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ORIGINAL ARTICLE

The geography of collective bargaining in French multi-establishment companies

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Abstract

Despite growing interest in the firm bargaining process, little research focuses on the structure of bargaining within multi-establishment firms. We question whether running negotiations at the workplace level and/or firm level is a strategic choice for employers. We hypothesize that the level chosen depends on the geography of the firm. Employers face a trade-off: workplace bargaining is more efficient because it meets local conditions; yet higher level negotiations increase coordination costs for workers and weakens their bargaining power, which can benefit the employer. Using a French representative survey, we find a significant relation between the level of bargaining within a firm and the number, spatial distribution and heterogeneity of its establishments, suggesting that the structure of multi-establishment firms can inform the level at which collective bargaining takes place.

INTRODUCTION

Collective bargaining plays a crucial role in the balance of power between workers and employers. It has consequences on wage setting, rent sharing, business and macroeconomic performance, and working conditions (e.g., Freeman and Medoff (1984), Flanagan (1999), Garnero et al. (2020)). From its location to its content, actors, and frequency, collective bargaining is structured by national institutions and framed by a large set of laws and regulations. Collective bargaining is possible at multiple levels, from the national level to the industries, from the companies to the workplaces. At each level, regulations define the bargaining bodies and potential mandatory negotiations to be held. And at each level, the balance of power between workers and employers can vary. The levels at which collective bargaining is conducted can therefore

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have an influence on its outcome. It is thus important to analyze this issue comprehensively, particularly in the context of the growing awareness among policymakers in many countries of the need to adapt labor regulations to promote collective bargaining.

The articulation of **industry-level** and **firm-level** bargaining has been explored in a variety of countries (e.g., on Germany and Britain, Schnabel et al., 2006; on Belgium, Plasman et al., 2007). For France, past research (e.g., Saglio, 1986) has shown a division of themes and presence, such that "*the branch remains the framework for the determination of the wage hierarchy, the company remaining the place for discussions on the amount and forms of compensation*" (Castel et al., 2015, p38). Despite the tendency to shift focus to the firm in recent reforms, Delahaie et al. (2023) found that the articulation between industry-level and firm-level bargaining remains strong. By contrast, despite a growing empirical literature dedicated to the firm bargaining process, the distribution of themes within the firm, between the **establishment-level** and the **company-level,** remains a blind spot. Our article explores whether disentangling these two levels could be crucial for understanding the firm bargaining process.

An obstacle to this endeavor is the lack of large datasets to study this issue. Typically, surveys such as the vast Irish NES (McGuinness et al., 2010) explore individual, business, industry, and national levels of bargaining but not intra-firm levels. Swidinsky (1981) is one exception: Using a sample of 2300 agreements in the Canadian private sector, the author studied whether bargaining "*through employer's association, multi-employer, single (multi-plant) employer or single-plant negotiation units has had an effect on negotiated wage settlements*" (p. 371). However, this article does not explore what determines the level of bargaining within the firm. To which extent can the structural organization of firms determine the level of collective bargaining in multi-establishment companies? In other words, do some company structures (in terms of plant specialization or geographical distribution for instance) enhance centralized or decentralized collective bargaining?

In this article, we address these specific questions using survey data about collective bargaining on a diversity of topics in France between 2014 and 2016, at the establishment and company levels. France is particularly relevant because of the extent of collective bargaining and the possibility for employers to conduct it at the establishment or company levels. We rely on the literature on collective bargaining and the geography of firms to suggest a new set of factors potentially driving the choice of bargaining level in a "*geographically informed approach to understanding the workplace*" (Rainnie et al., 2017, p.298–9).

Some existing theoretical and qualitative studies provide insights on this issue and inform our quantitative approach. Kinnie (1982) stresses that local bargaining allows more flexibility. Block and Berg (2009) propose a model of local-level bargaining in the multiplant firm, where the parent firm can allocate production differentially across plants; they stress that local unions may help them cooperate with local management to increase profitability rather than wages, in order to maximize plant employment. Zagelmeyer (2005) reviews the literature on the factors of company structure which affect the level of collective bargaining, noting that the geographical concentration of units creates the conditions for a high comparability of working conditions in a homogenous labor market, which favors centralized bargaining. Additionally, he states (p. 1632) that "*the more devolved the company structures and the more independent the subunits, the more likely is decentralization of collective bargaining*," thus echoing a point made decades ago by Livernash (1963) while studying power relations between firm management and staff. For Liversnash, in general, workers' representatives have a stronger position in local bargaining settings, because their knowledge of the establishment, its activities, and the distribution of roles is greater, whereas employers have a stronger position when they bargain at the central level with potentially less informed and less united workers' representatives. Livernash also argued that local (or decentralized) bargaining happened more frequently in companies with many establishments/plants, geographically dispersed, and whose production was not

integrated. The size, location, life cycle, productive organization, and geographical dispersion of firms are all part of this structure which affects the centralization of negotiations (Schnabel et al., 2006). Furthermore, these elements are interlinked since functional differentiation in local establishments generally leads to different territorial strategies. For instance, Aarland et al. (2007) point out that firms who choose to have a distinct establishment and location for central administrative offices (CAOs) tend to be the ones which are bigger, more geographically dispersed and more industrially diversified: "*Firms that operate in small cities are more likely to have CAOs and to locate them in bigger cities, consistent with functional specialization*." (Aarland et al., 2007, p. 493).

In recent years, economic geographers have exploited new financial data sources to analyze the geographical distribution and locational strategies of individual firms and multinational groups. At the world level, the commercial ORBIS dataset (Bureau van Dijk) provides information about financial ownership links between firms, together with their geographical locations. This allows to construct a geolocated network structure of multinational groups, as in Bohan and Gautier (2013), or to derive networks of metropolitan areas from the aggregation of multinational networks, as in Hussain et al. (2019). At the French level, an administrative dataset (LIFI) provides the same information for all firms located on national territory. Its exploitation reveals the regional and scalar factors influencing foreign direct investment in French cities for instance (Finance, 2017).

Our article proposes to combine these two lines of research to analyze the extent to which the geography of firms can affect the strategic choices by employers regarding the bargaining level, using a large representative sample of workplaces of multi-facility firms. We hypothesize that several structural aspects of the company, including its hierarchical and geographical organization, do affect the level of centralization in collective bargaining. We first build a theoretical model which produces testable hypotheses. In this simple model, the employer faces a trade-off: on the one hand, workplace level bargaining allows to reach deals that meet the characteristics of the plant and local market conditions; but on the other hand, a higher level of bargaining increases the distance between workers and their representatives, weakening their bargaining power. In that framework, the companies' spatial structure—that is, geographical dispersion—and productive structure—that is, variety of sizes and activities of facilities—determines the optimal level of bargaining for the employer. Firstly, we expect collective bargaining to be conducted preferentially at the central level in geographically dispersed companies, and at the local level in geographically compact firms. Secondly, we expect companies composed of similar establishments (in terms of size and specialization) to favor centralized bargaining and companies with an integrated production in heterogeneous establishments to bargain more locally to cater for local specificities more efficiently. Thirdly, we expect that thanks to increasing returns of her bargaining technology, the employer with a larger number of distinct facilities would prefer to run centralized negotiation. Finally, we expect that employers would favor centralized bargaining for establishments located further away from their headquarters (HQ) in order to impede the mobilization of workers. These hypotheses are tested on France where the institutional environment promotes both collective bargaining and a discretionary choice by employers of the level of bargaining within companies. A core survey REPONSE conducted in 2017 by the French Ministry of Labour, offering a rich description of labor relations in 2014–2016, is merged with comprehensive administrative sources providing the complete workplace structure of the companies, including their hierarchical inclusion into a wider financial group and the geographical location of their components in France.

This article is organized such that Section 2 presents the model and related hypotheses, Section 3 the French institutions, data and empirical strategy, Section 4 tests and discusses our predictions, and Section 5 concludes.

A MODEL OF WITHIN-FIRM LEVEL WAGE BARGAINING

This section proposes a simple model to clarify our basic assumptions and the related mechanisms in the case of a wage bargaining process occurring at the establishment or firm level, and to derive hypotheses testable with our data.

Firm structure and production function

We consider a firm composed of headquarters and $N>1$ productive establishments across the country. The establishments can operate in different activities. Let L_i be the number of employees in establishment i and $L = \sum_{i=1}^{N} L_i$ the total employment of the firm.

Locally for a given class-size, the output is linear with labor input. Each establishment benefits from a "markup" p_i, which encompasses its price–cost margin/market power and its productive efficiency. Labor productivity (workers' effort) is driven by a wage mechanism *à la* Solow with decreasing returns[1]: the value added is equal to $p_i L_i w_i^{\alpha}$ where $0 < \alpha < 1$, and w_i is the wage level. The operating profit of an establishment i is thus $\boldsymbol{\pi}_i = p_i L_i w_i^{\alpha} - L_i w_i$.

Since the intensity of competition differs across industries and establishments face different returns to scale and market positions, we assume that the more the firm is composed of establishments of different size-class and activities, the greater the coefficient of variation of markups. This assumption is supported by empirical evidence including in France. For example, Bauer and Boussard (2020) find a significant heterogeneity in average French industry markups; in addition, "*larger firms have higher estimated markups. Firms with more than 5,000 employees have, on average, markups larger by 30 percentage points than firms with 10 to 20 employees within the same 3-digit industry on the same year. This increasing relationship is well observed at all levels of employment*" (p.138).

Bargaining process

When workers' representatives are present, the firm must conduct collective bargaining on wages. The employer chooses the level of bargaining, either at a multi-facility level or at the decentralized level of each establishment.

In the case of establishment bargaining, a pay level is set for the establishment only. It can therefore be different from one establishment to another, whereas in a multi-establishment agreement, the same pay applies to all covered units. Employees' negotiators seek to maximize the negotiated wage whatever the level of bargaining set by the firm,[2] while the employer seeks to maximize net profits.

The bargaining process at one establishment induces a sunk cost $c>0$ for the firm. The total cost of running negotiations in all productive workplaces is thus Nc. At the firm level, the employer enjoys increasing returns in her bargaining technology, that is, the cost $c(N)$ is increasing and $c(N)$-Nc is decreasing in N.

In case of bargaining failure, we assume, for sake of simplicity, a total loss of turnover and wage. We also consider that local workers' negotiators enjoy a relative bargaining power β_i which is similar in all establishments.

[1]See Schlicht (2016) for the implications and alternatives of this representation.

[2]Since the production function is local-linear in labor, assuming that the unions seek to maximize the individual wage or alternatively the wage bill, is similar in our framework.

Let $\beta(d)$ be the bargaining power of workers' representatives at the centralized level, where d is the geographical dispersion of establishments. The more the establishments are spatially dispersed—that is, d is large—the more the workers' representatives encounter difficulties in coordinating workers' mobilizations across the firm; the employer can also play with the potentially divergent goals of a larger panel of competing unions. The bargaining power of workers' negotiators at the central level is then a decreasing function of d. If $d=0$, all establishments are in the same location; in this case, we consider that the local and firm levels coincide and so that the collective bargaining powers are similar: $\beta(0)=\beta_i$. Therefore, hereafter, we replace β_i by $\beta(0)$.

Pure employer's choice for bargaining level

We assume for now that the employer has only one alternative: bargaining locally in all facilities, or bargaining once at a centralized level for all units. The employer determines its optimal level of bargaining by comparing the profits in the two cases. Details of the solution are in Appendix S1.

The outcome of **bargaining at an establishment** i is a Nash equilibrium given by the maximization:

$$\max_{w_i}(1-\beta(0))ln(\pi_i)+\beta(0)ln(w_i)$$

Elementary calculations lead to:

$$w_i=\left[(\beta(0)+\alpha-\alpha\beta(0))p_i\right]^{1/(1-\alpha)}$$

In the case of local bargaining only, the total profit Π_e is then:

$$\Pi_e=(1-\alpha)(1-\beta(0))[\beta(0)+\alpha-\alpha\beta(0)]^{\alpha/(1-\alpha)}\sum_{i=1}^{N}L_i p_i^{1/(1-\alpha)}-Nc$$

or

$$\Pi_e=g_\alpha(\beta(0))\sum_{i=1}^{N}L_i p_i^{1/(1-\alpha)}-Nc$$

where $g_\alpha(\beta)=(1-\alpha)(1-\beta)[\beta+\alpha-\alpha\beta]^{\alpha/(1-\alpha)}$ is a decreasing function.

In the extreme case that the workers' bargaining power is one (i.e., $\beta(0)=1$), there is a "hold-up" by workers: the operating profits are null. On the contrary, if $\beta(0)=0$ the profits reach their maximum.

In the case of bargaining conducted only at the **centralized level**, the aggregated operating profit is $p_f L\, w^{\alpha}$-$L\, w$, where w is the wage set for all workplaces and p_f is the weighted average of the markups of the establishments covered by the firm-level bargaining. The outcome is thus given by the maximization

$$\max_{w}(1-\beta(d))ln\left(p_f L w^{\alpha}-Lw\right)+\beta(d)ln(w)$$

The firm's total profit is then (see Appendix S1):

$$\Pi_f=(1-\alpha)(1-\beta(d))\left[\beta(d)+\alpha-\alpha\beta(d)\right]^{\alpha/(1-\alpha)}Lp_f^{1/(1-\alpha)}-c(N)$$

or

$$\Pi_f=g_\alpha(\beta(d))Lp_f^{1/(1-\alpha)}-c(N)$$

Finally, the difference of total profits between the two levels of negotiations is

$$\Pi_f - \Pi_e = g_\alpha(\beta(d))Lp_f^{1/(1-\alpha)} - g_\alpha(\beta(0))\sum_{i=1}^{N} L_i p_i^{1/(1-\alpha)} + Nc - c(N)$$

If $d=0$ and Nc-c(N) small, by convexity, $\Pi_e \geq \Pi_f$ and so the employer chooses to bargain in each establishment. Conversely, when the geographical dispersion d becomes important, firms will tend to centralize negotiations. Indeed, $g_\alpha(\beta(d))$ is increasing in d and so is Π_f This can be explained by the fact that geographical dispersion of the firm's establishments lowers the bargaining power of the workers and their representatives at the company level (Zagelmeyer, 2005). Such power imbalance creates (or increases) a rent that the firm retains when bargaining is performed at the central level, which makes her prefer that level over bargaining at the local level. In addition, since the difference in costs of running a local bargaining in all units versus central negotiations is increasing in N, the propensity to bargain at the firm level is expected to soar with the number of facilities. For a given average markup, $\Pi_f - \Pi_e$ is decreasing with the dispersion of the markups and thus of size/activity of the establishments. If they are very similar—we will hereafter call them "clones"—a negotiation at the company level makes it possible to preserve the most important share of rents for profits, without significantly deteriorating the incentive mechanisms and thus the size of these rents. Conversely, if markups are very dispersed, setting the same wage in all establishments makes wage incentives too suboptimal in some establishments, or suboptimal in too many establishments; the employer prefers to promote bargaining in each establishment.

Therefore, our model suggests three testable hypotheses:

H1: The geographic dispersion of establishments favors negotiation at central/company level.

H2: The heterogeneity of size/activity of establishments favors negotiation at the establishment level.

H3: A high number of establishments in the company reduces the propensity to negotiate at local level.

Double-level wage bargaining and distance to HQ

In practice, the wage packages include a variety of tools: grid by occupation, paid holidays, profit sharing schemes etc. These tools can have different impacts on the effort of the workers, that is, g_α may differ across the wage package and thus the relative profits for central versus local bargaining. Since an employer can slice the negotiations, she may initiate negotiations for some elements at the company level and the others at the local level. According to our data, a double level of bargaining is far from anecdotal (see next section). We can expect that such establishments have characteristics in between the two polar cases of establishments with local only and central only wage bargaining (or competing expectations based on different aspects of their organization).

The employer can also implement a 2-tiers bargaining: only a part of the establishments is covered by a multi-establishment negotiation, while in the remaining ones, only local bargaining is implemented. In our framework, the employer should prefer to pool in a unique negotiation, establishments that are far from the head office, in order to magnify the difficulties for employee representatives to coordinate their actions and mobilize workers. In addition, the distance of the establishment from its head office is already demonstrated to have an effect on its expected longevity and revenues (Kalnins & Lafontaine, 2013), and on the share of temporary versus permanent contracts, through the mechanism of social pressure applied by a local community on CEOs when headquarters are colocated with the company establishments (Bassanini et al., 2021). In our model, the distance of an establishment

to its headquarters would therefore be a positive factor determining the probability of being covered by multi-establishment bargaining. This leads to a testable control: A large distance between an establishment and its HQ should favor its inclusion in a multi-establishment bargaining.

Testing this control along with H1 and H2 is useful to prevent a statistical confusion between the mechanisms driven by the global geography of the firm and those driven by the individual location of the establishment.

INSTITUTIONS, DATA, AND METHODS

We first present the main characteristics of the collective bargaining process in France in 2014–2016 and then the data and methods used to test our hypotheses empirically.

The French bargaining process in 2014–2016

France is often seen as a country of industrial disputes. Actually, in the 2010s according to the Social Dialogue Surveys (ACEMO-DSE), on average less than 2% of companies with 10+ workers experienced a strike on a given year and a majority of these conflicts were driven by external factors, especially public policy reforms. By contrast, on average in the 2010s, in a year, one out of seven companies with 10+ workers experienced collective bargaining; among them, about 80% reached at least one new agreement covering some or all their establishments. These proportions are dramatically rising with the size of the company; therefore, a majority of French-salaried workers in the private sector are regularly involved in a bargaining process.

In the past decades, a flow of reforms has modified French labor relations but has not entailed the institutional construction that supports collective bargaining. Basically, employers and unions can bargain at the national level, industry level, and firm (in French "*entreprise*") level. For each level, the labor code defines the bargaining bodies and mandatory negotiations.

We focus here on the *entreprise* level. This level is broken down into up to five potential levels: establishment, multi-establishment, company (legal unit), multicompany if the companies are controlled by the same shareholders, and group.[3] A key principle is equality within a given level. For example, if an agreement is signed at the company level, then its elements should apply equally in all establishments belonging to this company.

When unions are present, the employers have to open, each year, negotiations on a legal list of topics (such as wages, profit sharing schemes, working time, or gender equality) with all recognized unions,[4] except if an agreement has been reached on the same topic in the past 4 years and is still valid. In practice, the variety of topics generates a continuous flow of bargaining in a majority of firms with union delegates. Reaching an agreement is not mandatory;

[3]A group is defined as "an economic entity formed of a set of companies which are either companies controlled by a same company, or the controlling company itself. Controlling a company means having the power to appoint the majority of its directors. […] The French statistical definition currently in force uses the absolute majority of voting rights as its control criterion to define the group contours." (INSEE, 2019).

[4]Professional elections for workers' representatives are run every 2, 3, or 4 years in firms with 11 or more workers (REPONSE survey covers only establishments with at least 11 workers). A union should attract 10% of the votes at the first round of these elections to become representative in the establishment. The representativity at the firm level is also based on a 10% threshold but of the aggregated votes across all establishments firm level. In firms with 50 or more workers, the employer cannot prevent that a representative union appoint at the establishment and firm levels, union delegates; union delegates then constitute the main body for collective bargaining.

and an agreement is valid only if it is signed by one or more unions which have attracted cumulatively at least 30% of the votes at the last professional elections.

In multi-establishment companies, the employer could fulfill these mandatory *entreprise* negotiations by opening them either at the establishment or at the company level. Consequently, if an annual negotiation on wages is conducted at the company level, the employer is not obliged to open a similar negotiation even in a large organized establishment. However, bargaining topics could be split, some discussed at the establishment level, others at the company level. For example, the company-level agreement can set the general increase of the wage bill, and the local dispatch of the envelope by occupations/tenure can be part of an establishment-level negotiation. Companies that have similar activities in the same local area while they are controlled by the same shareholders, can, for the purpose of collective bargaining, be considered as a single company—an *Unité Économique et Sociale* (UES) in French, that is, Economic and Social Unit.[5]

In addition to scheduled meetings, a bargaining process with recognized unions can be opened by the employer at any time, for example, in case of restructuring or for preventing a strike. In this case, it can be conducted at any level, in general the most relevant one (e.g., at a given establishment if a mass-layoff affects this workplace).

In general, there is no clear hierarchy of norms. The establishment-level agreements prevail on the firm agreements, except if the firm agreement explicitly states the contrary. In addition, within the wage topic, some elements can be covered by a firm-level agreement (e.g., general increase of the wage bill) and others by establishment agreements (e.g., the dispatch of the envelope by occupations). So we cannot assume that a level of bargaining prevails.

To wrap up, in the French framework and during the years we study (2014–2016), the level of bargaining—basically local/establishment versus central/company—can be considered largely a discretionary choice of the employer in multi-establishment firms.

Data

To test our hypotheses, we have gathered data about the level of collective bargaining in multi-establishment firms from REPONSE as well as data about firms and their establishments from FLORES and LIFI. In particular, we have computed the three main parameters assumed to play a key role in determining this level (cf. Section 2): the geographical dispersion of establishments d, which determines the level of bargaining power $\beta(\mathrm{d})$ of employees' representatives, the "clone" structure of the company (based on the distribution of establishments' size and activity) assumed to affect the dispersion of the establishment markups p_i, and the total number N of establishments in the company which affects the sunk cost of collective bargaining at the local level Nc-c(N).

The REPONSE survey and interest variables

Our first dataset is the Ministry of Labor's 2017 French Workplace Employment Relations Survey (REPONSE 2017) of 4364 business establishments with 10+ employees in the nonagricultural business sector. Conducted every 6 years, REPONSE is one of the main sources of

[5]The UES is the result of an agreement between the employers and the workers' representatives, or of the decision of a judge; the principle is to protect workers against employers who artificially split a company in many small entities in order to avoid rules applying above certain thresholds.

information on industrial relations in France[6]; it is the equivalent of the British WERS (see Amossé et al., 2016).

For REPONSE, a management representative completes a long face-to-face interview covering the characteristics of the establishment, its organization of work, and industrial relations within the firm. These interviews took place between January and June 2017. REPONSE 2017 was a mandatory survey, meaning that employers had to answer it by law. Eventually, 72% of the contacted workplaces participated. We use the non-anonymous version available within a secure remote environment in order to link it with administrative firm-level datasets.

The 2017 wave of REPONSE sheds light on the bargaining process at both the local and the central levels.[7] Our key variables of interest derive from a set of questions on the bargaining process in the years 2014–2016. Following our model, we start with *wage bargaining*; it is by far the most common bargaining topic (61% of the REPONSE establishments). The variable WB refers to the wage bargaining between 2014 and 2016, more precisely on "Salaries, bonuses and other allowances" and takes the value "No"; "Yes only at the establishment level"; "Yes at the company (or UES level)"; and "Yes both at the establishment and company (or UES levels)". The questionnaire does not allow the option of bargaining at the intermediary level of multi-establishments; however, qualitative post-survey investigations suggest that in case of bargaining taking place beyond the level of the establishment, the employer's representative likely answers "at the company level" (see Didry et al., 2021).

For comparative purposes, we also study bargaining on gender equality (GB), the second major topic of bargaining (54% of REPONSE establishments). We do expect some differences, as gender equality bargaining does not follow strictly rationales of profit maximization but has specificities of its own such as the types of industries and representation of female employees that can determine the level of bargaining. However, gender equality has a clear pay dimension which suggests that the hypotheses derived from our model could hold for that topic as well.

FLORES database: spatial, social, and productive variables

The second dataset used in this research design is FLORES 2017.[8] This administrative dataset covers the universe of salaried work in French business establishments; it is the most important source of information for local business statistics released by either INSEE or Eurostat regarding France. It contains characteristics of the establishments such as their parent company, creation date, size, industry code, number of employees, wages, and municipality of location (except for facilities related to national security).

Therefore, FLORES draws an almost complete map of companies and establishments operating in France. Merging FLORES and REPONSE can only be achieved within a secure remote environment, using the unique establishment identifier SIRET. We used the geographical information from FLORES to locate REPONSE establishments at the municipality level, as well as to compute the location, geographical dispersion, and industrial organization of their parent company (see next section).

[6]The other major source ACEMO-DSE—a short online annual survey—unfortunately does not include detailed questions on the level of bargaining within the firm.

[7]The questions in the previous wave referred to « discussion or bargaining », whereas the 2017 questionnaire clearly focuses on bargaining only, our interest variable.

[8]Fichier Localisé des Rémunérations et de l'Emploi Salarié (File of local salaried employment and rewards): https://www.insee.fr/fr/metadonnees/source/serie/s1042

FLORES does not provide information on the perimeters of the UES. Therefore, we ignore workplaces related to a UES[9] (their inclusion does not alter our main findings). We also ignore single-establishment firms[10] and multi-establishment firms with only one active establishment.[11] Eventually, our core sample covers about 2000 observations. Four out of five of these establishments have conducted negotiations at the establishment and/or company level during the 2014–2016 period.

LIFI database: financial information about firms and groups

The last dataset used in this research is LIFI 2017 (Financial Links) provided by INSEE.[12] Among other information, this dataset provides for each company in France the name and unique identifier of its group company (i.e., its ultimate owner, sometimes through a chain of multiple subsidiaries). When the group company is located in France, it has been possible to link its HQ with FLORES to locate it at the municipality level. That way, we can determine the colocation pattern of a REPONSE establishment and its group HQ.[13]

Empirical strategy: multinomial logit model of the level of bargaining topics

The empirical strategy consists in testing the influence of structural characteristics of the establishments as well as their position in the company and financial group to explain the level of the two most important bargaining topics: wages and professional equality.

We do so using a multinomial logit model of the form:

$$\mathrm{Y_k} = \alpha + \beta_{\mathrm{e\_clone}}\mathrm{E_{clone}} + \beta_{\mathrm{e\_disp}}\mathrm{E_{dispersion}} + \beta_{\mathrm{e\_n}}E_n + \beta_{\mathrm{d\_ent}}\mathrm{D_{enterprise}} + \mathrm{gX} + \varepsilon$$

$\mathrm{k} \in \{\mathrm{WB}, \mathrm{GB}\}$ where WB is a REPONSE variable indicating the level of collective bargaining on "Salaries, bonuses and other allowances" between 2014 and 2016 and GB the level at which collective bargaining on gender equality was conducted.

$\mathrm{E_{clone}}$ reflects the "cloned" character of the establishments in *entreprise* E and is illustrated in Figure 1 with the two simplified cases *A* and *B*. Establishments *a* and *b* represents two hypothetical REPONSE observations, identical in terms of size, age, and industrial specialization. However, *a* belongs to company *A* which is composed of nine establishments of similar size and industrialization (clones), whereas *b* belongs to company *B* which is composed of five establishments (non-clones), heterogenous both in terms of size and industries. Although *a* and *b* would look identical in the REPONSE database, their structural embeddedness in a company (and a group) suggests major differences in terms of bargaining contexts: we expect that establishment *a* might have a higher probability to bargain at a central level than establishment *b*, because employer A might consider that its establishments are similar enough to be covered by a single agreement, thus reducing the sunk cost of collective bargaining at the local level Nc-c(N). Moreover, being a company dispersed

[9]These correspond to 14.3% of workplaces.

[10]These correspond to 35.1% of workplaces.

[11]The case of multi-establishment firms with only one active establishment corresponds to the case where all but one establishment of a multi-establishment firm have ceased their activity during the year studied. This makes it de facto a single-establishment firm. These correspond to 5.4% of workplaces within multi-establishment firms.

[12]Liaisons Financières: https://www.insee.fr/fr/metadonnees/source/serie/s1038

[13]Incidentally, we can also distinguish between establishments ultimately owned by French groups and those owned by foreign groups.

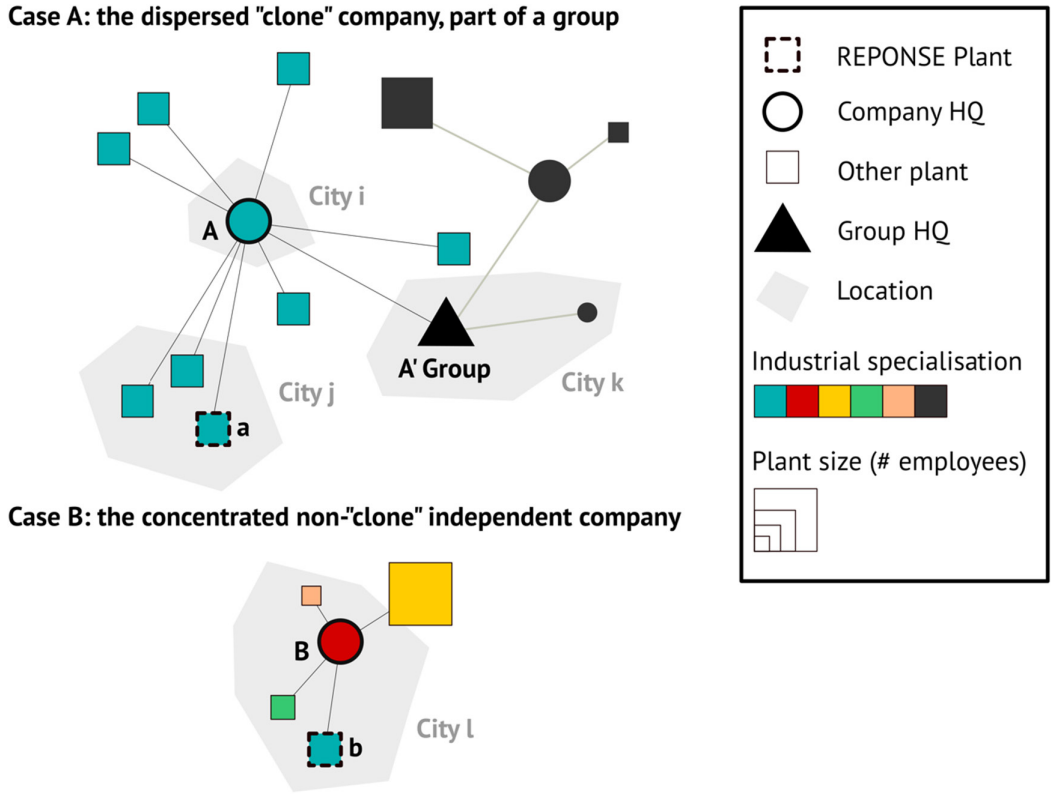

FIGURE 1 Schematic representation of two opposite company structures hypothesized to lead to opposite bargaining level outcomes.

over multiple cities, A would be in a stronger bargaining position at the central level while reducing transaction costs.

Empirically, we define $E_{clone}=1$ when over 80% of establishments i in E share the same dominant industry code (NAF in 88 modalities) and if the coefficient of variation of their size is below 1. By contrast, $E_{clone}=0$ when either or both of these conditions are not met.

$E_{dispersion}$ reflects the geographical dispersion of the *entreprise* E to which the establishment i belongs.

Empirically, we measure geographical dispersion with the gyration radius of the centroids of the municipalities in which the establishments of E are located:

$$E_{dispersion} = \sqrt{\frac{1}{N}\sum_{m=1}^{M} n_m \left(r_m - r_{cm}\right)^2}$$

with n_m the frequency of establishments i of E located in a municipality m, M the total number of municipalities over which E is located, N the sum of all single frequencies n_m, r_m the vector coordinates of municipality m's centroid, and r_{cm} the vector coordinates of the center of mass. Frequently used in the geospatial analysis of mobility patterns since Gonzalez et al. (2008), the radius of gyration is used here to estimate the spatial spread of the firm. The higher this radius, the more geographically dispersed the firm. In the regression model, we have transformed this continuous variable into four discrete categories: [0;10 km],]10;50],]50;150], and 150+. We also have an "Overseas" category for firms whose establishments are located in French overseas territories, for which the radius of gyration is not meaningful.

E_n represents the number of establishments in the company, in four discrete categories: [2;4], [5;9], [10;49], and 50+.

$D_{enterprise}$ represents the distance between the establishment *i* and the HQ of its *entreprise* E. It is given by the colocation of the two organizations and takes the modalities: "same municipality," "same city," and "other." Note that foreign companies that operate in France have to open recorded French subsidiaries. The French labor law then applies to these subsidiaries. When we consider the firm, the related variables (bargaining level, number of establishments, and distance between the establishment and the headquarters…) refer to these French structures.

Finally, we have used a series of control variables:

- $I_{industry}$ corresponds to one of 88 NAF industry codes describing the dominant production of the establishment, as we expect bargaining cultures, content, and levels to vary by industry. Typically, manufacturing industries, agro-food or the banking sector have a strong tradition of bargaining, at the sector level (branch) but also at the company and plant level, unlike service sectors such as hotels and restaurants, cultural and business services (Castel et al., 2015).
- I_{size} is the total number of employees of the establishment at the end of 2016, as large establishments (50+ employees) not only have a legal requirement in France to bargain on certain topics such as wages, but also a higher tendency to bargain centrally due to rising transaction costs (Schnabel et al., 2006). It has been binned into four classes: [11;19], [20;49], [50;99], and 100+.
- I_{age} is the age of the establishment, measured as the difference between 2017 and its date of creation. It is expected to be positively associated with bargaining at the central level, since younger establishments need more flexible and tailor-made (local) agreements than well-established organizations (Schnabel et al., 2006).
- GROUP indicates whether the establishment *i* belongs to a company *E* financially owned by a group G and takes the modalities: "French group," "foreign-owned group," and "no group." In our illustration (Figure 1), this variable would take the value "French group" for the case of *A* and the value "no group" for the case of *B*.
- UR—the presence of a union representative.
- TEMP—the percentage of employees with temporary contracts in the establishment, which reduces the probability of unionization and involvement of the workforce in long-term bargaining processes.
- FEM—the percentage of female employees in the establishment. Using the same survey REPONSE, Bruno et al. (2021) find that this percentage affects the number and content of collective agreements on gender inequality in a nonlinear way; we therefore differentiated between majority male, majority female, and equal representation contexts, the latter being the most favorable configuration for successful bargaining.
- SEX—the sex of the management representative in the workplace, which might influence gender equality concerns (e.g., Cardoso & Winter-Ebmer, 2010).
- FT—the percentage of full-time employees in the establishment, which increases the probability of unionization and involvement of the workforce in bargaining processes.

The observed distribution of the determinant and control variables is available in Appendix S2.

RESULTS

This section analyzes the determinants of wage bargaining levels and then explores if similar findings hold for another major bargaining topic (gender equality).

Determinants of the company structure on wage bargaining (WB)

The REPONSE survey confirms the variety of bargaining configurations within the firm, even though a large minority of employers conducts wage bargaining at the company level. In detail, according to interviewed local managers, among the 1974 establishments of our core sample, 1434 bargained on the topic of wages, bonuses, and other allowances, including 161 at the level of the *establishment* only (11.2%), 962 at the level of the *company* only (67.1%), and 311 at *both* levels (21.7%).

In a first logit model, we regress a binary variable (local bargaining vs central bargaining, thus excluding establishment with a double level or no bargaining) with only the three variables derived in our theoretical model: the geographical dispersion of establishments d, which determines the level of bargaining power β(d) of employees' representatives, the "clone" structure of the company (based on the distribution of establishments' size and activity) assumed to affect the dispersion of the establishment markups p_i, and the total number N of establishments in the company which affect the sunk cost of collective bargaining Nc-c(N). We find strong and significant evidence in agreement with our three hypotheses (Table 1): **compared to establishments which bargain locally, establishments which bargain centrally belong to companies significantly larger, more dispersed, and more homogenous (clones)**. The effect of size (H3) is the strongest (establishments in companies with 50+ establishments are more than three times more likely to bargain centrally than establishments in companies of less five establishments), followed by dispersion (H1: establishments in companies with 150+ km of gyration radiuses are more than twice as likely to bargain centrally than establishments in companies of radius under 10 km) and heterogeneity (H2: establishments in clone companies are 1.4 time more likely to bargain centrally than establishments in non-clone companies).

In order to account for the more complex reality of collective bargaining on wages (which can happen at two levels simultaneously, or not at all), we use a multinomial logit model with five variables and eight controls. These structural characteristics of the establishments and their parent company elevate the explanatory power of the model from 7% to 28% (cf. Table 2). We show that the geography of the company (i.e., where establishments are located in relation to each other and to the HQ) plays a significant role, and so do the typical characteristics of the establishment, in determining the level of formal bargaining on wages, bonuses, and other

TABLE 1 Binary level of wage bargaining and our three theoretical hypotheses.

Explanatory Variables	Modalities	Variable to explain: WB = central
Intercept (Ref = local bargaining)		**0.446**** (0.214)
E_{clone}	Non-clone establishments	*ref.*
	Enterprise of clones	**0.344*** (0.197)
$E_{dispersion}$ (geographical dispersion of the establishments of the firm)	Less than 10 km gyration radius	*ref.*
	10–50	**0.843***** (0.312)
	50–150	0.355 (0.302)
	More than 150 km	**0.876***** (0.262)
	Overseas	**0.902*** (0.449)
E_n (number of distinct establishments of the firm)	Less than five establishments	*ref.*
	5–9	**0.516**** (0.235)
	10–49	**1.060**** (0.259)
	More than 50	**1.151***** (0.298)

Note: 1147 Obs. $R^2 = 7.2\%$ AIC = 898.815 *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. (Standard errors). Bold indicates significant values.

TABLE 2 Level of wage bargaining and establishment/enterprise characteristics.

Explanatory variables	Modalities	WB = local	WB = central	WB = double
Intercept (Ref = No bargaining)		−19.207 (6368.394)	**−3.118*** (1.670)	**−4.388**** (1.879)
E_{clone}	Non-clone establishments	*ref.*	*ref.*	*ref.*
	Enterprise of clones	**−0.623**** (0.259)	–0.019 (0.184)	−0.257 (0.215)
$E_{dispersion}$ (geographical dispersion of the establishments of the firm)	Less than 10 km gyration radius	*ref.*	*ref.*	*ref.*
	10–50	−0.033 (0.399)	**0.566**** (0.284)	0.554 (0.352)
	50–150	0.104 (0.456)	0.334 (0.328)	**0.638*** (0.387)
	More than 150 km	−0.045 (0.405)	**0.720**** (0.310)	0.570 (0.369)
	Overseas	0.144 (0.687)	0.659 (0.465)	0.335 (0.581)
$D_{enterprise}$ (colocation of the establishment and headquarter of the firm)	Same municipality	*ref.*	*ref.*	*ref.*
	Same metropolitan area	−0.380 (0.502)	0.474 (0.287)	−0.125 (0.366)
	Other	0.041 (0.274)	−0.120 (0.205)	−0.143 (0.235)
E_n (number of distinct establishments of the firm)	Less than five establishments	*ref.*	*ref.*	*ref.*
	5–9	−0.063 (0.322)	0.301 (0.250)	0.036 (0.286)
	10–49	**−0.787**** (0.361)	0.177 (0.255)	−0.370 (0.296)
	More than 50	**−1.103**** (0.477)	0.447 (0.317)	−0.052 (0.363)
Controls	$I_{industry}$: industrial specialization of the establishment	*n.s.*	*	*
	I_{age}: age of the establishment	*n.s.*	*(+)***	*n.s.*
	I_{size}: number of employees of the establishment	*(+)****	*(+)***	*n.s.*
	GROUP: Inclusion in a French group (ref), foreign-owned group, or no group.	*n.s.*	*n.s.*	*n.s.*
	URC: Presence of a central union representative	*(+)****	*(+)****	*(+)****
	TEMP: share of temporary contracts	*(+)****	*n.s.*	*n.s.*
	FEM: share of female employees	*n.s.*	*n.s.*	*n.s.*
	SEX: sex of the management representative	*n.s.*	*n.s.*	*n.s.*
	FT: share of full-time employees	*n.s.*	*(+)****	*(+)***

Note: 1974 Obs. $R^2 = 27.7\%$ AIC = 4010.204 *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. (Standard errors). Bold indicates significant values.

allowances. More precisely, findings are clearly consistent with our three hypotheses and the estimates are broadly of the same magnitudes than those of the binary model:

Our hypothesis **H1** (geographic dispersion of establishments favors bargaining at central level) **seems supported** empirically for wage bargaining since the gradient effect associated to geographical dispersion is significant and positive at the central level and (to some extent) for double level bargaining.

Empirical results are consistent with **H2** (heterogeneity of size/activity of establishments favors negotiation at the local/establishment level rather than at company level) for wage bargaining since clone companies tend to bargain only at the local level significantly less frequently than non-clone companies.[14]

Our third hypothesis **H3** relies on the employer's preference for avoiding the costs of repeated negotiations at the local level when the number of establishments belonging to the firm is large. Here again, our evidence tends to **validate** it for wage bargaining. Indeed, we find a significant and sharp negative gradient effect on local bargaining, meaning that the larger the number of establishments, the less frequently employers choose to bargain at the local level only.[15]

In Section 2.4, we assumed in a testable control that the distance of an establishment to its HQ should favor its inclusion in a multi-establishment bargaining. Again, the questionnaire does not allow to disentangle multi-establishment and company levels, so we had to assume that answering "at the company" includes the former. Empirical evidence shows a nonsignificant association between colocation patterns of establishments and their company headquarters. The same inconclusive evidence holds for group headquarters, as establishments from foreign-owned companies do no exhibit specific trends of wage bargaining levels compared to French-owned companies. Individual distances to head offices therefore seem to play a more complex role than hypothesized.[16]

Finally, among control variables, not surprisingly, we find a significant and strong positive effect of the presence of a union representative for all levels of bargaining. The share of employees on short-term contracts has a significant positive effect on bargaining at the local level, whereas the share of employees on full-time contracts has a significant positive effect on bargaining at the central level. Gender controls do not have an effect on the level at which this topic is bargained. In terms of industries, we find a strong distinction between sectors where establishments bargain disproportionally at the central level (not only arts, entertainment, or gambling for instance, but also telecommunications) and sectors where establishments bargain disproportionally at the local level (not only leather, paper, furniture, or petroleum manufacturing, but also the filming and radio industries). Finally, some industries bargain

[14]We tested the robustness of this result to a different definition of clones reflecting the distribution of occupations. Using the FLORES-Postes dataset, we computed the mean and dispersion of the share of "managers" (salaried artisans and entrepreneurs; managers and professionals) across establishments (except head offices) of a given company. The information is missing for 400 observations in our core sample. On this subsample, the dispersion of the share of managers is highly correlated with our original clone variable. Nevertheless, an alternative clone variable with three criteria (size, activity, and occupations) was built, equal to 1 if the original clone variable equals 1 and the standard deviation of the share of managers is at most the mean of this share, 0 otherwise. The distribution of this variable is provided in Appendix S2. When replacing the original variable by this stringent triple_clone, the coefficients for all the other variables in the different specifications of the wage bargaining, are qualitatively similar. The significant coefficient associated to triple_clone of very similar size and significance to that of the double_clone variable (cf. Appendix S3).

[15]We tested the robustness of this result at the firm level. Indeed, some establishments of the REPONSE survey belong to the same firm. In the sample used for Table 1, that is the case for 634 observations from 189 unique firms; and few of them give inconsistent answers to the level of wage bargaining questions, if we assume that there is no intermediate level of bargaining (i.e., multi-establishment). Removing the 18 firms with inconsistent information (not all the establishments have the same value for the interest variable) and keeping just one observation per firm, we ran the model of Table 1 at the firm level found the same qualitative results: the clone variable still has a positive (although unsignificant) effect, while the dispersion and size variables have larger and more significant effects, thus confirming hypotheses H1 and H3, and not infirming H2 (cf. Appendix S3).

[16]If we remove both variables of distance ($D_{entreprise}$ and D_{group}), the coefficients for the other variables are marginally affected.

disproportionally more frequently at the two levels (motor vehicle production, textile manufacturing, and repair services). The higher tendency of larger establishments (100+ employees) to bargain on wages is confirmed, but especially at the local level (twice more than at the central level of the enterprise). By contrast, age seems to have a significant positive effect on wage bargaining only at the level of the company.

In summary, we have found evidence in accordance with our three hypotheses on the geographic and organizational structure of companies, and results consistent with earlier literature (e.g., larger and older establishments bargain more frequently, manufacturing sectors bargain locally, the probability to bargain increases with the presence of union representatives).

Determinants of the company structure gender equality bargaining (GB)

The mechanisms at play for wage bargaining can also affect the choice of the level of bargaining for other topics. Since gender equality has an important wage component, we can expect to find similar patterns for this topic. Indeed, a major inequality between men and women in the workplace pertains to their wage differential at equal positions, experience, and skill levels. Bargaining on gender equality still unfortunately means asking for better salaries for women in most companies, and we can expect the mechanisms described in our model (e.g., the incentive for the workers' representatives to increase pay level and the employer's trade-off between increasing their rent with central bargaining and meeting local conditions with local bargaining) to hold for gender equality bargaining, despite distinctive features not directly related to pay (such as special leave, health environment, maternity and family responsibilities, dignity, and violence). We therefore analyze the bargaining levels of REPONSE establishment on gender equality with the same multinomial model to compare estimated results.

Gender equality bargaining. Two thirds of establishments of our sample of interest reported having bargained on gender equality. Of these 1285 bargaining establishments, 121 did so at the local level of the *establishment* only (9.6%), 903 at the level of the *company* only (70.3%), and 264 at *both* levels simultaneously (20.5%).

Our model accounts for about 23% of the variation in equality bargaining level (cf. Appendix S4). Most variables play a similar role in predicting the level of gender equality bargaining to the one they played in the model on wage bargaining. In particular, the significant coefficients associated with the "cloned" nature and geographical dispersion of the enterprise are very similar in value. The main difference is that the number of establishments in the company (H3) appeared even more predictive of gender bargaining at the central level. Indeed, the positive and significant coefficients increase with the size category of the enterprise. This might reflect the fact than diversity and gender equality officers might be absent from most structures, and restricted to a central representation in large companies. Another difference with wage bargaining is that the colocation patterns of establishments with their headquarters seem significantly related to the choice of bargaining level for gender equality: Compared to establishments with headquarters located in the same municipality, establishments with headquarters located in the same city tend to conduct gender equality bargaining significantly more frequently at the central level. It would mean that our assumption that managers would tend to include distant establishments more frequently in a pooled bargaining setting holds for gender equality.

In another model (cf. Appendix S5), we added the level of bargaining on wages as a control variable to reflect the idea that, wage bargaining being the most frequent bargaining topic, it can influence the level at which other topics are negotiated. In other words, once the employer and employee parties have discussed wages, they might as well discuss the other topics at that particular level. This poses the question of the cumulative nature of the choice of negotiation levels. An argument for this idea is the decrease in transaction costs for bargaining parties.

Agreeing on one topic might facilitate discussions on other topics at a later time. Empirically, we found that the level at which wages are bargaining is very strongly (positively) associated with the level of bargaining on gender equality: Local gender equality bargaining is more frequent in establishments in which wages are bargained locally, and central gender equality bargaining is more frequent in establishments in which wages are bargained centrally. Other variables have a very similar qualitative effect on the level of gender equality bargaining, except for the clone variable (H2) and the HQ colocation variable, which become nonsignificant. All in all, we find that the cumulative hypothesis of bargaining topics is not rejected.

Discussion of results

Our approach based on a limited number of basic assumptions and mechanisms favored the overview of the effect of systematic geographical patterns in the analysis of industrial relations, at the expense of the complexity of real-life configurations. In particular, despite quantitative findings that are consistent with our hypotheses, many companies do not comply with these hypotheses or do not bargain at all.

Interestingly, post-survey analyses from the same REPONSE sample, carried for the French ministry of labour, provide 16 illustrative case studies (Didry and Giordano (2022) and Brochard et al. (2022)). For example, Didry and Giordano (2022) describe the case of a supermarket which is part of a local franchise owned by a local group which, despite H1 predicting that it would bargain locally, actually is not engaged in collective bargaining at all because "*for the local and group level management, the absence of union representatives is justified by the friendly relations of employees with their managers*." (Didry and Giordano, p.83, translated). Another case study highlights the adaptation process of collective bargaining toward a verification of our hypotheses, in an establishment with a high initial worker bargaining power. Between 2013 and 2020, the employer of this establishment has decided to centralize the level of bargaining on wages, until then negotiated at the local level. In a company of dispersed establishments in the car manufacturing sector, the employers' choice has imposed central bargaining, in alignment with H1 and H3. The consequence has been the weakening of the previously strong union representatives, who lose their motivation and strength as they are dispossessed from the opportunity to bargain on key topics (Didry & Giordano, 2022). Finally, Brochard et al. (2022) present the case of an establishment with a high level of unionization, part of a large bank composed of more than a 100 local agencies. Bargaining is predicted to be done centrally according to H2 and H3 and locally according to H1. In reality, bargaining is conducted both at the central and local levels; yet, the agreements achieved follow very closely the agreements made at the industry level. This microscopic analysis illustrates the complexity of each situation and its evolution in time, as well as the shift in the weight that is attributed to different aspects of the company structure (whether its geographical dispersion—H1, activity dispersion —H2—or size—H3).

CONCLUSION AND PERSPECTIVES

Despite a large variety of institutions and historical legacy, Europe has globally experienced a decentralization process of collective bargaining from the industry to the firm level (OCDE, 2017). For example, the industry coverage dropped in Germany, while firm opt-out clauses flourished. In France, even if the industry coverage remains high, most of the collective agreements are now reached at the firm/workplace level and the hierarchy of norms has been reversed on all issues related to working time, including the compensation of overtimes: A firm-level agreement can overturn an industry agreement. Europe converges toward the US

scheme: Although there is a wide variety of bargaining structures, most collective bargaining occurs at either the company or the workplace level.

Collective bargaining in firms is structured by national legal frameworks, market conditions, internal power relations as well as individual representation. In this article, we have analyzed the extent to which the structural organization of firms determines the level of collective bargaining in multi-establishment firms, focusing on wages and gender equality bargaining. The originality of our approach is to account for the geography and productive organization of firms.

We first built a theoretical model where employers face trade-offs between keeping bargaining as close as possible to the workplace characteristics and limiting the cost of bargaining (increasing with the number of establishments) and increasing the costs of coordination of unions, by bargaining at the central level. We derived three hypotheses about the influence of the spatial and productive structure of multi-establishment companies on the optimal level of bargaining for the employer: centrally in geographically dispersed companies versus locally in compact firms (H1), centrally in "clone" companies (in terms of size and industrial specialization) versus locally in companies with an integrated production (H2), centrally in companies with many establishments versus locally in small organizations (H3). We tested these hypotheses on strategic choices by employers on the bargaining level, using a large representative sample of workplaces of multi-facility firms in France between 2014 and 2016. Empirical findings are consistent with the three hypotheses on both wages and gender equality bargaining. This means that, structurally in multi-establishment firms, geographical dispersion and productive organization affect the level of collective bargaining on major topics, in a way consistent with a strategic choice of employers for maximizing profits.

There are several perspectives for expanding the analysis that would require larger samples and additional detailed sources. Firstly, when assessing the geographical dispersion of firms, we could make use of alternative metrics, for instance to consider time distances instead of geometric distances, to account for the fact that different levels of transport connections have an impact on the organization of multi-establishment firms (Gumpert et al., 2022). Secondly, an analysis for different sectors with specific location strategies (concentrated clusters for manufacturing vs homogenous coverage for commercial outlets or public services) could reveal a more complex effect of geographical dispersion on the centralization of collective bargaining. Thirdly, one could argue that the difference in local labor markets and the alternatives they provide to workers who are unsatisfied with their current working conditions could impact the process of collective bargaining in individual establishments. Even though we do not expect this aspect to have a systematic effect on the level of bargaining, it could be interesting to verify it with a control proxy.

Finally, the impact of the observed level of bargaining and its consistency with the geography of the company on outcomes such as productivity or rent sharing could be studied. This requires to exploit accounting data (to which we do not have access) and more precisely panel data since the level of bargaining within the firm is endogenous. Unfortunately, the significant changes in the REPONSE questionnaire on bargaining between the 2011 and 2017 waves prevent to use its panel of establishments. By contrast, the recent legislative changes in France introducing the possibility for groups to fulfill the mandatory *entreprise* bargaining at multi-firm or group levels will provide the opportunity to confirm some of our mechanisms and to evaluate the consequences on wages and firm performance, by exploiting the next wave of REPONSE which was conducted until July 2023 and will be available late 2024.

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CONFLICT OF INTEREST STATEMENT

The authors report no conflict of interest.

DATA AVAILABILITY STATEMENT

NA

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REFERENCES

Aarland, K., J. C. Davis, J. V. Henderson, and Y. Ono. 2007. "Spatial Organization of Firms: The Decision to Split Production and Administration." *The Rand Journal of Economics* 38(2): 480–94.

Amossé, T., A. Bryson, J. Forth, and H. Petit. 2016. *Comparative Workplace Employment Relations*. Basingstoke: Palgrave.

Bassanini, A., E. Caroli, F. Fontaine, and A. Reberioux. 2021. "Escaping Social Pressure: Fixed-Term Contracts in Multi-Establishment Firms." *Journal of Economic Behavior & Organization* 188: 697–715.

Bauer, A., and J. Boussard. 2020. "Market Power and Labor Share." *Economie et Statistique/Economics and Statistics* 520-521: 125–46. https://doi.org/10.24187/ecostat.2020.520d.2034.

Block, R., and P. Berg. 2009. "Joint Responsibility Unionism: A Multi-Plant Model of Collective Bargaining under Employment Security." *ILR Review* 63(1): 60–81.

Bohan, C., and B. Gautier. 2013. "Multilevel Analysis of Corporations Networks: A Comparison between Agro-Food and Automobile Strategies for Urban Development." In *Methods for Multilevel Analysis and Visualisation of Geographical Networks* 155–76. Dordrecht: Springer.

Brochard, D., C. Cottineau, C. Didry, C. Dupuy, D. Giordano, and J. Simha. 2022. La négociation d'"entreprise" en pratiques. Pluralité des configurations et stratégies des acteurs", Socio-économie du travail, n° 10, 2021–2, Le "dialogue social" en pratiques et en contextes. 65–94.

Bruno, A. S., N. Greenan, and J. Tanguy. 2021. "Does the Gender Mix Influence Collective Bargaining on Gender Equality? Evidence from France." *Industrial Relations: A Journal of Economy and Society* 60(4): 479–520.

Cardoso, A. R., and R. Winter-Ebmer. 2010. "Female-Led Firms and Gender Wage Policies." *ILR Review* 64(1): 143–63.

Castel, N., N. Delahaie, and H. Petit. 2015. "The Interrelationship of Collective Bargaining at Industry and Company-Levels in Wage Determination." *Travail et Emploi, (Hors-série)* 5: 31–63.

Delahaie, N., A. Fretel, and H. Petit. 2023. « Le rôle de la branche dans la définition des conditions d'emploi et des salaires », in Que sait-on du travail ? Presses de Sciences Po.

Didry, C., and D. Giordano. 2022. "Extension du domaine de la négociation d'entreprise. La négociation d'entreprise sous l'emprise du groupe ?" *La Revue de l'Ires* 107-108: 41–70.

Didry, C., et al. 2021. *Entreprises en Négociations*, report for the French Ministry of Labour https://dares.travail-emploi.gouv.fr/publication/entreprises-en-negociations

Finance, O. 2017. "Trajectoires d'intégration des villes françaises dans les réseaux économiques et financiers des firmes transnationales étrangères." *Annales de géographie* 6: 754–81.

Flanagan, R. J. 1999. "Macroeconomic Performance and Collective Bargaining: An International Perspective." *Journal of Economic Literature* 37(3): 1150–75.

Freeman, R., and J. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.

Garnero, A., F. Rycx, and I. Terraz. 2020. "Productivity and Wage Effects of Firm-Level Collective Agreements: Evidence from Belgian Linked Panel Data." *British Journal of Industrial Relations* 58: 936–72.

Gonzalez, M. C., C. A. Hidalgo, and A. L. Barabasi. 2008. "Understanding Individual Human Mobility Patterns." *Nature* 453(7196): 779–82.

Gumpert, A., H. Steimer, and M. Antoni. 2022. "Firm Organization with Multiple Establishments." *The Quarterly Journal of Economics* 137(2): 1091–1138.

Hussain, O. A., F. Zaidi, and C. Rozenblat. 2019. "Analyzing Diversity, Strength and Centrality of Cities Using Networks of Multinational Firms." *Networks and Spatial Economics* 19(3): 791–817.

INSEE. 2019. Group of companies https://www.insee.fr/en/metadonnees/definition/c1041
Kalnins, A., and F. Lafontaine. 2013. "Too Far Away? The Effect of Distance to Headquarters on Business Establishment Performance." *American Economic Journal: Microeconomics* 5(3): 157–79.
Kinnie, N. 1982. "Bargaining Structures in Multi-Plant Companies." *Employee Relations* 4(1): 23–26.
Livernash, E. R. 1963. "The Relation of Power to the Structure and Process of Collective Bargaining." *The Journal of Law and Economics* 6: 10–40.
McGuinness, Seamus, Elish Kelly, and Philip J. O'Connell. 2010. "The Impact of Wage Bargaining Regime on Firm-Level Competitiveness and Wage Inequality: The Case of Ireland." *Industrial Relations: A Journal of Economy and Society* 49(4): 593–615.
OCDE. 2017. "Collective Bargaining in a Changing World of Work." In *OECD Employment Outlook 2017* 125–86. Paris: OCDE.
Plasman, R., M. Rusinek, and F. Rycx. 2007. "Wages and the Bargaining Regime under Multi-Level Bargaining: Belgium, Denmark and Spain." *European Journal of Industrial Relations* 13(2): 161–80.
Rainnie, A., S. McGrath-Champ, and A. Herod. 2017. *Making Space for Geography in Labour Process Theory 14* 297. Working Life: Renewing Labour Process Analysis.
Saglio, J. 1986. "Hiérarchies salariales et négociations des classifications, France 1900-1950." *Travail et Emploi* 27: 7–19.
Schlicht, E. 2016. "Efficiency Wages: Variants and Implications." *IZA World of Labor*: 275.
Schnabel, C., S. Zagelmeyer, and S. Kohaut. 2006. "Collective Bargaining Structure and its Determinants: An Empirical Analysis with British and German Establishment Data." *European Journal of Industrial Relations* 12(2): 165–88.
Swidinsky, R. 1981. "The Effect of Bargaining Structure on Negotiated Wage Settlements." *Relations Industrielles/ Industrial Relations* 36(2): 371–85.
Zagelmeyer, S. 2005. "The employer's Perspective on Collective Bargaining Centralization: An Analytical Framework." *The International Journal of Human Resource Management* 16(9): 1623–39.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Data S1.

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