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Financial Participation and Collective Conflicts:

Evidence from French Firms

Studies on financial participation show positive effects across several 'performance' outcomes, yet given its potential to realign employee interests, share rewards and improve commitment little is known about its ability to reduce collective conflicts. Using French establishments, we explore the impact of profit sharing and employee share ownership on various measures of conflict. Across various specifications, estimators and time periods, financial participation reveals an ability to reduce some but not all forms of conflict. Employee share ownership seems especially effective in reducing a range of conflicts including the most extensive and costly forms.

Introduction

Financial participation in its different forms – profit sharing and employee share schemes-, has been an emerging feature of remuneration packages throughout the world. At its core is the theoretical principle that such schemes are a means of re-aligning the interests of employers and employees so as to maximize their joint welfare by encouraging employees to act in the best interests of the firm and solve the agency problems inherent in the firm. As early writers in the field expressed (Cable and FitzRoy, 1980; Putterman, 1982; Bradley and Gelb, 1983) in an environment of 'positive collusion', conflict gives way to cooperation (Cable and FitzRoy, 1980) with hierarchical structures of control and supervision replaced by peer pressure (Kandel and Lazear, 1992) and horizontal monitoring (FitzRoy and Kraft, 1987). Conflict will be unwarranted as employees strive to share in the benefits of improved performance (Cable and FitzRoy, 1980; Kruse, 1996).

The benefits of this strategy of "positive collusion" have been the focus of a large body of

empirical work. Most studies show that profit sharing and employee share ownership plans improve firm level productivity and performance (Fakhfakh and Perotin, 2000; Kruse et al., 2010, Kraft and Lang, 2016), reduce absenteeism (Peel and Wilson, 1990; Brown et al., 1999) and labor turnover (Wilson and Peel, 1991; Fakhfakh, 2004) as well as better training (Pendleton and Robinson, 2011). Given the belief that some of these expected gains arise through the emergence of a less adversarial climate of industrial relations it is perhaps surprising that there is very little literature looking at this issue. If the emergence of conflict between employers and employees arises from differences in their goals, interests or values (Baron, 1990) then something like financial participation which is believed to make employees more sensitive to the firm objectives and generate attitudinal and behavioral change (Pendleton et al., 1998), would seem a natural fit and one possible factor in alleviating the emergence of discord within the firm.

In this paper we focus for the first time on the potential of financial participation to lower collective conflicts in France. The choice of France to investigate this issue is particularly salient. France has one of the most extensive incidences of financial participation use in the developed world. Secondly while collective conflicts such as strike action are generally in decline in many Western economies, they persist at record levels in France. In 2011, 77 days were lost per 1000 employees to strike action (DARES, 2015).

While the causes of collective conflicts have been investigated across a number of countries, primarily the UK (Blanchflower and Cubbin, 1986; Sapsford and Turnbull, 1994), France (Beroud et al., 2008) and Canada (Godard, 1992; Harrison and Stewart, 1993) their focus has tended to be on the role of trade unions on the most costly and disruptive forms of collective conflict – strike action. Consequently other forms of collective conflicts such as walkouts, petitions and overtime bans have been neglected. Thus, in looking at the potential of financial participation to lower collective conflicts we make a number of auxiliary contributions. We

consider their impact across the full range of collective conflicts from strike action and walkouts to action short of a strike (overtime bans, work to rule, demonstrations and petitions). In analyzing this relationship, we investigate various measures of collective conflict, from whether conflict has occurred to its disaggregation by type and a measure of severity. To ensure the robustness of our findings, we also carry out a series of sensitivity checks. First, we cross check our results for potential selection bias by estimating a weighted treatment model. Second we consider whether the relationship between financial participation and collective forms of conflict is conditioned by the use of individual forms of conflict (Tanguy, 2013) and finish by comparing our results to an earlier round of the survey.

This paper is set out as follow: in the next section, we present the theoretical and empirical backdrop to the link between financial participation and collective conflicts. In the third section, we provide an overview of the data and the construction of our main variables. The fourth section presents the estimation strategy and section five the results of this analysis. We conclude with some discussion of the main findings.

Background

Over the last 20-30 years, a growing empirical literature has emerged looking at different 'performance' aspects of financial participation. This literature has broadly adopted an agency perspective in which the incentives provided by either employee profit sharing or share option schemes will generate more 'favorable' attitudes towards the company, which will encourage favorable changes in behavior and improvements in performance. The basic idea behind such collective incentive contracts is that of achieving goal congruence or an identity of interests. The challenge is therefore to develop a remuneration package that resolves the divergent interests of employers and employees, one that promotes cooperation and maximizes their joint welfare (Cable and FitzRoy, 1980).

Arguments that financial participation can alter the nature of the workplace, replacing traditional worker-manager conflict and worker alienation with cooperation and increased worker responsibility has been a central tenet of the benefits of financial participation (Cable and FitzRoy, 1980; FitzRoy and Kraft, 1987; and Kruse, 1996). Much of this argument rests on the expectation that as a consequence of the 'coming together' of workers and employers, the participatory enterprise will be run and perform quite differently from a traditional firm. While the traditional firm has a tendency towards conflict and mistrust (Cable and FitzRoy, 1980), the participatory firm will focus on enhancing the overall performance of the firm through enhanced group dynamics and organizational norms (Park and Kruse, 2014). Managerial control will give way to self-policing behavior through greater mutual monitoring and peer pressure. In turn financial participation creates a financial incentive to encourage more cooperative and productivity enhancing group norms and interactions (Heywood et al., 2005). In simple terms it pays to help and assist ones fellow workers and not resort to conflict.

A central feature of financial participation is that workers will be incentivized to change group norms and take on some of management's responsibilities for monitoring and control especially as they are often better placed to observe each other's actions (Green and Heywood, 2010). Since financial participation makes their rewards conditional on not only their own effort but those of their co-workers, they are incentivized to exert peer pressure (Kandel and Lazear, 1992) and minimize shirking and free-riding amongst their fellow workers. So mutual monitoring and peer pressure encourages employees to cooperate, detect and take action against those shirking (Freeman et al., 2010), which reduces the intensity of vertical control while increasing employee autonomy. Where fellow workers take on board some of management's responsibilities, sources of conflict are likely to be moderated.

Another strand to this argument is the extent to which financial participation may facilitate more cooperative workplace relations. By sharing rewards, financial participation may

encourage increased co-operation and 'helping on-the-job' between fellow workers (Heywood et al., 2005). It is because collective incentives generate cooperative behavior among employees that many firms prefer to use this type of motivation, even though it suffers from potential "free rider" effects. Conflict may also stem from the relationship between worker and supervisor (Heywood et al., 2005; Green and Heywood, 2010). As has been argued above, to the extent that financial participation creates an identity of interests and substitutes managerial control for workers self-management, then tensions between themselves and their supervisor are likely to be mollified. Evidence supports more 'helpful and caring' management in shared capital firms (Kruse et al., 2010) as well as reduced supervisory conflict amongst 'healthy' workers with no supervisory duties (Heywood et al., 2005).

The arguments so far rely heavily on an agency perspective. More recent literature has reflected on alternative routes through which financial participation is used by employers to signal their 'good faith' and commitment to their workforce. Organizations, by offering shares send a signal that they will not ex post act opportunistically when workers make wealth creating investments in non-transferable skills, relationships, knowledge and other forms of human capital that are of little value or use outside the firm (Robinson and Zhang, 2005). They also guarantee that employees will benefit from committing their human capital to the firm. Equally for employers, it 'locks-in' valuable human capital, reinforces long-term behavior and promotes greater trust and identification with the firm (Pendleton and Robinson, 2011). Implicitly this recognizes that where physical and human assets are non-separable and key to wealth creation then investments by employees specific to the firm should be rewarded in much the same way as investments by shareholders in equity capital (Blair, 1995). All in all, the signaling potential of share schemes helps to bind employers and employees to each other whilst the governance elements of share plans helps to underwrite these signals. In so doing they act to instill greater understanding and trust, which alongside other organizational traits of firms with financial participation - greater

financial transparency, employee involvement and communication (Pendleton and Robinson, 2010) will reduce conflict.

Another way of viewing the workings of financial participation is as a form of gift exchange (Akerlof, 1982) in which employees respond to the 'gift' of sharing by reciprocating with more conducive behavior and better performance. In this context financial participation may act to reduce conflict and workplace tension because employees feel indebted to the company and have a duty of care to respond favorably. Bryson and Freeman (2018) find that the benefits of employee share ownership derive from both group incentive effects and reciprocity, most notably lower labor turnover intention and 'on-the job search' in the case of gift exchange. More generally, this points to employee ownership also working by creating a more cooperative 'psychological contract between the employer and employee *by* getting employees to think like owners through a change in status rather than a change in direct financial incentives' (Freeman et al., 2010, p91).

The financial participation-conflict linkage may also capture the changing cost-benefit dynamics that conflict entails for employees who engage in financial participation. Cramton et al. (2010) model this scenario formally using a wage bargaining model in which unions rather than employees hold an equity stake in their company. The central feature of the model is that shareholding alters the incentives of the union as it no longer gathers its rents solely through wage negotiation but also through its ownership stake in the firm. Under joint ownership anything that hampers profitability, including costly labor disputes will have a detrimental effect on that rent collected through ownership. With increasing share ownership unions gather more of their rents from ownership and hence become a 'less demanding negotiator' as their preferences become more closely aligned with those of the firm. Joint ownership therefore provides strong disincentives to undertake costly labor disputes suggesting not only lower dispute incidence and duration, but also a shift in the form of dispute from more costly strikes

towards less costly forms of holdout (Cramton et al., 2010). By and large these hypotheses are supported in their subsequent empirical work although counter to expectations the effects are largely concentrated in smaller ESOP firms (less than 10% equity stake) that more closely resemble the lower ownership stakes in our sample of firms.

Financial participation, however, is not without its critics. The realignment of interests, which is central to financial participation's role in reducing conflicts, may not be sufficient to alter workers behavior, in part because of their unwillingness to bear some of the risk of the business but also because of the questionable 'line of sight' between individual effort and payoffs (Conyon and Freeman, 2004) and the incentive to free-ride on the efforts of their fellow workers. Further cooperation and trust may be undone where FP is associated with excessive monitoring and control and a source of greater supervisory tension especially amongst those not able to respond to the increasing demands of work (Green and Heywood, 2010). Alternatively, the ratcheting up of group incentives or the manipulation of firm profits may undermine the motivational effects of financial participation leading to more rather than less conflict.

The FP literature also recognizes that the impact of FP may be contingent on the form it takes. Cash-based arrangements like profit sharing tend to support a shorter-term (annual) performance based agenda with a more direct link between employee actions and reward. On the other hand, the deferred nature of share plans has a more indirect link and longer-term perspective that reward a broader set of behavioral responses such as loyalty and commitment. In this sense ESO may have stronger realignment, gift/reciprocity and commitment properties than PS. It might be expected that the use of both PS and ESO within the same firm may enhance the effectiveness of either scheme or at least alleviate some of their negative consequences (Pendleton and Robinson, 2017). This may be the case, but additional arrangements may also weaken the effectiveness of existing schemes by exposing workers to too much risk, create

competing demands and targets or be aligned with too much control and monitoring. In these instances workplace tension may increase.

In the following sections these expectations are tested through an empirical framework where the probability of the different types of collective conflicts emergence are explained by firm characteristics, including the presence of employee share ownership and profit sharing.

Data and Variables

The data is drawn from the "RElations PrOfessionelles et NégociationS d'Entreprises" (REPONSE) 2010 a survey carried out by the French Ministry of Labor through the Department of Research and Statistical Studies (DARES). The management survey was conducted among a representative sample of around 4000 non-agricultural establishments in the private sector with at least 11 employees and provides a range of information on the industrial relations and economic context of the workplace. Of particular value to this study is the wealth of information on the occurrence of diverse forms of collective conflict. This allows us to extend our analysis beyond conventional measures of collective conflicts such as strikes and consider less visible forms such as 'go-slows', demonstrations and petitions. REPONSE also allows us to identify firms with financial participation practices such as profit sharing and employee share ownership as well as a host of other factors that might independently influence the likelihood of collective action such as organizational change, employee autonomy, firm size and trade union presence.

Dependent variables

In order to provide a broader more holistic conceptualization and measurement of collective conflicts, our analysis utilizes all eight measures of collective conflict gathered by REPONSE. Of these forms, we can distinguish between collective conflicts that involve strike action including strikes of two-days or more, strikes of less than two-days and walkouts, and non-strike action such as 'go-slows', working to rule (satisfying their minimum contractual

requirements), overtime bans (limiting working time to contracted hours), demonstrations and petitions. In the French case, demonstrations serve the purpose of publicizing employee concerns, while petitions comprise a written request by workers to their employers. The questionnaire captures whether any of these conflicts have occurred during the three preceding years (2008-2010). Unfortunately we are not able to gauge the duration of the different types of conflict while the large number of missing values precludes us from using the scaled measure of ‘number of occurrences’.

As prior research recognizes the measurement of collective conflicts raises a number of issues. One could consider each type of conflict separately but rarely is their occurrence mutually exclusive. The most popular measure of conflict – strikes, does not occur in isolation and tends to be part of a wider more heterogeneous pattern of collective conflict (see table 1-a). Alternatively one could capture whether the workplace has experienced any form of collective conflict or count the number of forms that firms have experienced, but this treats all forms as equal rather than reflecting the degree of ‘severity’. To deal with these issues we develop a typology of workplaces with respect to the different types of collective conflicts. This is based on the categorization of workplaces into specific groupings of conflict (see table 1-a). This typology may be interpreted as a ‘capped’ measure or a measure of ‘escalation’ in that its ‘highest’ level of conflict defines each group. They reflect the occurrence of various forms of conflict up to and including its ‘highest’ level but rarely exceeding this level¹. Thus, beyond those workplaces experiencing no conflict (80% of firms), the ‘lowest’ level of collective conflict is defined by the group of workplaces who all experience ‘petitions’ and in very rare instances demonstrations/go-slows. At the next level are a group of companies where all collective conflict is concentrated on refusal of overtime work but nothing higher. The fourth category moves onto workplaces who all experience strike action of some form but this is capped at walkouts and/or strikes of less than two-day. The final group of workplaces mark

those with the most comprehensive profile of collective conflict which in all instances has ‘escalated’ to the most severe form of conflict - strikes of two-days or more.

Insert Table 1 about here

This framework allows us to model various configurations of collective conflict reflecting both conventional measures and alternative classifications. We start with the broadest distinction between firms who have experienced conflict and those who have not (categories 2-5 vs 0). We then distinguish those firms who have encountered the ‘highest’ and potentially most expensive form of conflict, strikes (categories 4 and 5 vs others). We next utilize the five-way categorization to differentiate between the dominant forms of conflict experienced by firms within our sample. We then use a continuous measure of this five-way categorization as a measure of conflict severity.

Independent variables

France has some of the most extensive provision of financial participation in Europe, ranging from ‘Participation’, a compulsory profit sharing scheme for firms with 100 or more employees (50 employee since 1990), to voluntary schemes such as profit sharing ‘Intéressement’ and employee share ownership. The focus of this analysis is on those voluntary schemes where there is expected to be a motivation and realignment effect. Profit sharing was first introduced in 1959 and provides favorable tax incentives for both employees and employers. The bonus depends on some ex-ante defined objective measure, usually profits, the terms of which are stipulated in collective wage settlements negotiated between the employer and trade unions or works councils, or agreed by a two-thirds majority of employees. Employee share ownership covers a range of schemes - share option plans; company savings plans and free share plans

which offer/grant employees shares in their firm, sometimes at preferential terms (usually a 20-30% discount), but excludes stock options that are reserved for executives. For both schemes we can only capture the incidence of these arrangements and not the value of any bonus or shares.

Beyond these core variables the broader literature highlights a range of workplace, work organization and workforce characteristics that might independently affect the incidence of collective conflicts. Several authors have shown that trade unions and firm size are related to strike action (Blanchflower and Cubbin, 1986; Belot and Waxin, 2017) and especially in France (Beroud et al., 2008). As nearly all employees in France are covered by collective bargaining arrangements, we use a measure of union density to capture the intensity and power of union voice. In France, if there is no union representative, then bargaining can take place with workers' representative or work council members. In order to reflect this dual element of the French representative system we also include a binary measure of the presence of a works council.

In a similar vein to the goal alignment aspects of FP, sharing information with employees and their representatives may enable management to achieve greater cooperation from them and for employees and their reps to cultivate a more stable and trusting environment of industrial relations (Morishima, 1991). Further, information sharing may help limit informational asymmetries between bargaining parties and help deter unions/employees from adopting more stringent bargaining strategies and disruptive industrial action (Morishima, 1991). To deal with this issue we include a variable which captures the extent of information on a key conflict issue - pay. This takes the value of 1 if this usually occurs, 2 if it sometimes happens and 3 if it never happens.

It is also conceivable that achieving a negotiated outcome will be more complicated and difficult to achieve in multi-establishment organizations given that agreement must be achieved

across all parties and a greater range of external influences (Blanchflower and Cubbin, 1986). Thus we include a variable which takes the value one if the organization is a single establishment, 0 if it is a multi-establishment organization.

From a workplace perspective, organizational change is perceived as a major catalyst and precipitator of collective conflict (Haveman, 1992), although there may be circumstances in which conflict leads to change in the organization in order to satisfy worker demands. In order to capture the effect of organizational change we include a variable that equals 1 if there has been an 'important organizational change' (such as a changes in job classification, changes in internal organization, increased use of subcontracting etc.) 0 otherwise in the last three years.

Garvey and Swan (1992) also show that employees' autonomy reduces the opportunities for conflict by minimizing the contact between employees and their colleagues/supervisorsⁱⁱ. We include a dummy variable taking the value 1 if 'employees are allowed to resolve problems related to production process rather than consulting their supervisor'; 0 otherwise. In a similar vein, supervision structures may play a role in reducing tension and the emergence of conflicts within the workplace. Three supervision structures are captured relating to the question of 'who controls work': supervisor, colleagues or externals (customers or specialized service).

Finally, in order to contrast the influence of our measures of group-based incentives with individualized incentives, we include a dummy variable measure of the latter. Individual incentives are less likely to stimulate cooperative behavior (Lazear, 2000) while it has been argued that they are a source of increased conflict through their association with work intensification and the increased pressure they place on employees (Pendleton and Robinson, 2017). All models include a categorical measure of workplace size as well as industry dummies to capture the sectoral incidence of collective conflicts (Campolieti et al., 2005; Vroman, 1989).

Econometric Specification

There are two strands to our empirical analysis. The main element of the analysis explores the relationship between FP and collective conflict utilizing the full range of FP and conflict measures. The chosen technique depends on the choice of conflict measure. Thus we use a probit model for the binary measures of ‘no conflict’ and strikes, a multinomial probit model for the five-way categorization of conflict and OLS for our continuous measure of conflict ‘severity’. Throughout the models we include three variations of our measure of FP that capture the core elements of the conceptual framework. We start with a basic binary measure of the incidence of any type of FP and gradually decompose this into binary measures of the incidence of PS and ESO, and finally whether firms operate no FP, PS only, ESO only or operate both schemes. In all models we include a comprehensive list of control variables as detailed in the data section.

To give further credence to our results, we then carry out a series of checks and balances via a series of additional estimations. First, we check the robustness of our findings to potential selection bias by estimating a weighted treatment model. Second, we recognize the potential complementary/substitution effect between collective and individual conflicts (Tanguy, 2013) to test whether their inclusion as an additional determinant of collective conflicts alters our initial findings. Finally, we compare our finding against the previous round of the same surveyⁱⁱⁱ.

While we have hypothesized that firms with FP will be more harmonious and experience less discord than firms without such arrangements, the aforementioned cross-sectional analysis poses problems in inferring a causal link between FP and collective conflicts. Whether any resulting conflict effect is a result of FP or other systematic differences in the characteristics of firms with and without FP is ultimately a question of selection bias (Bryson et al 2003).

Selection bias arises when some elements of the FP participation decision also independently affect the likelihood of conflict. This implies that the outcome and treatment are not necessarily independent. Further it may be difficult to tell whether the regression approach is based on extrapolation especially where the treated and untreated in the observed data are very dissimilar (Thoemmes and Ong, 2016).

Where firms are randomly assigned to FP, sample selection is not an issue. However, it is more likely that firms self-select or sort into FP as they anticipate greater gains from the scheme than the population as a whole (Bryson et al, 2002). Failure to address the issue of sample selection will result in biased FP effects.

In order to account for sample selection and test the resilience of our findings to selection bias we use treatment effect estimators. The goal of treatment estimators is to identify observable covariates that are related to potential outcomes and the treatment. By conditioning on these covariates any remaining influences on the treatment will be independent of the potential outcomes (Stata, 2017). There are numerous variations of these estimators based on whether they correct the outcome model, treatment assignment or both outcome and treatment and whether they use a matching or weighting procedure. Matching relies on ‘twinning’ firms in the treatment group (FP firms) to firms with similar observable characteristics in the non-treatment group (non-FP firms). Where firms are well matched and exhibit balance on the covariates, any difference between the treatments can then be attributed to the effect of FP. Conversely, weighting uses the inverse probability of treatment to generate weights that ‘creates a pseudo-population in which the covariates are independent of the treatment’ (Thoemmes and Ong, 2016, p41). The starting point for both approaches is the same with a probit model used to estimate the probability of treatment from which weights are generated by taking the inverse of this estimated probability. Only observable variables that significantly predict the FP decision and outcome variable are included as independent variables (Caliendo and Kopeinig,

2008). By implication this infers that ‘selection on unobservables is trivial’ (Bryson, et al. 2002, p10). Where either of these requirements do not hold the estimated treatment effects will be biased.

A key concern of the approach is whether conditioning on the covariates eliminates differences between treated and untreated groups. Several statistics have been suggested to test for balancing conditions. Due to our use of a weighted treatment estimator we use Imai and Ratkovic (2014) specification test based on Hansen J-statistic (p248), where the null hypothesis is that the propensity score is correctly specified (a p-value greater than 10% will provide evidence of balanced covariates).

Treatment effects are estimated using the appropriate outcome model (these are confined to binary, continuous or counts measures of the dependent variable), weighted by the inverse probability weights. As the ‘weights themselves are also estimated and thus have sampling variability, it is common to use robust sandwich standard errors’ (Thoemmes and Ong, 2016, p42).

The choice of the inverse probability weight-regression adjusted (IPWRA) treatment model is governed by some key considerations. Firstly, this is one of the few treatment estimators that allow us to accommodate the additional weighting required to make the survey nationally representative. Further, the estimator allows us to deal with binary as well as multiple treatments which is required given our measures of FP. Finally, the IPWRA estimator gives us some flexibility as it is ‘doubly robust’ (Wooldridge, 2010) to model misspecification. As long as either the treatment assignment or the outcome equation is correctly specified then misspecification of the other model will still result in the correct treatment estimates (Stata, 2017).

Empirical Results

The results of our first round of estimations are reported in Table 2. Three versions of the same models are reported, one each for our different measures of FP (see top part of Table 2). For clarity we only report the control variable estimates for the three category model of FP. All models are well specified and support the inclusion of the full range of collective conflict measures revealing complementary and statistically significant associations across the key measures of PS and ESO. Overall, the realignment, identification and commitment arguments associated with the use of FP are partially borne out but a more nuanced picture emerges. In all but one instance the marginal effects conform to expectation, either reducing conflict or having no significant impact across all model specifications. That being said, the different FP schemes do not universally, nor consistently, reduce all forms of collective conflicts (thus justifying the choice of different measures of conflicts and FP) but instead seem to affect the shape or types of conflicts occurring in FP firms. Goal congruence is suggested but the potential for conflict is not negated. If there is a need for conflict it will still take place but the form and type it takes will differ and be largely conditional on the cost and reputational effects of such action. We discuss these findings next.

The decomposition of FP into its component parts reveals an evolving picture of how its different forms and configurations affect collective conflict. In its most general form, FP is not associated with an overall reduction in conflict in part because its' lower association with the overtime group (2.4 percentage points lower) is negated by its positive association (1.8 percentage points higher) with the short-term strikes cluster. Breaking FP into either PS or ESO reveals a clear demarcation between schemes. It is PS that accounts for most of this positive outcome on the short-term strikes grouping and ESO the negative effect on the refusal of overtime work category. The split also reveals the potential for ESO to be associated with a reduction in the highest level of conflicts denoted by the long-term stoppages group, a results that is strengthened by further disaggregation of the FP measure into 'PS only', 'ESO only' and

the operation of both schemes in a workplace. 'PS only' uniformly has no significant effects on any of our measures of conflict. Conversely, 'ESO only' is consistently shown to increase the likelihood of no conflict (eq 1; 10.5 percentage point higher) by significantly reducing the incidence of all groupings of conflict with the exception of the 'overtime' category. Hence 'ESO only' is associated with a reduction in strike action (eq 2) by 6.1 percentage points which from the multinomial specification we can see includes a reduction in both the 'short-term' and long-term' stoppages categories. This in turn helps explain the negative significant marginal effect on our continuous measure of severity. 'ESO only' is also associated with a lower incidence of petitions.

Where both schemes are in operation, the evidence is more mixed. In this instance it is associated with a lower level of overtime bans of 3.4 percentage points but with a 5.2 percentage point increase in the short-term strike/walkout grouping.

What does this suggest? With regard to long-term stoppages, FP at worst has no effect and in the case of 'ESO only' points to its ability to negate the most costly forms of conflict. This is supportive of several agency-based arguments that focus on the ability of FP to realign the interests of workers with their employer, encourage more cooperative group norms and interactions and instill better identification with the firm. Alternatively, this may be a favorable response to the 'gift' or 'signal' that ESO communicates to employees, or a more straightforward cost/benefit calculation as per Cramton et. al. (2010) that employers and employees strive to avoid mutually costly actions that will hit them both financially but also have longer-term consequences on the image and reputation of the firm.

The findings for the short work stoppages grouping imply that realignment is not total nor is cooperation guaranteed. The emerging picture is one in which FP does not have the 'strength' to stop all forms of conflict but does enough to alter how conflict is manifested. One obvious rationale for this is cost. The changing cost-benefit dynamics of undertaking long and short

strike action under FP indicate that if action is to be taken this is likely to be capped at shorter less costly forms of holdout. This preference for shorter work stoppages may also be preemptive, with workers under FP willing to first express their discontent in less costly forms in the hope that this will be a catalyst for change without resorting to more damaging longer term action. If financial participation succeeds in avoiding longer-term stoppages employees may substitute long work stoppages for short work stoppages to avoid the possible negative consequence.

With regard to the conflict groupings capped at non-work stoppages the effects are supportive of realignment and cooperation arguments, as associated with a reduction in conflict incidence. That FP does not eliminate all forms of collective conflict may also indicate that FP, rather than being the solution, is the source of conflict be it through an over exposure to risk, contrasting signals and the ratcheting up of incentives to the potential work intensification, excessive monitoring and control (Green and Heywood, 2005) that undermines the spirit of cooperation. The broader results, however, are more suggestive of FP not having the 'power' or 'strength' to eliminate all conflicts rather than being the source.

It is also evident that ESO has a more pronounced differential effect than PS in lessening collective conflict. Unlike the more direct financial incentives of PS, ESO would seem to create a stronger more cooperative psychological contract between workers and employers one that encourages a sense of ownership, identity and commitment to the long-term success of the company.

Control Variables

In stark contrast to the evidence on collective incentives, individual incentives show an inability to foster cooperative behavior. Individual incentives reveal a positive connection with the middle to higher groupings of conflict suggesting they are a ready source of tension and conflict

either through increased work intensification or the pressure they place on employees. Individual incentives is associated with a reduction in ‘no conflict’ of 7.6 percentage points largely because of its positive association with the overtime and short-strike groupings.

With regards to the French dual system of employee representation we find both union density and works councils to be consistently associated with more conflict especially ‘higher order’ conflicts. In the case of union representation it is evident that ‘union power’ is a strong predictor of conflict with the incidence of ‘no conflict’ decreasing (equation 1) and both strike action (equation 2) and conflict ‘severity’ (equation 4) increasing with increasing union membership (relative to the lowest level – the omitted group). Our multiple categorization of conflicts sheds more light on this showing that union density is not associated with conflict that is capped at petitions and overtime but centered on those higher level groupings where multiple conflicts occur up to and including short-term/walkouts and long-term strikes. The evidence on works councils reflects a similar pattern but the effect is less uniform and significant, and notably shows no significant effect on the highest grouping of conflict. This may be indicative of the less adversarial role played by those works councils that are not union based (Addison and Teixeira, 2019).

We also hypothesized that information sharing on pay may act in a similar way to FP in helping to realign employees goals with those of the firm. The evidence generally supports this positive view suggesting that sharing information may result in less recourse to action by reducing informational asymmetries. However, it may also be the case that those who share information are less likely to have adverse news. The findings also indicate that such policies are not that impactful at higher levels of conflict and their impact is constrained to lower level actions such as overtime bans.

In terms of workplace characteristics, organizational change is found to be a source of conflict. This is often attributed to the dissatisfaction that arises from changes in the processes and

structures of work that are frequently associated with organizational change (Baillnyien and De Witte 2009).

Conversely 'employee autonomy' is found to have no significant influence on the incidence of any conflict measure. One possible reason for this is that any source of friction may more likely to be expressed in terms of individual rather than collective conflict. Simmering supervisory tensions and hierarchical control systems within the workplace also point to heightened conflict. Relative to the omitted group (upper hierarchy) employees who are externally controlled (by customers or specialized service), report a significant decrease in the Long Work Stoppages grouping. Further, the evidence points to those whose work is controlled by customers as being less likely to resort to overtime bans relative to those in more hierarchical control systems.

Insert Table 2 about here

Finally with regard to workplace size, as expected, we find that the smallest establishments are the most conflict free, while larger workplaces are more prone to work stoppages and strikes, the severity of which increases with size. Interestingly, where conflict is capped at lower order conflict, firm size plays less of a role. Single site establishments are also less prone to conflicts, both of a lower and higher order.

Sensitivity Analysis

While these findings provide broad support of the ability of FP schemes to influence conflict further checks and balances need to be carried out to lend further credence to our methodological approach and results.

i) Treatment Effects

In order to try and isolate the effect of FP on conflict free from selection bias we utilize the inverse probability weighted regression adjustment (IPWRA) estimator. This provides a ‘double-robust’ (Wooldridge, 2010) estimator of treatment effects. While we can model both binary and multiple treatments as befitting our measures of FP, treatment estimators only allow for binary, continuous or count outcome equations. Hence we restrict our focus to the ‘no conflict’, strike and ‘severity’ measures of conflict (see table 3).

Treatment models require a number of validating conditions before they are fit for purpose, a key one being the balancing conditions. In testing the conditions underpinning our treatment model we first use the full specifications as outlined in table 2 to specify the outcome model and define the treatment assignment using a full list of variables which affect both treatment and outcome. Using a binary treatment model on FP (1/0) enables us to fully assess the validity of this approach and whether the balancing condition holds. Overall, the evidence indicates a good fit and specification. For this binary treatment model the p-value associated the overall balancing condition (Imai and Ratkovic, 2014) is greater than 10% hence we do not reject the null hypothesis that the specified treatment model balances the covariates, although to achieve a better balance we included various interactions terms as suggested by Cole and Hernan (2008). This makes sense as after weighting we see a large reduction in the standardized difference and variance ratio between the treated and non-treated samples with these being near the expected values of zero and one respectively.

Equipped with this support for our treatment specification we repeat this approach but this time on our preferred multiple treatment measure of FP. While we can take some comfort from using the same specification as the binary treatment model there is no way to formally test that the balancing condition holds for all categories of the treatment (Stata, 2017). Instead, we rely on exploring the weighted standardized difference and variance ratio across the different groupings

to give a sense of balance.

After weighting, we notice a large reduction in the difference between the two samples: treated and non-treated (see Table 7, Appendix). With few exceptions, the weighted difference is globally less than 10 per cent in absolute value. We notice also that the weighted ratio of variances corresponding to the treated and non-treated sub-samples is, as required, close to 1 in most cases. Nevertheless, to further support this approach we estimate a more parsimonious version of the treatment assignment within this model restricted to those variables where better balance is more likely to be achieved - size, works council. If the treatment effects remain the same then we know that the model is not sensitive to any weakness in the specification of the treatment assignment and resulting balancing condition, something we might expect given that the 'doubly-robust' IPWRA estimator allows for some misspecification.

The results of all these multiple treatment effect models are reported in table 3. Across both models we notice the stability of the results when switching from a broad treatment specification (middle section of table 3) to the restricted one (bottom section of table 3) suggesting that the results are robust and not prone to any weakness on behalf of the balancing condition. Viewed alongside our regression models (top section of table 3), the treatment models confirm our main findings, in terms of direction, size and statistical significance. Collective conflict remains impassive to the effect of 'PS only'. Conversely 'ESO only' remains the most effective in reducing the incidence of conflict, strike action and 'severity'. Where both schemes are in operation we again see the heightened effect on strikes. Viewed alongside the regression findings, the evidence points strongly to a link between FP and a more harmonious workplace, in terms of collective conflicts at least.

Insert Table 3 about here

ii). Individual Conflict

Reflecting the latest research on conflicts that explores the likely connection between collective and individual conflicts (Sapsford and Turnbull, 1994; Dixon et al., 2004; Tanguy, 2013) we test whether the inclusion of individual conflicts as potential determinants of collective conflicts alters the relationship between financial participation and collective conflict. This is essentially an issue of omitted variable bias. If FP has the same dampening effect on individual conflicts as collective conflicts and individual conflicts have some complementary/substitute relationship with collective conflicts then this may affect the outcome of our aforementioned model. Detailed individual conflicts are presented in the appendix alongside the corresponding measure of individual conflict severity.. Written warnings are considered the least severe individual conflict, followed by dismissal for fault, whereas industrial tribunals are considered as the most severe form of individual conflict.

Our results based on the regression specifications in table 2 confirm the robustness of our prior findings to the inclusion of individual conflicts with the main findings remaining unchanged (see table 4). By and large, individual conflicts (relative to no individual conflict) are positively associated with the category measures of collective conflicts, although the only statistically significant effect is confined to the ‘lower’ level overtime grouping with no significant association with the ‘higher’ level and more comprehensive measures of conflict. While this points to some degree of complementarity between individual conflicts and collective conflicts (Dixon et al., 2004; Jefferys, 2011) this association does not hold for the higher level conflicts in particular.

Insert Table 4 about here

iii). Comparison to Previous Survey

Comparison of our analysis against the previous round of REPONSE (2004-5) supports our overall approach and findings. For comparative purposes because the 2005 survey is based on a different sampling framework of workplaces with 20 or more employees we re-estimate the 2010 regressions for strikes (table 5) and the multi-category measures of conflict (table 6) on similar sized workplaces. Investigations of the groupings of collective conflict reveal the same five-way classification in both surveys, 2005 and 2010. Replication of our regression models also corroborates the general sense that both forms of financial participation have the potential to affect the incidence of different forms of conflict in a consistent way. The effects of ‘ESO only’ on ‘short-term stoppages’ and ‘long-term stoppages’ are closely aligned across time periods. The effects of ‘PS only’ and ‘PS&ESO’ categories over the two surveys are consistently associated with lower probabilities of non-strike groupings of conflict, namely overtime. In both periods, ‘PS&ESO’ is also associated with lower long-term strikes, although this effect is only statistically significant in 2005. Although the divergent economic conditions of the two surveys may account for some of the slight difference in size and composition of effects across time periods, the pattern of results most notably for ‘ESO only’ is remarkably consistent on strike actions.

Insert Table 5 & 6 about here

The comparative strike equation (table 5) also permits us to compare key control variables across time periods. Again there is a high degree of agreement with most variables reporting the same sign, size and significance of effects. Most notably union density, works councils, single site establishments and workplace size are consistent statistically significant predictors of strike action over time.

Conclusion

Given the perceived capacity of financial participation to realign the interests of employers and employees one would naturally expect this to reduce workplace conflict and tension. Surprisingly this facet of FP has received little attention. This paper uses French data to offer some initial insights into the effect of both profit sharing and employee share ownership schemes over a range of collective conflict measures. Across a series of specifications, estimators and time periods our results reveal a consistent pattern of determinants of collective conflicts. They reveal the potential of FP to negate some but not all forms of collective conflict - realignment is suggested but not guaranteed. Perhaps unsurprisingly, FP does not have the 'power' to sweep away all sources of tension and unrest but it is persuasive enough to lessen some of the most costly and extensive forms of conflict. But the impact of FP is not uniform. Employee share ownership more than profit sharing would seem to have the potential to reduce conflict overall as well as lessen the incidence of most forms of conflict from the highest to lowest levels of dissent. However, while FP may have the ability to transform the level of conflict it cannot eliminate them completely.

The consistent role that forms of employee representation, organizational change, supervisory and control systems, 'open' management and workplace size play on the type and form that conflict takes is also evident.

While our firm-level analysis is unable to disaggregate the behavioral impact of FP on employees, our results support the idea that FP in its various forms can encourage alignment of the interest and improved cooperation between employees and employers but that at times this will not be enough to thwart or affect all sources of conflict. However, where conflict does emerge or has the potential to escalate the mutual dependency between employers and employees indicates that it will not escalate to the most costly and reputational damaging forms. Where conflict does occur it may give firms time to avoid more costly and widespread conflict.

Our findings also provide supporting evidence of the hypothesized pathways through which FP may influence firm level performance. Unlike traditional incentive and motivational arguments it would seem that the ability to create a cooperative and shared workplace in which matters of internal organizational and control are paramount may be crucial to the observed performance effects of FP.

While the methodology has been able to extend the analysis across all forms of collective conflict, deal with potential selection bias and compare effects across time we recognize that our incidence measures of both FP and conflict lack some of the richness that characterizes these issues notably the level and extent of both profit sharing and employee share ownership as well as the precise nature and severity of the action taken. Future research may be able to address these issues as well as gather more detailed information from employees about their behavioral and realignment response to FP and its potential to alter the choice and course of conflict resolution. It also remains to be seen whether the observed ability of FP to reduce the incidence of conflict manifests itself in terms of improved financial performance.

References

- Addison, J.T. and Teixeira, P. (2019). 'Strikes, employee workplace representation, unionism, and industrial relations quality in European establishments.' *Journal of Economic Behavior & Organization* 159, March: 109-133.
- Akerlof, G. A. (1982). 'Labor Contracts as Partial Gift Exchange.' *The Quarterly Journal of Economics*, 97(4): 543–569.
- Baillien, E. and De Witte, H. (2009). 'Why is Organizational Change Related to Workplace Bullying? Role Conflict and Job Insecurity as Mediators.' *Economic and Industrial Democracy* 30(3), July: 348–371.
- Baron, R. A. (1990). Conflict in Organizations. In K. R. Murphy & F. E. Saal (Eds.), *Series in applied psychology. Psychology in organizations: Integrating science and practice* (pp. 197-216). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
- Belot, F., & Waxin, T. (2017). 'Labor Conflicts in French Workplaces: Does (the Type of) Family Control Matter?' *Journal of Business Ethics* 146(3), December,:1-27. .
- Beroud, S. et al. (2008). *Entre Gèves et Conflits : Les Luittes Quotidiennes au Travail*, Technical report, Centre d'Etude de l'Emploi, 29 Promenade Michel Simon. France
- Blair, M. M. (1995). 'Rethinking Assumptions behind Corporate Governance,' *Challenge*, Armonk, November, 38(6): 12-18.
- Blanchflower, D. and Cubbin, J. (1986). 'Strike Propensities at the British Workplace.' *Oxford Bulletin of Economics and Statistics* 48(1), February: 19-39.
- Bradley, K. and Gelb, A. H. (1983). *Cooperation at Work: The Mondragon Experience*, Heinemann Educational Books.
- Brown, S., Fakhfakh, F., & Sessions, J. G. (1999). 'Absenteeism and employee sharing: An empirical analysis based on French panel data, 1981–1991.' *Industrial and Labor Relations Review*, 52(2), January: 234-251.

Bryson, A., Dorsett, R. and Purdon S. (2002). 'The Use of Propensity Score Matching in the Evaluation of Active Labour Market Policies.' [LSE Research Online Documents on Economics](#) 4993, London School of Economics and Political Science, LSE Library.

Bryson, A., Cappellari, L. and Lucifora, C. (2003). 'Why so Unhappy? The Effect of Union Membership on Job Satisfaction.' Royal Economic Society Annual Conference 2003 37, Royal Economic Society.

Bryson, A. and Freeman, R. B. (2018). 'The Role of Employee Stock Purchase Plans - Gift or Incentive? Evidence from a Multinational Corporation.' *British Journal of Industrial Relations*, 57(1), March: 86-106.

Cable, J. R. and FitzRoy, F. (1980). 'Cooperation and Productivity: Some Evidence from West German experience.' *Economic Analysis and Workers' Management*, 14(2): 163-180.

Caliendo, M., & Kopeinig, S. (2008). 'Some practical guidance for the implementation of propensity score matching.' *Journal of Economic Surveys*, 22(January):31–72.

Campolieti, M., Hebdon, R., & Hyatt, D. (2005). 'Strike incidence and strike duration: Some new evidence from Ontario.' *Industrial and Labor Relations Review*, 58(4), July: 610-630.,

Cole, S., & Hernan, M. (2008). 'Constructing inverse probability weights for marginal structural models.' *American Journal of Epidemiology*, 168(September): 656–664.

Conyon, M. and Freeman, R. (2004). 'Shared modes of compensation and firm performance: UK evidence' in Card, D, Blundell, R. and Freeman, R. (eds.) *Seeking a Premier Economy: The Economic Effects of British Economic Reforms 1980-2000*. Chicago: University of Chicago Press.

Cramton, P., Mehran, H., Tracy, J. et al. (2010). 'Bargaining With a Shared Interest: The Impact of Employee Stock Ownership Plans on Labor Disputes.' Technical report, University of Maryland, Department of Economics.

DARES. 2015. Les Grèves en 2013, December, N°93 (<http://dares.travail->

emploi.gouv.fr/IMG/pdf/2015-093.pdf).

DARES. 2014. 'Participation, Intéressement et épargne salariale en 2012.' July, N° 053.

Dixon, M., Roscigno, V. J. and Hodson, R. (2004). 'Unions, Solidarity, and Striking'. *Social Forces* 83(1): 3–33.

Fakhfakh, F. (2004). 'The Effects of Profit Sharing and Employee Share Ownership on Quits: Evidence from a Panel of French Firms.' *Advances in the Economic Analysis of Participatory and Labor-Managed Firms* 8: 129–147.

Fakhfakh, F. and Perotin, V. (2000). 'The Effects of Profit-sharing Schemes on Enterprise Performance in France.' *Economic Analysis* 3(2), June: 93–111.

FitzRoy, F. R. and Kraft, K. (1987). 'Cooperation, Productivity and Profit Sharing.' *The Quarterly Journal of Economics* 102(1): 23–36.

Freeman, R. E., Kruse, D. and Blasi, J. (2010). 'Worker Responses to Shirking Under Shared Capitalism.' In Kruse, D. L., Freeman, R. B. and Blasi, J. R. (Eds), *Shared Capitalism at Work: Employee Ownership, Profit and Gain Sharing, and Broad-based Stock Options*, University of Chicago Press.

Garvey, G. T. and Swan, P. L. (1992). 'Managerial Objectives, Capital Structure, and the Provision of Worker Incentives.' *Journal of Labor Economics* 10(4), October: 357–379.

Godard, J. (1992). 'Strikes as collective voice: A behavioral analysis of strike activity.' *Industrial and Labor Relations Review*, 46(1), October:161-175.

Green, C. P. and Heywood, J. S. (2010). 'Profit Sharing and the Quality of Relations with the Boss', *Labour Economics* 17(5), May: 859–867.

Harrison, A. and Stewart, M. (1993). 'Strike Duration and Strike Size.' *The Canadian Journal of Economics / Revue Canadienne d'Economique* 26(4): 830–849.

Haveman, H. A. (1992). 'Between a Rock and a Hard Place: Organizational Change and Performance Under Conditions of Fundamental Environmental Transformation.'

Administrative Science Quarterly 37(1), March: 48–75.

Heywood, J. S., Jirjahn, U. and Tsertsvadze, G. (2005). 'Does Profit Sharing Reduce Conflict With the Boss? Evidence from Germany.' *International Economic Journal* 19(2): 235–250.

Imai, K., & Ratkovic, M. (2014). 'Covariate balancing propensity score.' *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 76: 243–263.

Jefferys, S. (2011). 'Collective and Individual Conflicts in Five European Countries.' *Employee Relations* 33(6): 670–687.

Kandel, E., & Lazear, E. P. (1992). 'Peer pressure and partnerships.' *Journal of political Economy*, 100(4), August: 801-817.

Kraft, K., & Lang, J. (2016). 'Just a Question of Selection? The Causal Effect of Profit Sharing on a Firm's Performance.' *Industrial Relations: A Journal of Economy and Society*, 55(3), June: 444-467.

Kruse, D. L. (1996). 'Why Do Firms Adopt Profit-sharing and Employee Ownership Plans?' *British Journal of Industrial Relations* 34(4), December: 515-538.

Kruse, D. L., Freeman, R. B. and Blasi, J. R. (2010). 'Do Workers Gain by Sharing? Employee Outcomes under Employee Ownership, Profit Sharing, and Broad-Based Stock Options.' In Kruse, D. L., Freeman, R. B. and Blasi, J. R. (Eds), *Shared Capitalism at Work: Employee Ownership, Profit and Gain Sharing, and Broad-based Stock Options*, University of Chicago Press.

Lazear, E. P. (2000). 'Performance Pay and Productivity.' *The American Economic Review*, 90(5), December: 1346–1361.

Morishima, M. (1991). 'Information Sharing and Firm Performance in Japan.' *Industrial Relations: A Journal of Economy and Society*, 30, January: 37-61.

Park, R. and Kruse, D. (2014) 'Group Incentives and Financial Performance: The Moderating Role of Innovation.' *Human Resource Management Journal* 24(1), January: 77–94.

- Peel, M. J. and Wilson, N. (1990), 'Labour Absenteeism: The Impact of Profit Sharing, Voice and Participation.' *International Journal of Manpower* 11(7): 17–24.
- Pendleton, A. and Robinson, A. (2010). 'Employee Stock Ownership, Involvement, and Productivity: An Interaction-based Approach.' *Industrial and Labor Relations Review* 64(1), October: 3–29.
- Pendleton, A., & Robinson, A. (2011). 'Employee share ownership and human capital development: Complementarity in theory and practice.' *Economic and Industrial Democracy*, 32(3), April: 439-457.
- Pendleton, A., & Robinson, A. (2017). 'The productivity effects of multiple pay incentives.' *Economic and Industrial Democracy*, 38(4), November: 588–608.
- Pendleton, A., Wilson, N. and Wright, M. (1998). 'The Perception and Effects of Share Ownership: Empirical Evidence from Employee Buy-outs.' *British Journal of Industrial Relations* 36(1), March: 99–123.
- Putterman, L. (1982). 'Some Behavioral Perspectives on the Dominance of Hierarchical Over Democratic Forms of Enterprise' *Journal of Economic Behavior and Organization* 3(2), June-September: 139–160.
- Robinson, A. M. and Zhang, H. (2005). 'Employee Share Ownership: Safeguarding Investments in Human Capital.' *British Journal of Industrial Relations* 43(3), August: 469–488.
- Sapsford, D. and Turnbull, P. (1994). 'Strikes and Industrial Conflict in Britain: Balloons or Icebergs?' *Oxford Bulletin of Economics and Statistics* 56(3), August: 249-265.
- Stata. (2017). Treatment Effects Reference Manual: Potential Outcomes/Counterfactual Outcomes, Release 15, Stata Press, Texas.
- Tanguy, J. (2013). 'Collective and Individual Conflicts in the Workplace: Evidence from France.' *Industrial Relations: A Journal of Economy and Society* 52(1), January: 102–133.

Thoemmes, F., and Ong, A. D. (2016). 'A Primer on Inverse Probability of Treatment Weighting and Marginal Structural Models.' *Emerging Adulthood*, 4(1): 40–59.

Vroman, S. B. (1989). 'A longitudinal analysis of strike activity in US manufacturing: 1957-1984.' *The American Economic Review*, 79, September: 816-826

Wilson, N. and Peel, M. J. (1991). 'The Impact on Absenteeism and Quits of Profit-Sharing and Other Forms of Employee Participation.' *Industrial and Labor Relations Review* 44(3), April: 454– 468.

Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*, vol. 1, MIT Press.

TABLE 1: Collective Conflicts Typology (%).

	No conflict	Long	Short	Overtime	Petition	Total
Observations (%)	80	1.24	9.8	5.31	3.65	100
Two-days strikes or more	0	100	0	0	0	1.24
Less than two-day strikes	0	50	69	0	0	9.26
Walkouts	0	65	61	0	0	9.32
Refusals of overtime work	0	17	8	100	0	9.37
Work to rule	0	12	0.5	0	1	0.9
Go-slow strikes	0	10	4	1.6	1	1.15
Demonstrations	0	52	31	4	7	9.5
Petitions	0	44	25	9	100	9.39

Notes: Source: REPONSE Survey 2010 MR, DARES

TABLE 2: The Determinants of Collective Conflicts (Marginal Effects).

Variables	Probit	Probit	Multinomial Probit					OLS
	(1) No Conflict	(2) Strike	No Conflict	Petition	(3) Overtime	Short	Long	(4) Severity
FP	0.020 (1.01)	0.017 (1.17)	0.010 (0.55)	-0.002 (0.25)	-0.024** (2.16)	0.018 (1.29)	-0.002 (0.32)	-0.030 (0.65)
Profit Sharing	-0.007 (0.33)	0.028** (2.01)	-0.015 (0.80)	0.005 (0.57)	-0.017 (1.48)	0.026* (1.93)	0.002 (0.33)	0.018 (0.35)
Employee Share Ownership	0.016 (0.74)	0.009 (0.58)	0.015 (0.75)	-0.004 (0.48)	-0.021* (1.90)	0.017 (1.08)	-0.007** (2.26)	-0.010 (0.18)
Profit Sharing Only	0.014 (0.64)	0.015 (1.00)	0.005 (0.24)	-0.000 (0.03)	-0.019 (1.49)	0.014 (0.93)	0.001 (0.19)	-0.025 (0.45)
Emp. Share Ownership Only	0.105*** (3.00)	-0.061*** (3.35)	0.115*** (4.16)	-0.028*** (5.32)	-0.025 (1.27)	-0.051*** (2.77)	-0.011** (2.29)	-0.161*** (2.68)
PS & ESO	-0.011 (0.37)	0.047** (2.09)	-0.020 (0.68)	0.007 (0.45)	-0.034** (2.55)	0.052** (2.37)	-0.005 (1.11)	0.068 (0.80)
Individual Incentives	-0.076*** (3.97)	0.019 (1.32)	-0.072*** (3.94)	0.008 (0.99)	0.041*** (3.81)	0.028** (2.11)	-0.005 (0.89)	0.125** (2.58)
Unionization rate (Ref.: Less than 5%)								
5% to 9%	-0.140*** (5.55)	0.132*** (6.53)	-0.133*** (5.51)	0.010 (1.07)	-0.007 (0.55)	0.123*** (6.31)	0.007 (1.56)	0.455 (6.20)
10% to 20%	-0.254*** (5.60)	0.254*** (6.64)	-0.231*** (5.57)	-0.008 (0.71)	-0.010 (0.53)	0.217*** (6.03)	0.032** (2.59)	0.931*** (6.44)
More Than 20%	-0.292*** (6.77)	0.273*** (7.59)	-267*** (6.48)	-0.003 (0.23)	-0.005 (0.22)	0.241*** (7.03)	0.033** (2.56)	1.039*** (8.37)
Works Council	-0.041* (1.80)	0.035** (2.19)	-0.036 (1.63)	0.000 (0.01)	0.000 (0.01)	0.035** (2.29)	0.001 (0.20)	0.155** (2.02)

Information Sharing on Wages (Ref. : Usually Sometimes)	-0.058*** (2.98)	0.021 (1.55)	-0.056*** (2.96)	0.000 (0.04)	0.032*** (2.80)	0.021 (1.55)	0.002 (0.55)	0.136*** (2.65)
Never	-0.060** (2.28)	0.013 (0.70)	-0.057** (2.28)	0.016 (1.29)	0.027* (1.70)	0.008 (0.47)	0.006 (0.89)	0.111* (1.94)
Organizational Change	-0.036* (1.70)	0.035** (2.73)	-0.040** (2.04)	-0.009 (0.91)	0.013 (1.11)	0.032*** (2.62)	0.004 (0.74)	0.094** (2.05)
Worker Autonomy	0.003 (0.18)	0.004 (0.37)	0.002 (0.14)	-0.001 (0.20)	-0.005 (0.50)	0.008 (0.74)	-0.004 (1.05)	-0.007 (0.17)
Who Controls the Work (Ref.: Hierarchy)								
Customers & Specialized Service	0.025 (0.87)	0.012 (0.48)	0.024 (0.85)	-0.019*** (3.03)	-0.017 (1.16)	0.021 (0.86)	-0.009*** (3.11)	-0.006 (0.07)
Colleague	-0.043 (0.97)	0.11 (0.37)	-0.044 (0.99)	0.018 (0.79)	0.015 (0.53)	0.020 (0.70)	-0.009** (2.30)	0.088 (0.75)
Single Establishment	0.063*** (3.29)	-0.046*** (3.61)	0.063*** (3.47)	-0.016** (2.02)	-0.001 (0.10)	-0.044*** (3.56)	-0.001 (0.31)	-0.151*** (3.19)
Number of Employees (Ref.: 11 to 19)								
20 to 49 Employees	-0.035 (1.45)	0.021 (1.22)	-0.041* (1.81)	-0.004 (0.41)	0.021 (1.60)	0.026 (1.56)	-0.003 (0.58)	0.041 (0.74)
50 to 99 Employees	-0.093*** (3.21)	0.055*** (2.61)	-0.105*** (3.69)	0.010 (0.92)	0.039** (2.19)	0.052** (2.56)	0.004 (0.78)	0.199** (2.53)
100 to 199 Employees	-0.097*** (3.14)	0.080*** (3.46)	-0.099*** (3.39)	0.022* (1.70)	-0.003 (0.21)	0.066*** (3.17)	0.014 (1.52)	0.282*** (2.87)
200 to 499 Employees	-0.191*** (4.72)	0.125*** (4.27)	-0.178*** (4.64)	0.041* (1.93)	0.009 (0.47)	0.073*** (2.83)	0.056*** (3.67)	0.694*** (5.63)
500 Employees or more	-0.348 (5.70)	0.190*** (4.36)	-0.318*** (5.36)	0.087** (2.35)	0.026 (0.76)	0.118*** (3.12)	0.087*** (3.72)	1.101*** (6.57)
Sector controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2926							

Notes: Source: REPOSE Survey 2010 MR, DARES. Significance levels: * 10%; ** 5%, *** 1% t-statistics in parenthesis.
In all models, we reject the null hypothesis of Global insignificance of the covariates.

TABLE 3: Multiple Treatment Models of Collective Conflict .

Variables	Probit No Conflict	Probit Strike	OLS Severity
Non-Treatment (from table 2) :			
Marginal effects			
Profit Sharing Only	0.014 (0.64)	0.015 (1.00)	-0.025 (0.45)
Emp. Share Ownership Only	0.105*** (3.00)	-0.061*** (3.35)	-0.161*** (2.68)
PS & ESO	-0.011 (0.37)	0.047** (2.09)	0.068 (0.80)
IPWRA Treatment Model : ATT (same specifications as non-treatment)			
Profit Sharing Only	0.013 (0.50)	0.024 (1.22)	-0.012 (0.17)
Emp. Share Ownership Only	0.067** (2.19)	-0.045* (1.76)	-0.208** (2.07)
PS & ESO	-0.009 (0.26)	0.065** (2.40)	0.073 (0.75)
IPWRA Treatment Model : ATT (restricted specification for bal. conditions)			
Profit Sharing Only	0.020 (0.74)	0.024 (1.16)	-0.029 (0.41)
Emp. Share Ownership Only	0.086*** (2.73)	-0.059*** (2.62)	-0.306*** (2.63)
PS & ESO	0.002 (0.07)	0.061** (2.14)	0.044 (0.45)

Notes: Source: REPOSE Survey 2010 MR, DARES. Significance levels: * 10%; ** 5%, *** 1% t-statistics in parenthesis.

TABLE 4: Collective and Individual Conflicts (Marginal Effects).

Variables	Probit	Probit	Multinomial Probit					OLS
	No Conflict	Strike	No Conflict	Petition	Overtime	Short	Long	Severity
Profit Sharing Only	0.011 (0.52)	0.015 (0.99)	0.003 (0.15)	0.001 (0.10)	-0.019 (1.48)	0.013 (0.88)	0.002 (0.36)	-0.021 (0.37)
Emp. Share Ownership Only	0.103*** (2.93)	-0.061*** (3.37)	0.112*** (4.00)	-0.028*** (5.45)	-0.024 (1.16)	-0.051*** (2.79)	-0.010** (2.25)	-0.163*** (2.71)
PS & ESO	-0.013 (-0.43)	0.046** (2.08)	-0.020 (0.70)	0.008 (0.58)	-0.035*** (2.74)	0.051** (2.33)	-0.005 (0.99)	0.070 (0.83)
Individual Conflicts (Ref : None)								
Written Warning	-0.044* (1.76)	0.007 (0.40)	-0.039* (1.65)	-0.008 (1.00)	0.040*** (2.78)	0.005 (0.28)	0.002 (0.43)	0.093 (1.49)
Dismissal for fault	-0.049 (1.34)	-0.001 (0.06)	-0.048 (1.37)	-0.006 (0.58)	0.052** (2.14)	0.004 (0.15)	-0.002 (0.32)	0.067 (0.76)
Industrial Tribunal	-0.055** (2.29)	-0.001 (0.06)	-0.056** (2.41)	0.014 (1.18)	0.043*** (3.05)	-0.007 (0.45)	0.006 (1.07)	0.090 (1.44)
N	2926							

Notes: Source: REPOSE Survey 2010 MR, DARES. Significance levels: * 10%; ** 5%, *** 1% t-statistics in parenthesis

TABLE 5: Marginal effects of Strikes 2005 and 2010.
Comparable Samples (20 or more employees).

Variables	Probit Strike (2005)	Probit Strike (2010) 20 or more emps
Profit Sharing Only	-0.004 (0.24)	0.001 (0.03)
Emp. Share Ownership Only	-0.075*** (3.81)	-0.091*** (3.35)
PS & ESO	0.006 (0.25)	0.014 (0.54)
Individual Incentives	0.009 (0.17)	0.015 (0.80)
Unionization rate (Ref.: Less than 5%)		
5% to 9%	0.058*** (2.83)	0.161*** (6.93)
10% to 20%	0.160*** (4.06)	0.255*** (6.72)
More Than 20%	0.235*** (5.72)	0.336*** (8.00)
Works Council	0.065*** (3.18)	0.046** (2.36)
Information Sharing on Wages (Ref. : Usually Sometimes)	0.008 (0.45)	0.020 (1.09)
Never	-0.020 (1.10)	0.020 (0.81)
Organizational Change	0.018 (1.11)	0.030 (1.63)
Worker Autonomy	0.012 (0.74)	0.002 (0.13)
Who Controls the Work (Ref.: Hierarchy)		
Customers & Specialized Service	-0.047** (2.40)	0.010 (0.32)
Colleague	-0.044** (2.12)	-0.001 (0.03)
Single Establishment	-0.041** (2.47)	-0.079*** (4.69)
Number of Employees (Ref.: 20 to 49)		
50 to 99 Employees	0.006 (0.28)	0.043** (2.05)
100 to 199 Employees	0.028 (1.39)	0.072*** (3.08)
200 to 499 Employees	0.050** (1.99)	0.136*** (4.59)
500 Employees or more	0.121*** (4.01)	0.230*** (4.77)
Sector controls	Yes	Yes
N	2219	2522

Notes: Significance levels: * 10%; ** 5%, *** 1% t-statistics in parenthesis.

TABLE 6: Marginal effects of Collective Conflicts 2005 and 2010
Comparable Samples (20 or more employees).

Variables	Multinomial Probit (2005)					Multinomial Probit (2010 – 20 or more employees)				
	No Conflict	Petition	Overtime	Short	Long	No Conflict	Petition	Overtime	Short	Long
Profit Sharing Only	0.031 (1.17)	0.023 (1.40)	-0.048*** (3.05)	-0.010 (0.62)	0.005 (0.69)	0.047* (1.94)	-0.006 (0.61)	-0.041*** (2.82)	0.004 (0.20)	-0.004 (0.57)
Emp. Share Ownership Only	-0.018 (0.29)	0.002 (0.09)	0.090 (1.59)	-0.048** (2.50)	-0.026*** (4.77)	0.171*** (5.15)	-0.034*** (5.34)	-0.044** (2.05)	-0.077*** (2.91)	-0.016** (2.13)
PS & ESO	0.020 (0.49)	0.031 (1.18)	-0.066*** (3.13)	0.030 (1.15)	-0.015** (2.47)	0.035 (1.14)	-0.001 (0.11)	-0.046*** (2.72)	0.021 (0.87)	-0.008 (1.01)
N	2219					2522				

Notes: Source: REPONSE Survey 2010 MR, DARES. Significance levels: * 10%; ** 5%, *** 1% t-statistics in parenthesis.

Appendix:

Individual conflicts (2010)

	NO_Conf (1)	Written-Warning (2)	Dismissal (3)	Tribunal (4)	Total
	46.6%	23.9%	8.6	20.9	100
Warnings	0	4.7	4.1	9.6	18.4
Written	0	23.2	6.2	18.6	48.
Dismissal for fault	0	0	8.6	11	19.6
Tribunals	0	0	0	20.9	20.9

Notes: Source: REPOSE Survey 2010 MR, DARES.

<i>Individual Conflicts : 2010 (severity, see appendix for details)</i>		<i>Collective conflicts (severity %): 2005</i>	
<i>No Conflicts</i>	46.46	<i>No Conflicts</i>	76.33
<i>Written Warning</i>	23.9	<i>Petition</i>	7.64
<i>Dismissals</i>	8.63	<i>Overtime</i>	5.08
<i>Tribunals</i>	20.9.	<i>Short</i>	8.39
		<i>Long</i>	2.46

Notes: Source: REPOSE Survey 2010 and 2005, MR, DARE

TABLE 7 : Balancing Conditions Checks

	Raw Difference	Weighted Difference	Weighted Variance Ratio
PS Only			
Ind Bonus	0.631	-0.047	1.083
Single	-0.370	0.143	1.094
Work Counc	0.649	-0.087	1.046
autonom	0.111	-0.069	1.008
Size			
50-99	-0.310	0.021	1.035
100-199	0.002	0.007	1.013
200+	0.102	-0.097	0.854
200-499	0.248	0.123	1.246
500 or more	0.391	-0.059	0.921
Interactions			
autonom#Size			
1#1	-0,275	0.007	1.032
1#2	-0.148	0.023	1.065
1#3	0.046	0.000	0.999
1#4	0.124	-0.093	0.771
1#5	0.240	0.074	1.249
Size#Ind Bonus			
1#1	-0.136	0.028	1.109
1#2	-0.033	0.035	1.069
1#3	0.181	-0.002	0.995
1#4	0.194	-0.132	0.778
1#5	0.295	0.108	1.269
ESO Only			
Ind Bonus	0.475	-0.031	1.055
Single	-0.065	-0.217	0.795
Work Counc	0.092	-0.043	1.024
autonom	-0.055	0.043	0.990
Size			
50-99	-0.058	-0.024	0.959
100-199	-0.054	-0.056	0.899
200+	-0.083	-0.110	0.834
200-499	-0.051	0.111	1.222
500 or more	0.205	0.127	1.153
Interactions			
autonom#Size			

1#1	0.031	-0.066	0.712
1#2	-0.276	-0.058	0.843
1#3	-0.087	-0.054	0.844
1#4	0.042	-0.059	0.851
1#5	0.007	0.080	1.270

Size#Ind Bonus

1#1	0.078	-0.081	0.707
1#2	0.145	0.001	1.001
1#3	0.143	-0.037	0.923
1#4	0.029	-0.116	0.805
1#5	0.028	0.140	1.348

PS & ESO

Ind Bonus	0.833	-0.098	1.172
Single	-0.862	0.139	1.092
Work Counc	0.921	-0.074	1.040
autonom	0.215	0.081	0.978
Size			
50-99	-0.475	0.026	1.042
100-199	-0.012	0.056	1.100
200+	0.088	-0.094	0.859
200-499	0.248	0.125	1.250
500 or more	0.591	-0.092	0.876

Interactions

autonom#Size

1#1	-0.315	0.006	1.029
1#2	-0.302	-0.007	0.980
1#3	0.015	0.065	1.198
1#4	0.191	-0.079	0.804
1#5	0.297	0.170	1.591

Size#Ind Bonus

1#1	-0.191	0.004	1.013
1#2	-0.146	0.030	1.059
1#3	0.181	0.010	1.020
1#4	0.213	-0.093	0.843
1#5	0.353	0.058	1.143

Notes

ⁱ This typology was inspired by a preliminary clustering, using Ward distance. The number of clusters was given by the tree as well as the decrease in the inter-clusters inertia (the number of clusters was not fixed ex-ante).

ⁱⁱ If autonomy forms part of a FP strategy to increased worker performance it may be correlated with FP and absorb some of the explanatory power of FP on conflict. Re-estimation of our model without the autonomy measure does not support this conjective. Thank you to one of the referees for this comment.

ⁱⁱⁱ Only about 10 per cent of the establishments were present in the two waves so an appropriate panel for estimating our models could not be established.