013	-0.016	0.025	0.525	1.315	-0.422	-0.624	-0.003	0.006	-0.015	-0.022
	(0.019)	(0.030)	(0.019)	(0.028)	(0.748)	(1.306)	(0.354)	(0.542)	(0.015)	(0.025)	(0.011)	(0.022)
Observations	819	819	715	715	1532	1532	1518	1518	1562	1562	1540	1540
h	99	99	99	99	181	181	181	181	203	203	203	203
CERRD bandwidth selection												
Treatment	-0.008	-0.018	-0.002	-0.002	0.844	1.797	-0.701	-0.165	0.002	0.019	-0.016	0.008
	(0.024)	(0.039)	(0.024)	(0.038)	(1.038)	(1.826)	(0.568)	(0.241)	(0.017)	(0.026)	(0.013)	(0.027)
Observations	513	513	478	478	1018	1018	965	965	1070	1070	1042	1042
h	68	68	68	68	123	123	123	123	141	141	141	141
Universal bandwidth, $h = 250$												
Treatment	0.003	-0.010	0.030*	-0.006	0.452	0.921	-0.293	-0.670	-0.010	0.000	-0.008	-0.027
	(0.013)	(0.021)	(0.018)	(0.022)	(0.559)	(1.108)	(0.252)	(0.557)	(0.012)	(0.022)	(0.010)	(0.020)
Observations	2177	2177	2092	2092	2177	2177	2092	2092	2022	2022	1932	1932
h	250	250	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (16) Effect on Job Security - High vs. Low Knowledge Firms

	Separation Rate				Share of Fixed Contracts			
	Above Median		Below Median		Above Median		Below Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MSERD bandwidth selection								
Treatment	-0.033***	-0.067***	0.001	-0.020	-0.003	-0.009	-0.014**	-0.020**
	(0.010)	(0.025)	(0.017)	(0.025)	(0.004)	(0.006)	(0.006)	(0.010)
Observations	1510	1510	1499	1499	1307	1307	1251	1251
h	178	178	178	178	159	159	159	159
CERRD bandwidth selection								
Treatment	-0.043***	-0.098***	-0.010	-0.014	-0.002	-0.014**	-0.012*	-0.023*
	(0.015)	(0.035)	(0.015)	(0.027)	(0.004)	(0.006)	(0.006)	(0.012)
Observations	1004	1004	957	957	889	889	827	827
h	121	121	121	121	109	109	109	109
Universal bandwidth, $h = 250$								
Treatment	-0.024**	-0.060***	-0.009	-0.012	0.004	-0.005	-0.011**	-0.020**
	(0.009)	(0.022)	(0.014)	(0.021)	(0.004)	(0.006)	(0.005)	(0.009)
Observations	2177	2177	2092	2092	2177	2177	2092	2092
h	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (17) Effect on Firm Performance - High vs. Low Knowledge Firms

	Labor Productivity (log)				Profit Margin				Capital Intensity			
	Above Median		Below Median		Above Median		Below Median		Above Median		Below Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MSERD bandwidth selection												
Treatment	0.105*	0.107	-0.034	-0.025	0.008	0.010	0.014	0.017	0.012	0.003	-0.010	0.011
	(0.060)	(0.098)	(0.052)	(0.098)	(0.012)	(0.013)	(0.010)	(0.021)	(0.008)	(0.011)	(0.013)	(0.017)
Observations	1216	1216	1188	1188	1155	1155	1152	1152	1195	1195	1152	1152
h	150	150	150	150	143	143	143	143	144	144	144	144
CERRD bandwidth selection												
Treatment	0.086	0.135	-0.035	-0.019	0.008	-0.006	0.025	0.013	0.008	0.008	-0.012	0.019
	(0.077)	(0.130)	(0.063)	(0.111)	(0.013)	(0.014)	(0.016)	(0.021)	(0.011)	(0.014)	(0.018)	(0.024)
Observations	830	830	763	763	803	803	707	707	805	805	715	715
h	104	104	104	104	99	99	99	99	100	100	100	100
Universal bandwidth, $h = 250$												
Treatment	0.106**	0.146*	0.001	0.036	0.011	0.009	0.012	0.031*	0.015**	0.007	-0.015*	-0.000
	(0.045)	(0.086)	(0.046)	(0.075)	(0.008)	(0.013)	(0.007)	(0.017)	(0.007)	(0.010)	(0.009)	(0.014)
Observations	2129	2129	2061	2061	2145	2145	2076	2076	2141	2141	2063	2063
h	250	250	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (18) Effect on Investment Ratios - High vs. Low Knowledge Firms

	Intangible Investment Ratio				Tangible Investment Ratio			
	Above Median		Below Median		Above Median		Below Median	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MSERD bandwidth selection								
Treatment	-0.005	0.063*	0.016	-0.011	-0.005	-0.018	0.090**	0.136*
	(0.025)	(0.033)	(0.021)	(0.031)	(0.040)	(0.053)	(0.043)	(0.077)
Observations	1301	1301	1267	1267	923	923	883	883
h	163	163	163	163	117	117	117	117
CERRD bandwidth selection								
Treatment	0.000	0.072*	0.000	-0.042	0.005	-0.015	0.106*	0.126
	(0.031)	(0.043)	(0.018)	(0.040)	(0.053)	(0.061)	(0.055)	(0.088)
Observations	873	873	833	833	588	588	581	581
h	113	113	113	113	81	81	81	81
Universal bandwidth, $h = 250$								
Treatment	0.006	0.030	0.009	0.004	-0.011	-0.028	0.063**	0.123**
	(0.020)	(0.032)	(0.015)	(0.026)	(0.028)	(0.048)	(0.025)	(0.055)
Observations	2099	2099	2008	2008	2119	2119	2047	2047
h	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

A.3 Alternative Fixed Effects Specifications

Table (19) Alternative Fixed Effects - Effect on Wages and Labor Share

	Mean Hourly Wage (log)		Top 10/ Bottom 10		Labor Share	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)
Year FE						
Treatment	-0.033	0.142**	0.012	0.560	0.010	-0.004
	(0.044)	(0.059)	(0.258)	(0.492)	(0.016)	(0.030)
Observations	2102	2102	4101	4101	3165	3165
h	99	99	181	181	203	203
Year × Industry FE						
Treatment	-0.064*	0.066	0.043	0.565	0.012	0.021
	(0.036)	(0.054)	(0.272)	(0.498)	(0.014)	(0.028)
Observations	2102	2102	4101	4101	3165	3165
h	99	99	181	181	203	203
Year & Firm FEs						
Treatment	0.003	0.024	-0.019	0.338	-0.010	-0.007
	(0.012)	(0.016)	(0.264)	(0.518)	(0.009)	(0.017)
Observations	2102	2102	4101	4101	3155	3155
h	99	99	181	181	203	203
Year × Industry & Firm FEs						
Treatment	0.001	0.024	0.015	0.338	-0.009	-0.006
	(0.011)	(0.016)	(0.273)	(0.520)	(0.009)	(0.017)
Observations	2102	2102	4101	4101	3155	3155
h	99	99	181	181	203	203

Notes: This table reports robustness checks for the estimates presented in Table 2, using alternative fixed effects specifications. All estimates are based on the MSERD sample with optimal bandwidth selection. The first panel presents diff-in-diff and diff-in-disc estimates controlling for year fixed effects. The second panel additionally includes industry-by-year fixed effects. The third and fourth panels replicate these specifications while also controlling for firm fixed effects. Statistical significance is indicated by *, **, and ***, corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (20) Alternative Fixed Effects - Effect on Job Security

	Separation Rate		Share of Fixed Contracts	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)
Year FE				
Treatment	-0.005	-0.036**	-0.009*	-0.014*
	(0.011)	(0.015)	(0.005)	(0.008)
Observations	4035	4035	3428	3428
h	178	178	159	159
Year × Industry FE				
Treatment	0.006	-0.020	-0.002	-0.002
	(0.011)	(0.016)	(0.004)	(0.007)
Observations	4035	4035	3428	3428
h	178	178	159	159
Year & Firm FEs				
Treatment	0.000	-0.024	-0.010***	-0.016***
	(0.011)	(0.015)	(0.003)	(0.005)
Observations	4035	4035	3428	3428
h	178	178	159	159
Year × Industry & Firm FEs				
Treatment	0.005	-0.019	-0.007**	-0.011**
	(0.012)	(0.016)	(0.003)	(0.005)
Observations	4035	4035	3428	3428
h	178	178	159	159

Notes: This table reports robustness checks for the estimates presented in Table 4, using alternative fixed effects specifications. All estimates are based on the MSERD sample with optimal bandwidth selection. The first panel presents diff-in-diff and diff-in-disc estimates controlling for year fixed effects. The second panel additionally includes industry-by-year fixed effects. The third and fourth panels replicate these specifications while also controlling for firm fixed effects. Statistical significance is indicated by *, **, and ***, corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

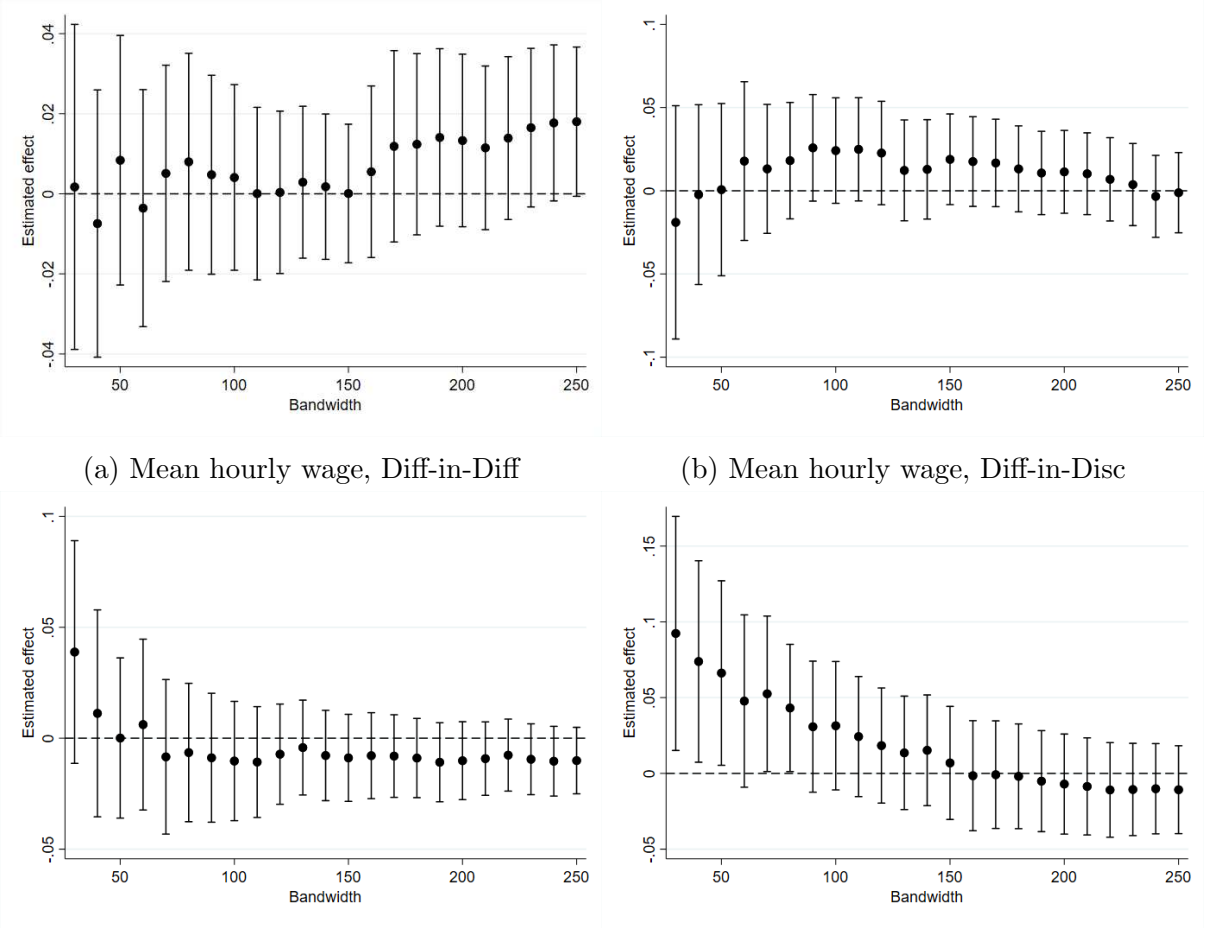
Table (21) Alternative Fixed Effects - Effect on Firm Performance

	Labor Productivity (log)		Profit Margin		Capital Intensity		Intangible Inv. Ratio		Tangible Inv. Ratio	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)				
Year FE										
Treatment	-0.092	-0.055	-0.011	-0.026	-0.032	0.024	-0.026	-0.023	0.078*	0.099
	(0.072)	(0.110)	(0.015)	(0.023)	(0.024)	(0.023)	(0.021)	(0.028)	(0.044)	(0.077)
Observations	2453	2453	2356	2356	2392	2392	2602	2602	1824	1824
h	150	150	143	143	144	144	163	163	117	117
Year × Industry FE										
Treatment	-0.091	-0.129	-0.008	-0.033	-0.015	0.038	-0.011	-0.009	0.044	0.074
	(0.069)	(0.108)	(0.014)	(0.020)	(0.019)	(0.025)	(0.020)	(0.027)	(0.043)	(0.078)
Observations	2453	2453	2356	2356	2392	2392	2602	2602	1824	1824
h	150	150	143	143	144	144	163	163	117	117
Year & Firm FEs										
Treatment	0.038	0.056	0.010	0.012	0.002	0.007	0.010	0.046*	0.045	0.057
	(0.040)	(0.070)	(0.008)	(0.012)	(0.007)	(0.009)	(0.017)	(0.024)	(0.030)	(0.046)
Observations	2451	2451	2354	2354	2390	2390	2599	2599	1822	1822
h	150	150	143	143	144	144	163	163	117	117
Year × Industry & Firm FEs										
Treatment	0.033	0.047	0.009	0.011	0.007	0.011	0.009	0.043	0.048	0.062
	(0.040)	(0.075)	(0.008)	(0.012)	(0.006)	(0.010)	(0.018)	(0.026)	(0.032)	(0.051)
Observations	2451	2451	2354	2354	2390	2390	2599	2599	1822	1822
h	150	150	143	143	144	144	163	163	117	117

Notes: This table reports robustness checks for the estimates presented in Table 2, using alternative fixed effects specifications. All estimates are based on the MSERD sample with optimal bandwidth selection. The first panel presents diff-in-diff and diff-in-disc estimates controlling for year fixed effects. The second panel additionally includes industry-by-year fixed effects. The third and fourth panels replicate these specifications while also controlling for firm fixed effects. Statistical significance is indicated by *, **, and ***, corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

A.4 Bandwidth sensitivity

Figure (4) Bandwidth Sensitivity - Wage and Labor Share



(a) Mean hourly wage, Diff-in-Diff

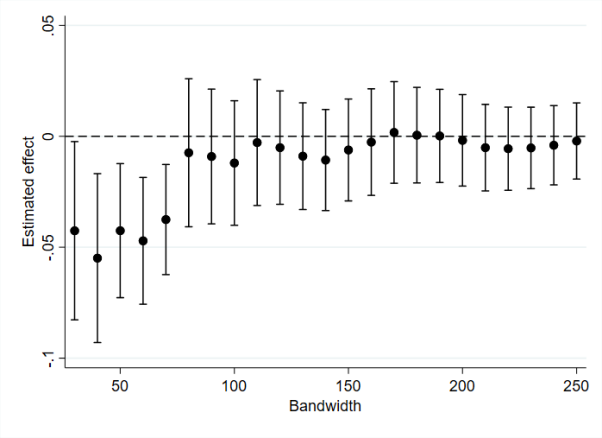
(b) Mean hourly wage, Diff-in-Disc

(c) Labor Share, Diff-in-Diff

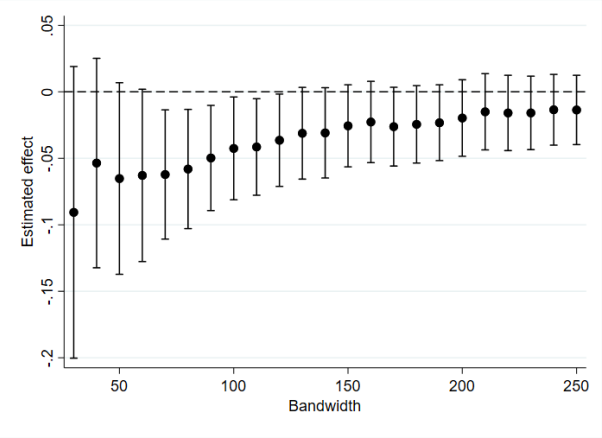
(d) Labor Share, Diff-in-Disc

Notes: These figures present robustness checks addressing the sensitivity of the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (2) to the choice of the local sample. They plot the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis varies the local sample around the threshold by increasing the bandwidth from 30 to 250 in steps of 10.

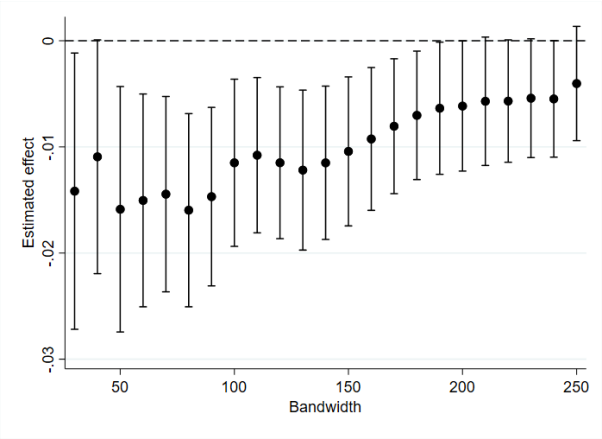
Figure (5) Bandwidth Sensitivity - Job Security



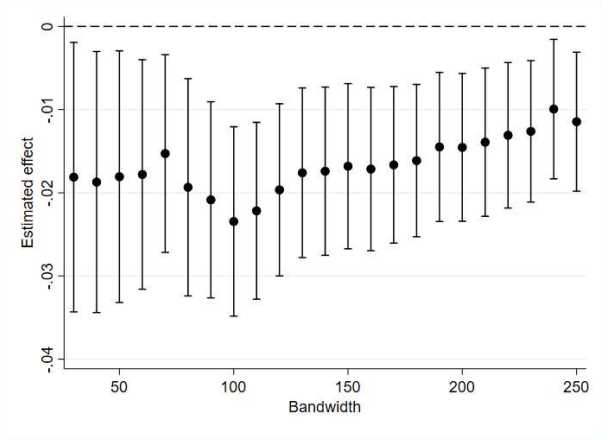
(a) Separation Rate, Diff-in-Diff



(b) Separation Rate, Diff-in-Disc



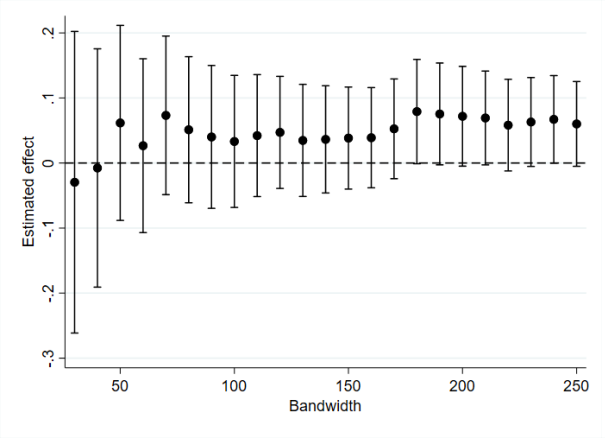
(c) Share of Fixed Contracts, Diff-in-Diff



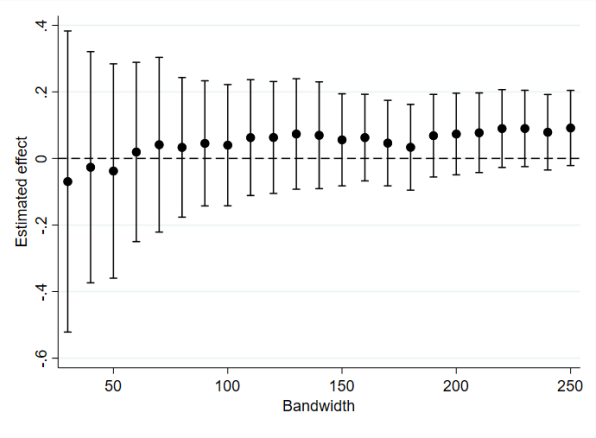
(d) Share of Fixed Contracts, Diff-in-Disc

Notes: These figures present robustness checks addressing the sensitivity of the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (4) to the choice of the local sample. They plot the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis varies the local sample around the threshold by increasing the bandwidth from 30 to 250 in steps of 10.

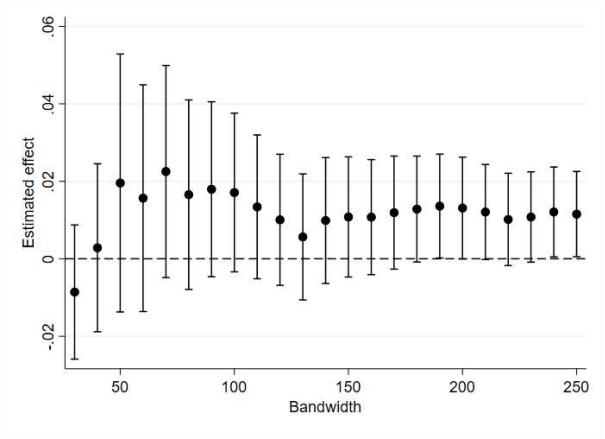
Figure (6) Bandwidth Sensitivity - Firm Performance



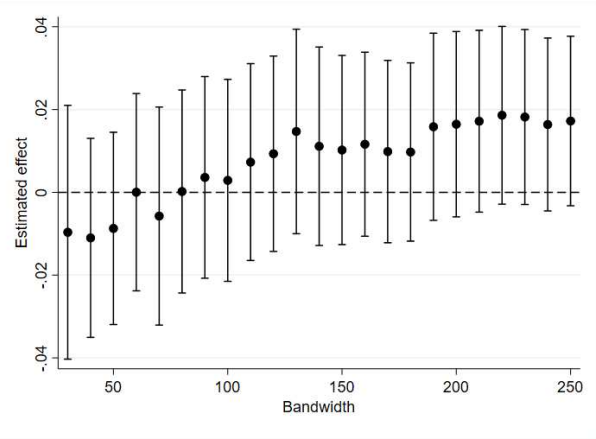
(a) Labor Productivity (log), Diff-in-Diff



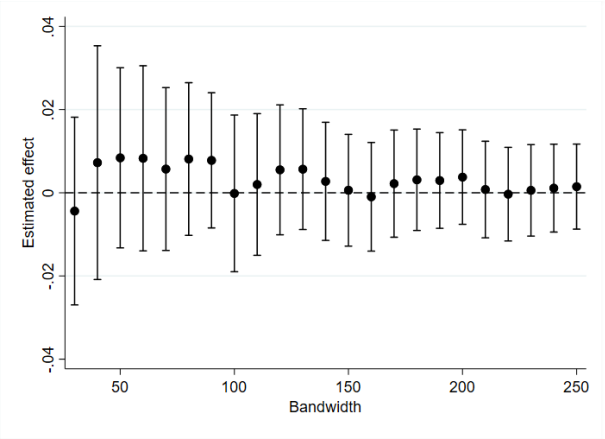
(b) Labor Productivity (log), Diff-in-Disc



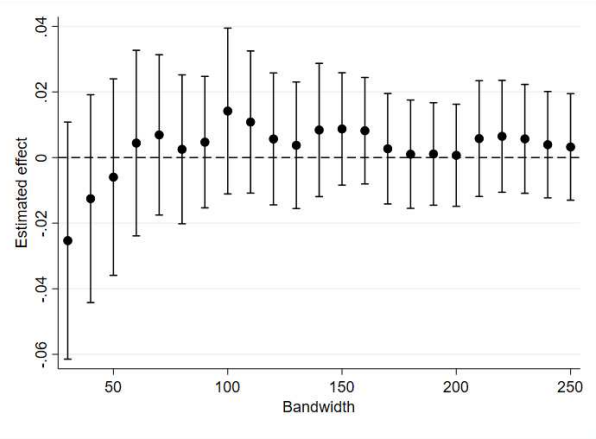
(c) Profit Margin, Diff-in-Diff



(d) Profit Margin, Diff-in-Disc



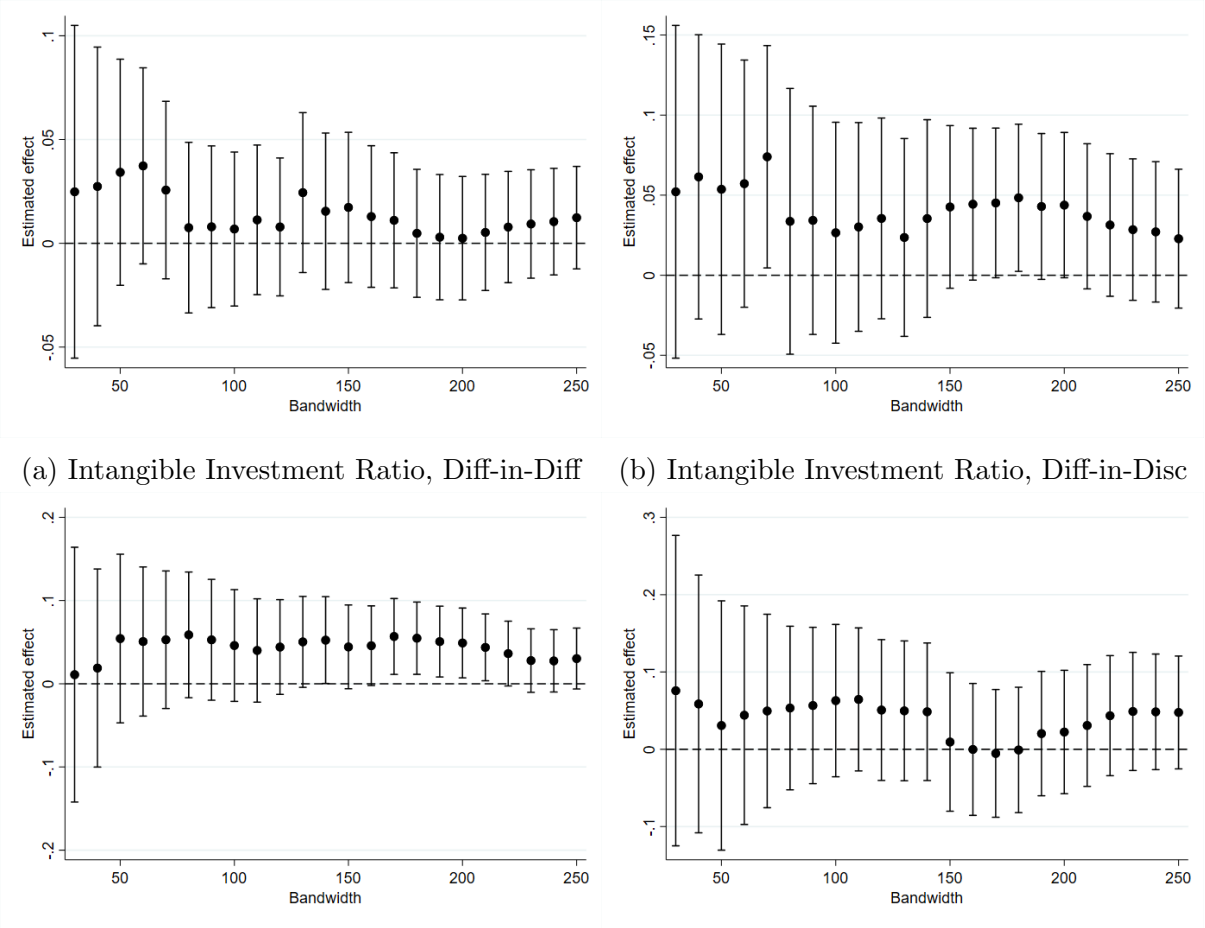
(e) Capital Intensity, Diff-in-Diff



(f) Capital Intensity, Diff-in-Disc

Notes: These figures present robustness checks addressing the sensitivity of the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (5) to the choice of the local sample. They plot the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis varies the local sample around the threshold by increasing the bandwidth from 30 to 250 in steps of 10.

Figure (7) Bandwidth Sensitivity - Investment Ratios



(a) Intangible Investment Ratio, Diff-in-Diff

(b) Intangible Investment Ratio, Diff-in-Disc

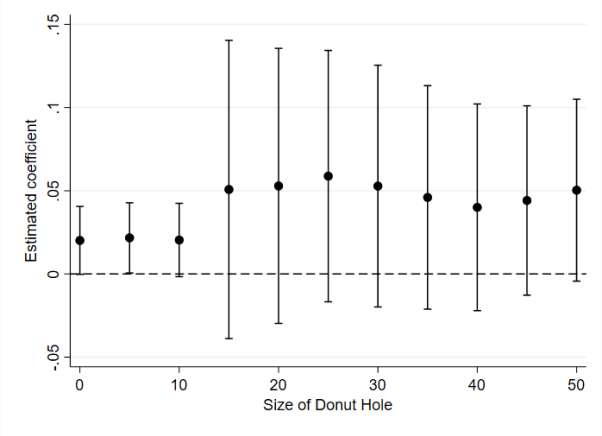
(c) Tangible Investment Ratio, Diff-in-Diff

(d) Tangible Investment Ratio, Diff-in-Disc

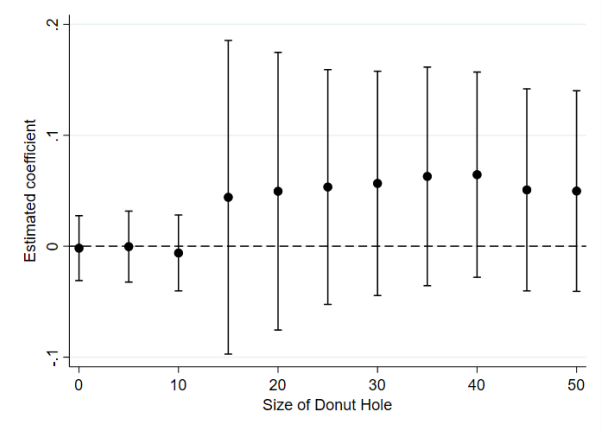
Notes: These figures present robustness checks addressing the sensitivity of the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (5) to the choice of the local sample. They plot the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis varies the local sample around the threshold by increasing the bandwidth from 30 to 250 in steps of 10.

A.5 Donut hole regression

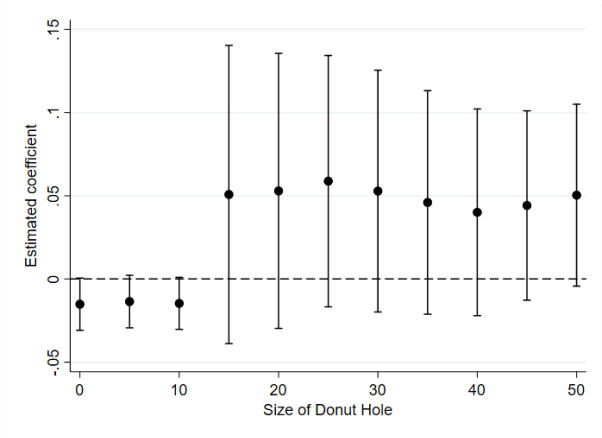
Figure (8) Donut hole - Wage and Labor Share



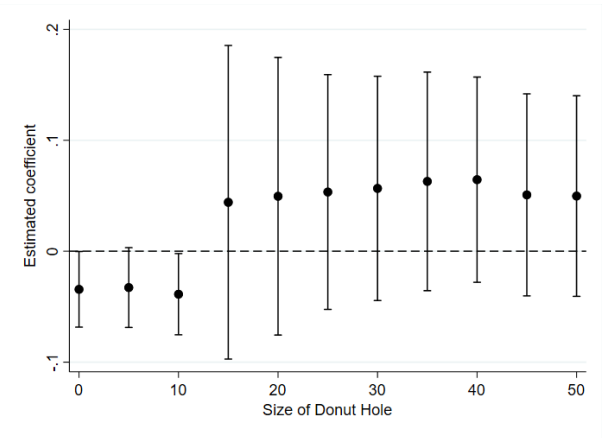
(a) Mean hourly wage, Diff-in-Diff



(b) Mean hourly wage, Diff-in-Disc



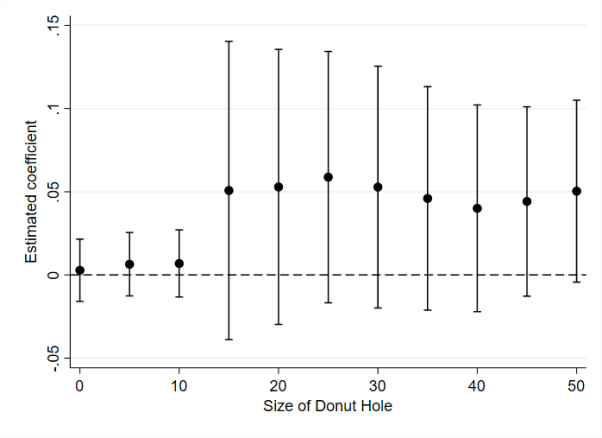
(c) Labor Share, Diff-in-Diff



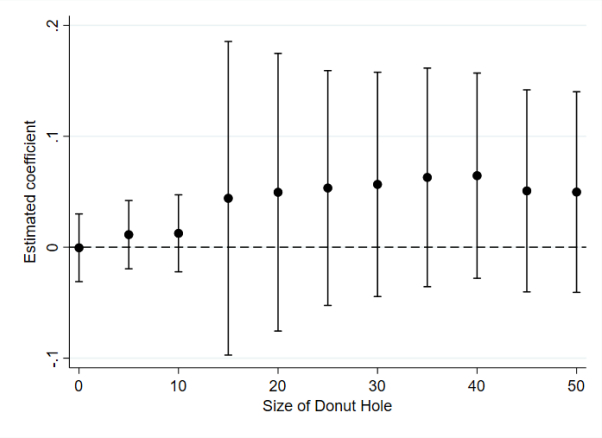
(d) Labor Share, Diff-in-Disc

Notes: These figures present robustness checks addressing potential measurement errors or manipulation in the vicinity of the threshold for the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (2). The figures display the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis excludes observations within progressively wider windows around the threshold, ranging from 0 to 50 in steps of 5, using the universal bandwidth sample h=250.

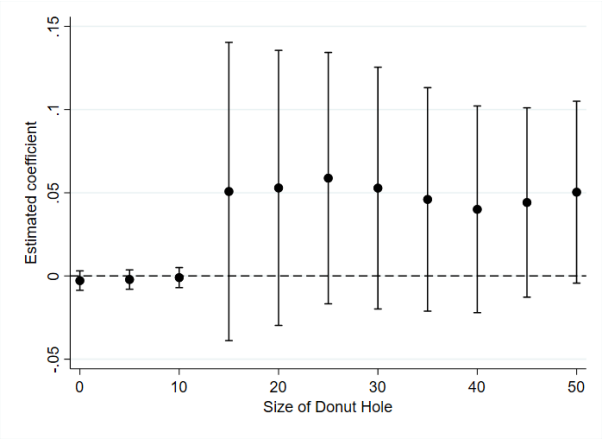
Figure (9) Donut hole - Job Security



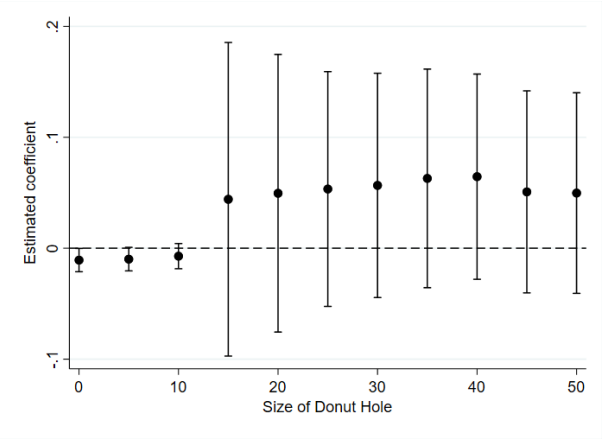
(a) Separation Rate, Diff-in-Diff



(b) Separation Rate, Diff-in-Disc



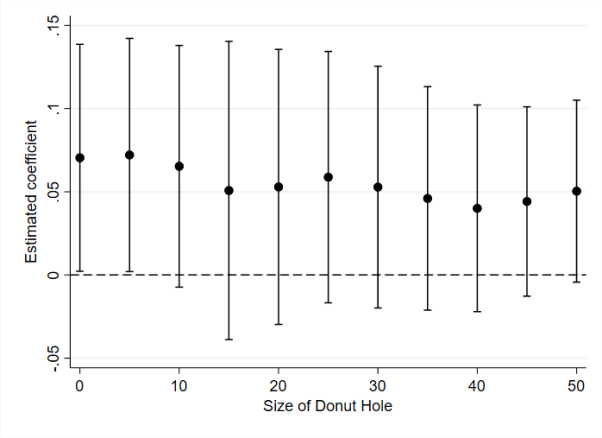
(c) Share of Fixed Contracts, Diff-in-Diff



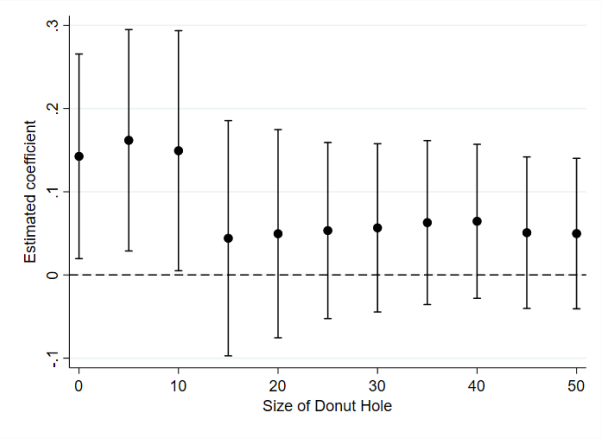
(d) Share of Fixed Contracts, Diff-in-Disc

Notes: These figures present robustness checks addressing potential measurement errors or manipulation in the vicinity of the threshold for the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (4). The figures display the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis excludes observations within progressively wider windows around the threshold, ranging from 0 to 50 in steps of 5, using the universal bandwidth sample h=250.

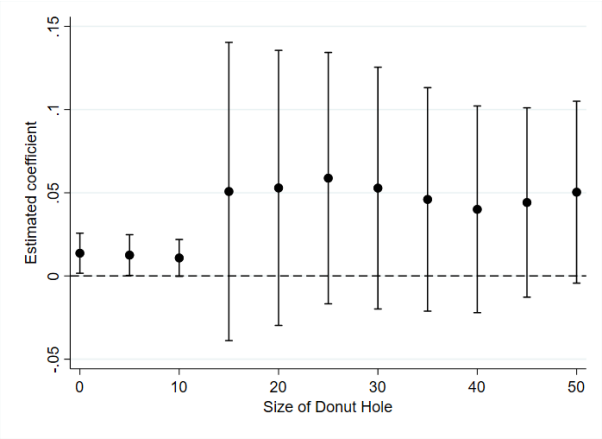
Figure (10) Donut hole - Firm Performance



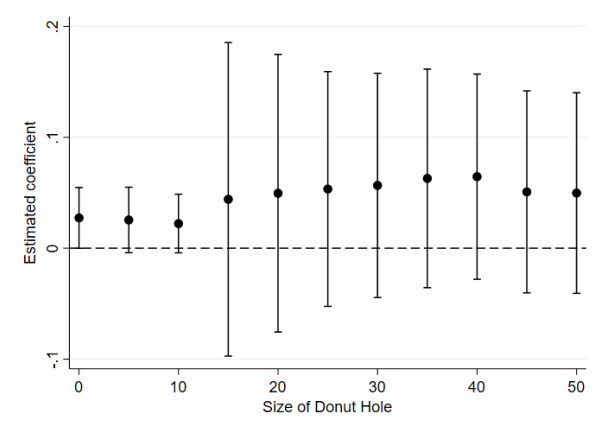
(a) Labor Productivity (log), Diff-in-Diff



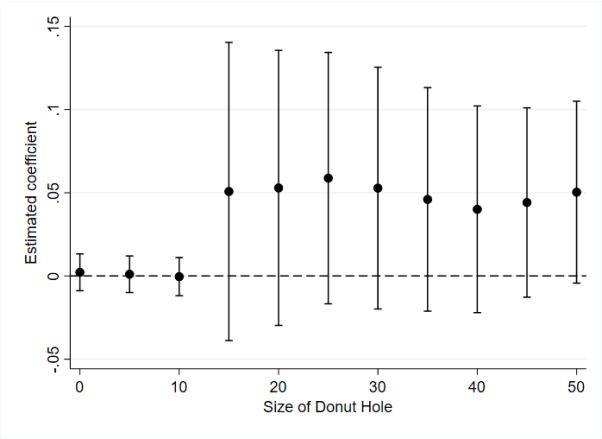
(b) Labor Productivity (log), Diff-in-Disc



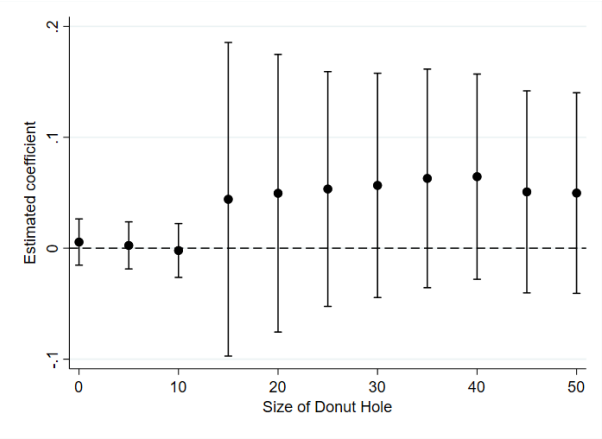
(c) Profit Margin, Diff-in-Diff



(d) Profit Margin, Diff-in-Disc



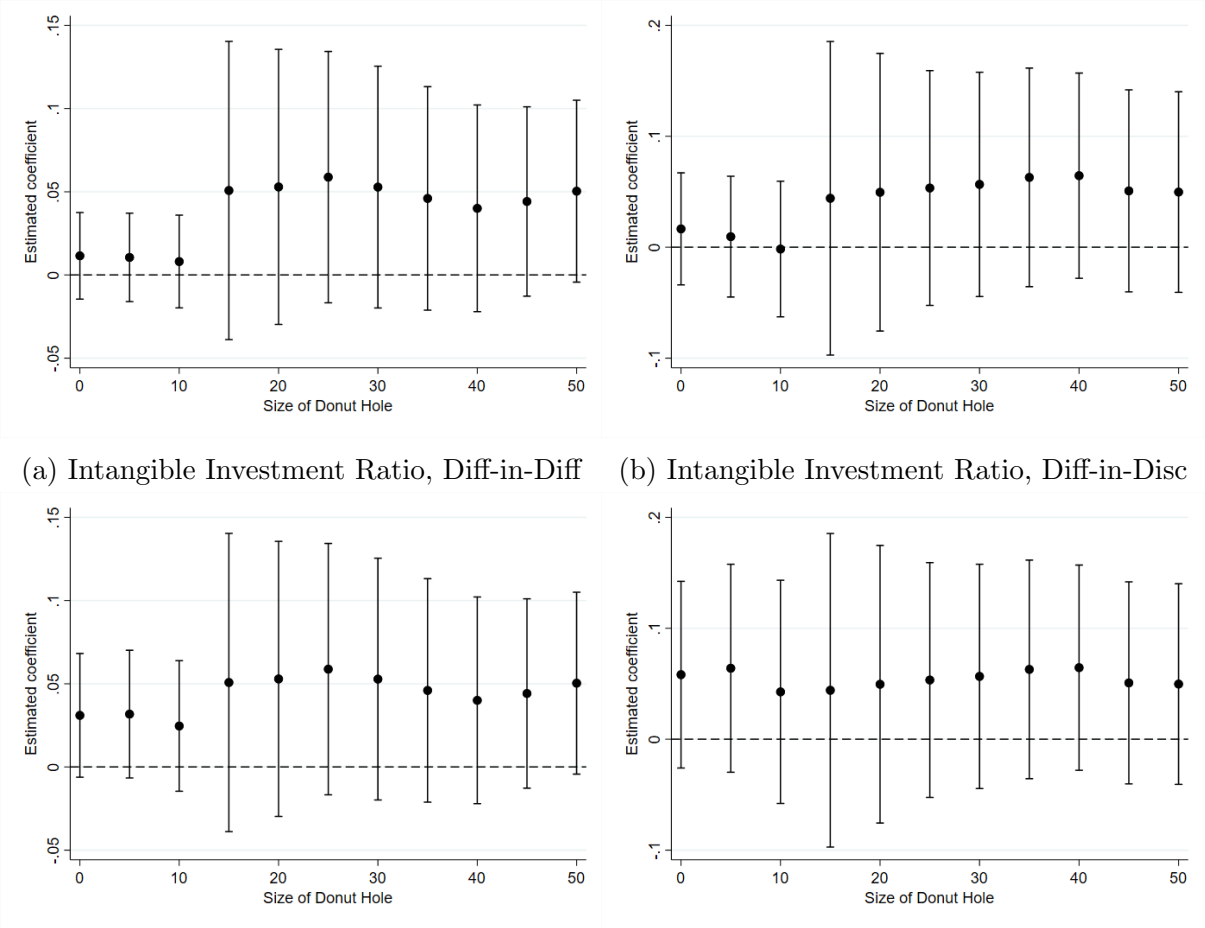
(e) Capital Intensity, Diff-in-Diff



(f) Capital Intensity, Diff-in-Disc

Notes: These figures present robustness checks addressing potential measurement errors or manipulation in the vicinity of the threshold for the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (5). The figures display the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis excludes observations within progressively wider windows around the threshold, ranging from 0 to 50 in steps of 5, using the universal bandwidth sample h=250.

Figure (11) Donut hole - Investment Ratios



(a) Intangible Investment Ratio, Diff-in-Diff

(b) Intangible Investment Ratio, Diff-in-Disc

(c) Tangible Investment Ratio, Diff-in-Diff

(d) Tangible Investment Ratio, Diff-in-Disc

Notes: These figures present robustness checks addressing potential measurement errors or manipulation in the vicinity of the threshold for the Difference-in-Differences and Difference-in-Discontinuity estimates reported in Table (5). The figures display the point estimates along with 95% confidence intervals, with standard errors clustered at the firm level. The analysis excludes observations within progressively wider windows around the threshold, ranging from 0 to 50 in steps of 5, using the universal bandwidth sample h=250.

A.6 Intent-to-treat Design

Table (22) Intent-to-treat Design - Effect on Wages and Labor Share

	Mean Hourly Wage (log)		Top 10/ Bottom 10		Labor Share	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)
MSERD bandwidth selection						
Treatment	0.003	-0.002	0.176	-0.502	-0.011	0.008
	(0.010)	(0.019)	(0.286)	(0.512)	(0.009)	(0.020)
Observations	3752	3752	2858	2858	2638	2638
h	176	176	142	142	177	177
CERRD bandwidth selection						
Treatment	0.004	0.001	-0.033	-0.090	-0.007	0.009
	(0.010)	(0.022)	(0.041)	(0.100)	(0.012)	(0.025)
Observations	2383	2383	1960	1960	1663	1663
h	121	121	98	98	123	123
Universal bandwidth, $h = 250$						
Treatment	0.004	0.003	0.632	-0.625	-0.012	0.001
	(0.009)	(0.015)	(0.589)	(0.633)	(0.007)	(0.017)
Observations	5533	5533	5533	5533	3828	3828
h	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (23) Intent-to-treat Design - on Job Security

	Separation Rate		Share of Fixed Contracts	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)
MSERD bandwidth selection				
Treatment	-0.005	-0.002	-0.007**	-0.003
	(0.014)	(0.031)	(0.003)	(0.006)
Observations	2383	2383	2715	2715
h	122	122	137	137
CERRD bandwidth selection				
Treatment	-0.007	0.008	-0.006	-0.006
	(0.016)	(0.037)	(0.003)	(0.008)
Observations	1709	1709	1886	1886
h	84	84	94	94
Universal bandwidth, $h = 250$				
Treatment	0.001	-0.011	-0.002	-0.011**
	(0.009)	(0.019)	(0.003)	(0.005)
Observations	5533	5533	5533	5533
h	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.

Table (24) Intent-to-treat Design - Effects on Firm Performance

	Labor Productivity (log)		Profit Margin		Capital Intensity		Intangible Inv. Ratio		Tangible Invest. Ratio	
	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc	Diff-in-Diff	Diff-in-Disc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MSERD bandwidth selection										
Treatment	0.019	0.020	0.005	0.027**	-0.002	-0.017	0.012	0.016	0.034	0.051
	(0.043)	(0.089)	(0.007)	(0.013)	(0.008)	(0.023)	(0.019)	(0.044)	(0.027)	(0.063)
Observations	2026	2026	2024	2024	2143	2143	1301	1301	1852	1852
h	139	139	138	138	143	143	92	92	130	130
CERRD bandwidth selection										
Treatment	0.065	-0.142	0.015*	0.005	-0.008	-0.013	0.021	-0.014	0.034	0.071
	(0.048)	(0.110)	(0.008)	(0.015)	(0.010)	(0.026)	(0.026)	(0.057)	(0.033)	(0.079)
Observations	1391	1391	1398	1398	1460	1460	781	781	1294	1294
h	97	97	96	96	99	99	64	64	90	90
Universal bandwidth, $h = 250$										
Treatment	0.050	0.025	0.013**	0.009	-0.009	0.008	-0.009	-0.009	0.027	0.043
	(0.035)	(0.063)	(0.006)	(0.010)	(0.007)	(0.018)	(0.017)	(0.025)	(0.019)	(0.040)
Observations	4073	4073	4119	4119	4082	4082	3950	3950	4014	4014
h	250	250	250	250	250	250	250	250	250	250

Notes: This table reports the results from the diff-in-diff and diff-in-disc specifications, as defined in Equations (1) and (2). Estimates are based on three local samples constructed using the optimal bandwidth selection procedure of Calonico et al. (2014), applying both MSE- and CER-optimal bandwidths. For comparison, results using a fixed bandwidth of 250 employees are also included. Standard errors (in parentheses) are clustered at the firm-level. Statistical significance is denoted by *, **, and *** corresponding to p-values below 0.1, 0.05, and 0.01, respectively.