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Ancillary Services' Outsourcing Decision: The Effects of Trade Unions

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Abstract.

This article investigates the effect of trade unions on the outsourcing of 11 ancillary activities. We hypothesize that the unions' standpoint is contingent on the type of relationship between management and unions. In particular, we argue that unions may act against the outsourcing of such activities only when their goals are not compatible with management targets. The empirical analysis draws on Workplace Employment Relations Survey (WERS) data for 938 firms based on the United Kingdom. Our findings show that some unionization variables are negatively related to the likelihood of outsourcing. This may harm organizational performance as it reveals that the make or buy decision is not purely informed by efficiency and strategic criteria. However, our results also show that such negative effect of unions is limited to the conflict of interest scenario, as it disappears when management and unions collaborate. Furthermore, they also indicate that difficulties in the bargaining process, due to multi-unionism, are the main obstacle to outsourcing.

Keywords: Unions, Outsourcing, United Kingdom.

JEL Classification: J51

1. Introduction

Over the past several decades, outsourcing has emerged as an important competitive strategy in order to maximize productivity and profitability. Outsourcing of different activities of the value chain involves choosing to procure goods or services from other firms rather than producing them internally (Porter and Miller, 1985). This managerial practice, initially characteristic of manufacturing industries, has now spread widely to services (Stringfellow, Teagarden and Nie, 2008). To explain such an expansion, Younghdal and Ramaswamy (2008) point to the fact that some service operations, for example customer services, are now easier to standardize and monitor, increasing the benefits of using the market.

As a key strategic source, the make or buy decision has attracted the attention of many researchers in the field of economics and operations management. On the one hand, the transaction cost theory (TCT) is the traditional efficiency approach to this issue. It states that when the cost and uncertainty regarding the external transaction is high enough, it will be more efficient to produce internally (Coase, 1937; Williamson, 1985). On the other hand, according to the resource-based view theory (RBV) companies may decide whether or not to outsource depending on the value added of the process. From this perspective, firms could be more efficient if they allocate their scarce and essential resources to core activities in order to strengthen their competitive advantage (Barney, 1991).

However, McIvor (2009) warns that both theories should be applied with caution, due to some contradictory prescriptions. Furthermore, recent empirical analysis has found that many decisions linked to contracting out are not taken solely on the basis of efficiency or strategic criteria (Mantel, Takikonda, and Liao, 2006). In this way, behavioral decision-making has emerged as an important perspective to understand administrative

decision-making. This perspective also considers the personal characteristics of the decision maker and other contextual features (Simon, 1997). Among all these factors, unions are seen as one of the most important institutional factors, provided that their goals are precisely to influence managerial action - including outsourcing - to lobby in favor of their represented workers.

On this issue, outsourcing decisions have always been the subject of confrontation and strong negotiations between managers and unions. The reasons are obvious. On the one hand, unions may try to prevent outsourcing in order to guarantee more jobs within the company, especially when contracting out implies the relocation of the activity abroad (Andersen, Haldrup and Sorensen, 2000). Foster and Scott (1998) identify this behavior as “defiance response”. Moreover, the vertical disintegration of firms through outsourcing could reshape unions’ bargaining power and their potential capacity to influence decision-making (Freeman, 2005). On the other, managers strongly believe that unions increase internal labor market rigidity and reduce managerial flexibility, limiting their freedom to choose the boundaries and composition of the firm according to both efficiency and strategic criteria (Freeman and Medoff, 1984).

This situation has led to what first Perry (1997) and then Freeman (2005) have called a “new era in industrial relations” in which the agents - managers and trade unions - face the challenge of overcoming their differences and finding common ground. Cooperation between managers and trade unionists could therefore bring new opportunities for improving management and performance. In this way, Pagell and Handfield (2000) advocate taking into account the role of unions in research on operations strategy, as a unionized workforce plays a key role on the success of the strategy deployment.

Besides the theoretical inconclusiveness of unions’ role on the make or buy decision, the empirical research devoted to the issue is scarce and focused in very particular cases

(Pagel and Handfield, 2000. Teicher, Van Gramberg, and Holland, 2006). Previous research deals principally with the attitude towards the contracting out of public services (privatization) and is therefore more focused on drawing recommendations to improve public administration. Chandler and Feuille (1994), for example, observe that unions reduce the likelihood of contracting out the city sanitation service. Hayakawa and Simard (2001) examine the relationship between union density and outsourcing in Japanese local municipalities. They find that union density is negatively related to outsourcing, whether unions are radical or not. More recently, in a meta-analysis on factors explaining privatization, Bel and Fageda (2009) include the level of unionization as one of the political factors more commonly considered by research. They conclude that most of the previous research has found that unions are opposed to outsourcing, and may therefore become a problem for the efficient management of organizations. In short, although a unionized workforce plays a key role in the success of the strategy deployment, researchers are far from agreeing on the standpoint of unions towards outsourcing.

The present paper makes several distinctive contributions to the scarce evidence of the impact of unions on contracting out. Its main aim is to shed some light on the role of unions on operations strategy. Specifically, we try to answer the following questions:

Can unions affect outsourcing decision-making?

Is the unions' attitude contingent on the type of industrial relations?

Do unions' actions vary according to the type of services to be contracted out?

To answer these research questions, first, the effect of unions is analyzed within a broader theoretical framework, where the TCT and RBV variables are considered in the analysis, alongside some other environmental stressors such as unionization variables. Second, the effect of unions is empirically studied in two scenarios: conflict and

cooperation. This allows the testing of two hypotheses posited in the light of previous theoretical research. Third, several measures of unionization are specified including union density, dedication and multi-unionism. Finally, the outsourcing of a wide variety of activities is analyzed; from traditional ancillary services such as cleaning and security, to some human resource (HR) activities and personal services that could embed more strategic value in the firm, such as training, recruiting and computing. It is important to note that in this analysis both the contractor and the provider are private firms that operate freely in the market.

Briefly, the results show that, in some particular circumstances, outsourcing is not purely informed by efficiency and strategic criteria, as the level of unionization discourages the contracting out of some activities. However, the results also show that this union burden on outsourcing disappears when the relationship between unions and management is based on cooperation.

The paper is organized as follows. The next section describes the related literature supporting two possible behaviors of unions with regard to the make or buy decision. Section three describes the data used and the empirical approach. Section four analyzes the results obtained for the total number of services and for each one. Discussion and conclusions close the paper.

2. Unions' behavior on the make or buy decision.

In this section, we summarize the main theoretical contributions on the issue and describe two possible scenarios: conflict and cooperation between unions and management. Pagell and Handfield (2000) stress that the type of relationship between management and unions may have a major effect on the success of strategic action programs. Accordingly, we argue that the unions' effect towards outsourcing will vary depending on the scenario in which the decision is taken.

The conflict scenario.

Traditionally, the main role of unions has been to protect the employment of current members and their wages, as long as those members earn a premium over their best alternative employment (Freeman and Kleiner, 1990). Union supporters point out that in addition to increasing wages, unions provide workers both with protection against arbitrary management decisions and workplace representation (Freeman and Meddoff, 1984). Broadly, it is accepted that union bargaining power has a positive effect on the wages of union members (Jones, 1982). However, many analysts warn of the adverse effects of union work rules on productivity, reducing labor productivity and slowing employment growth (Fernie and Metcalf, 1995, Addison and Belfield, 2004). Indeed, it is also proven that some union actions could negatively affect firms' profitability (Addison and Hirsch, 1989). Unions' possible negative impact on operational performance has created the view, shared by many economists, that unions are monopolies in the labor market, whose primary economic impact is to raise members' wages at the expense of the efficient functioning of the economy (Freeman and Medoff, 1984).

This negative vision of unionism is built upon the idea of a clear conflict of interest between unions and management, where organizational performance is not a priority for unions. The classical model of the trade union characterizes the union as a maximizing function in which wage rates and union employment levels are arguments constrained by employers' labor demand function (Fellner, 1947. Dertouzos and Pencavel, 1981).

In such a situation, it is likely that unions will oppose the contracting out of services, as some of their particular goals could be harmed by outsourcing. Among the objectives put at risk by outsourcing, Perry (1997) stresses that membership could be diffused and diminished, and Colling (1995) warns that bargaining power could be weakened and

disrupted. Unions are also likely to oppose to outsourcing because employment conditions of their members may be downgraded. Hayakawa and Simard (2001) state that contracting out could represent a transfer from stable jobs to more precarious jobs with lower compensations, and Braun and Scheffel (2007) also point out that outsourcing could lead to job losses or downward pressures on domestic wages.

In general, it is expected that, when the behavior of unions is primarily guided by their own objectives, they will try to impede outsourcing, even if such a decision is taken in order to improve the firm's performance. Foster and Scott (1997) conceptualize this opposing strategy as "defiance response", which could be executed by unions through industrial action or non-collaborative practices. In both cases, and when union power is strong enough, management will find it more difficult to implement their decision to contracting out and therefore we posit:

Hypothesis 1. Unionization is negatively related to the likelihood of outsourcing when unions do not share the management's goals.

Scenario II. Cooperation.

In recent decades, it has become quite clear that unions' defiant attitude towards employers' ability to organize labor could reduce productivity and increase labor unit costs. This union stance could damage the competitiveness of the firm and bring serious consequences such as workplace closures (Bryson, 2004). In a context of increasing employment insecurity, both employers and employees could be rather critical of unions if their defiant strategy could lead to job losses (Heery and Abbot, 2000). In such a hostile environment, unions may need to reconsider some traditional strategies in order to preserve their level of representation and prestige.

Some researchers have consistently claimed that collaboration between unions and management could have beneficial economic and political effects. Unions can increase the development and retention of skills, provide information about what occurs on the shop floor, improve morale, and pressurize management to be more efficient in its operations (Freeman, 2005). In a collaborative context, unions could open channels of communication between management and workers, enriching the information available for decision-making (Bryson, 2004).

The beneficial effects of unions' collaborative attitude have been thoroughly demonstrated. However, less attention has been paid to the role and influence of unions in improving firms' performance through outsourcing. Hartman and Patrickson (2000) observe that deregulation of labor markets, decline in union membership and increased job insecurity have apparently directed unions towards a more conciliatory stance on this issue. Teicher et al. (2006) also show that strategic responses of unions in Australia have started to move from defiance to pragmatic compliance. This more collaborative option is defined by McIllroy (1988) as the incorporation strategy. It stands for the pragmatic union response which places survival ahead of opposition to outsourcing. Incorporation is defined as a progressive social partnership where compromise is seen as the best joint strategy. In Britain, such collaborative standpoints are consistent with the "right to manage" strategy, which stresses that unions should bargain with employers over wages, but not over employment, where the employer should be allowed to decide (Bryson, 2004).

In the light of the issues discussed above, in a context of cooperation between unions and employers, unions could include the firm's performance among their own goals. They should therefore agree with measures, including outsourcing, implemented to improve efficiency and the strategic position. As managers' role in the firm is to take

decisions and assume the consequences of such decisions, unions should prefer not to interfere in the process of defining the boundaries of the firm, and therefore, we posit:

Hypothesis 2. Unionization does not affect the likelihood of outsourcing when unions share management goals.

3. Sample and variables

Sample

The analysis draws on cross-section management data from the 2004 Workplace Employment Relations Survey (WERS). The level of observation is the workplace, that is, a place of employment at a single address. The WERS is well known for the very rich data on union strength and activities contained in *Section E - Representation at work*. One of the main advantages of using the WERS is that information on unionization can be combined with extensive data on managerial issues. Of particular relevance for the present analysis is data contained in *Section J - Establishment flexibility*, which provides very valuable information on outsourcing practices, use of temporary agency staff, redundancies and other managerial methods to increase flexibility.

In the WERS 2004 wave, a sample of 4,293 units was selected from the Inter-Departmental Business Register (IDBR) following a sampling methodology described in Section 2 of the WERS (2004)¹. From the selected sample, 706 (16.4%) establishments were out of scope and 1,292 (36.0%) cases were unproductive. The total number of productive cases was 2,295 - 64.0% of the initial sample. However, the information needed for the analysis is not available for all the productive cases. Missing values for any of the variables considered reduced the valid cases to 938.

¹ This report provides an extensive description of the technical features of the survey, including fieldwork and weighting procedures.

Dependent variable.

The variable *outsourcing* is obtained summing the positive answer to the question: “JNONEM01-11 Are any of the activities or services on this card carried out for this workplace (organization) by independent contractors?” The questionnaire provides information on 11 services liable to be carried out by an independent contractor. Multiple answers are therefore possible. The resulting variable *outsource* is an ordinal variable, where each establishment is classified according to the number of outsourced services. This observable variable is the numerical representation of the unobservable latent *propensity to outsource* variable. The foremost characteristic of ordinal variables is that their categories can be ranked, but the distances between them are not interpretable since they remain unknown. In other words, the number of categories is interpretable in terms of the internal propensity to outsourcing, but cannot be used to compare such propensity between firms.

Table 1 lists frequencies of outsourcing of the 11 ancillary services and the average number of outsourced services.

Table 1. Dependent variable: The outsourcing of ancillary services.

<i>Variable</i>	Mean (%)	1	2	3	4	5	6	7	8	9	10	11
1. <i>Cleaning</i>	64.9	#										
2. <i>Security</i>	44.9	.34*	#									
3. <i>Catering</i>	38.8	.27*	.25*	#								
4. <i>Maintenance</i>	61.6	.30*	.20*	.19*	#							
5. <i>Printing</i>	20.7	.07*	.10*	.05	.18*	#						
6. <i>Pay roll</i>	23.2	.06*	.07*	.15*	.10*	-.00	#					
7. <i>Transport</i>	36.4	.21*	.22*	.18*	.23*	.14*	.06*	#				
8. <i>Computing</i>	26.6	.13*	.11*	.09*	.16*	.15*	.14*	.15*	#			
9. <i>Training</i>	43.0	-.00	-.02	.06*	.12*	.18*	.16*	.16*	.21*	#		
10. <i>Recruitment</i>	16.7	.09*	.10*	.11*	.11*	.12*	.05	.19*	.14*	.34*	#	
11. <i>Temporary</i>	37.6	.09*	.09*	.09*	.17*	.11*	.04	.17*	.00	.27*	.27*	#
Outsource	4.14											
	[2.39]											

* Significant at 95%

Firms outsource an average of 4.14 out 11 ancillary services. Predictably, subsidiary services such as *cleaning* (64.9%), building *maintenance* (61.6%) and *security* (44.9%) are more frequently outsourced. On the the other hand, HR services such as *recruiting* (16.7%), *pay roll* (23.2%), contracting of *temporary* workers (37.6%) and *training* (43.0%) are less commonly outsourced. The preference for the internal option also applies to other services that, in certain industries, could engage some strategic value for the firm: *printing* (20.7%), *computing* (26.6%), *transport* (36.4%) and *catering* (38.8%). Table 1 also shows that correlations between outsourcing different services are, in most cases, positive and, in general, significant. For example, outsourcing building *maintenance* is positively and significantly correlated with outsourcing all the remaining services. Only *training* and *pay roll* services show more moderate or insignificant correlations, and in the case of *training*, the absence of a significant correlation only applies to subsidiary activities such as *cleaning* and *security*. As a

preliminary comment, positive and significant correlations suggest that outsourcing may benefit from some cost-saving synergies associated with the acquisition of a cluster of services in the market.

Unionization variables

The following three variables are used to measure the level of unionization in each workplace. The basic descriptive statistics and the WERS 2004 questions used to create these variables are listed in Table 2.

The first straightforward measure of the level of unionization is the share of workers that are members of trade unions, or union *density*. The average share of union members in our sample is 30%, practically equal to the union density measure for the whole population of UK firms in the survey (Fernie and Metcaff, 2005). This indicates that the sample is not substantially biased towards establishments with higher (lower) levels of unionization.

The second variable is *dedication*: a dummy variable indicating whether any union representatives spend all, or nearly all, of their working time on union affairs. This variable is intended to capture workers' perceived union support, which as Shore et al. (1994) show is mainly determined by the level of dedication and availability of union representatives. When unions enjoy greater levels of support, they demonstrate a stronger capacity to influence some managerial decisions, particularly those that affect the HR architecture. This is very much the case of the make or buy decision, that is known to have multiple consequences for organizational performance and workers wellbeing (Hendry, 1995). Accordingly, we expect to find a stronger influence of unions over the outsourcing decision in firms where *dedication* is positive. In our sample, the level of dedication is quite low, as full-time union representatives are found in only 6.6% of the surveyed workplaces.

Table 2. Explanatory variables – survey questions and descriptive statistics

<i>Variable</i>	<i>Mean/Frequency [std dev]</i>	<i>WERS 2004 Codes: Question [=Responses coded with 1].</i>
<i>Workers</i>	340 [797]	ZALLEMPS Currently how many employees do you have in the pay roll?
<i>Density</i>	0.300 [0.34]	ZUNIMEN How many employees are members of trade unions? ZALLEMPS Currently how many employees do you have in the pay roll?
<i>Dedication</i>	6.60%	ESTEWTIM Are there any representatives who in practice spend all, or nearly all, of their working time on union affairs? [=1 yes]
<i>Multi-Unions</i>	1.78 [2.02]	EWIDNUM How many unions are there in this establishment?
<i>Supervision ratio</i>	0.095 [0.091]	ZMNG_TOT Total number of managers and senior administrators. ZALLEMPS Currently how many employees do you have in the pay roll?
<i>Motivational</i>	0.69 [1.15]	FMEASUR [1-5] What measures of performance are used to determine the amount of performance-related pay?
<i>Indiv_pef</i>	25.9%	[=1 Individual performance/output]
<i>Team_pef</i>	16.2%	[=1 Group or team performance/output]
<i>Work_pef</i>	11.7%	[=1 Workplace-based measures]
<i>Orga-pef</i>	13.9%	[=1 Organization-based measures]
<i>Other-pef</i>	1.2%	[=1 Other]
<i>Communication</i>	2.36 [0.93]	DBRIEF [1-4] Who are these briefings generally for? [=1 Managers/Supervisors; =2 Section; =3 Department =4 Organization]
<i>Cost_goal</i>	9.91%	KTARGE01 Are targets set for any of the following at this establishment? [=1 Costs, Profits, Labor costs, Productivity]
<i>Sales_goal</i>	68.8%	KTARGE01 Are targets set for any of the following at this establishment? [=1 Sales/Fees/Budget]
<i>Quality_goal</i>	11.4%	KTARGE01 Are targets set for any of the following at this establishment? [=1 Quality of product or service]
<i>HR_goal</i>	3.94%	KTARGE01 Are targets set for any of the following at this establishment? [=1 Labor turnover; absenteeism, training]
<i>Cooperation</i>	37.6%	APHRAS06. Unions help ways to improve workplace performance. [=1 Strongly agree; Agree]
<i>Manufact</i>	14.2%	Ysicode. SIC 1992 [=1 Manufacturing]
<i>Electric</i>	2.45%	Ysicode. SIC 1992 [=1 Electricity, gas and water]]
<i>Construc</i>	4.47%	Ysicode. SIC 1992 [=1 Construction]
<i>Services</i>	78.7%	Ysicode. SIC 1992 [=1 All service industries]
<i>London</i>	12.6%	Gor. Government office region. [=1 London]
<i>Midlands</i>	28.0%	Gor. Government office region. [=1 East Midlands; West Midlands; East of England]
<i>South</i>	20.8%	Gor. Government office region. [=1 South East; South West]
<i>North</i>	24.5%	Gor. Government office region. [=1 North East; North West; Yorkshire & The Humber]
<i>Scotland</i>	8.84%	Gor. Government office region. [=1 Scotland]
<i>Wales</i>	5.01%	Gor. Government office region. [=1 Wales]

Finally, the third variable is the number of recognized *unions* in the workplace. Multi-unionism is relevant as it shapes the union-firm bargaining structure and determines its outcomes (Oswald, 1985). Regarding bargaining over the make or buy decision, Perry (1997) argues that the number of recognized unions could change their attitude towards outsourcing, since the redistribution of membership between unions could have a major impact on the union power equilibrium. In general, it is argued that multi-unionism increases strikes, leads to inefficient working practices and complicates the conduct of collective bargaining (Dobson, 1997). Accordingly, we expect multi-unionism to interfere in the make or buy decision, reducing the likelihood of outsourcing.

The stressors of the make or buy decision

Traditionally, a variety of theoretical perspectives have been applied to understanding the outsourcing decision, chiefly the TCT (Coase, 1937; Williamson, 1985) and the RBV of the firm (Penrose, 1959; Wernedfelt, 1984; Barney, 1991).

In this analysis, the transaction costs variables are defined following the classical approach by Williamson (1985). From an internal perspective, it is assumed that high organizational costs, mainly due to coordination and motivation problems, make the option of buying the service outside more competitive (Milgrom and Roberts, 1992).

Coordination costs include the cost of communicating the required information for completing tasks and the supervision of the correct execution of such task. In the econometric specification, we measure the supervision costs using the *supervision ratio*, defined by Indik (1964) as the ratio of the number of supervisors to the total number of members. Larger ratios are associated with higher supervision costs, making the external option more competitive. In our sample, for each 100 workers, there is an average of 9.5 managers. However, the large standard deviation (.091) reveals that this ratio varies widely across firms.

The cost of *communication* is measured using the question on the number of groups involved in briefings on general issues of the organization. We understand that the cost of communication will increase when more groups are involved. In the sample, 2.36 out of 4 groups are involved in an average firm. Hence, we expect that firms where more time and resources are devoted to communication may opt to buy the service in the market.

The incentive-related costs are measured by the variable *motivational*, which is computed as the number of performance indicators used to determine the amount of performance-related pay. We assume that the motivational system is more expensive when more measures are taken into account. In a classical principal agent setting, the monitoring of more than one measure could reduce the level of opportunistic behavior but also increases costs (Milgrom and Roberts, 1992). According to this argument, if the management of the pay for performance system is too expensive, firms may prefer to hire a firm instead of employees, as the agent to be monitored is only one. In the sample, an average firm takes into account only 0.69 out of 5 measures, which means that most firms do not use performance-related pay as a motivational device.

The outsourcing decision could be also driven by external transaction costs, which could differ in a variety of ways: asset specificity, uncertainty, complexity of trading and frequency (Williamson, 1985). Ideally, these external costs should be measured as the costs of participating in the market. They include search and information costs, bargaining costs and enforcements costs. Unfortunately, this information is not available in the WERS 2004 for each of the ancillary services provided. Instead, we use the markets where the firm operates as the proxy for the costs of using each market. These markets are defined by *geographical* location and *industry* type.

The relationship of the cost of using the market, defined above, and the market itself is clear. The geographical location, for example, is associated with both the physical proximity between contracting firms and the quantity of services offered (Joskow 1990; Spiller, 1985). Thus, lower transaction costs are expected in London and the Midlands, where the concentration of firms is higher. Regarding the industry type, the costs of using the market could also vary, as some operational synergies and asset specificity between activities and industries could arise. For example, insourcing the maintenance service will be cheaper for a construction firm than for an IT company, while self-providing the computing service will be more convenient for the latter.

Regarding the RBV variables, we use the first target set for each establishment to identify the firm's strategy. In the WERS, managers are asked to name the goal on which the firm places its strategic priority. Firms are classified according to their primary strategy: *costs* (9.91%), *sales* (68.8%), *quality* (11.4%) and *HR* (3.94%). It is expected that firms oriented towards quality or HR are more likely to insource some ancillary activities such as training and computing, even if the cost of the transaction is low enough to outsource. On the the other hand, firms focused on cost and sales may choose between make or buy ancillary services, purely observing the cost of the transaction.

Finally, the logarithm of the number of workers (*logworkers*) is used as a control variable of the size of the firm. Its magnitude could influence the outsourcing decision in a number of ways, as it determines the access to financial resources or establishes market bargaining power. In general, it is expected that large firms may enjoy a better position in the market and therefore may reduce their external transaction costs, making the external option more attractive.

Conflict and cooperation measure.

To define the two scenarios, we create the variable *cooperation*, which is not included as an explanatory variable in the analysis, but instead is used to segment the sample. The sample is divided into two types of firms, according to management's perspective on union attitudes. In particular, the variable *cooperation* is a dichotomy variable where the value 1 is assigned to positive answers - agree and strongly agree - to the statement *Unions help ways to improve workplace performance*. The two resulting subsamples are used to test the posited hypothesis, where the scenarios conflict (*cooperation*=0) and cooperation (*cooperation*=1) are defined. Sample frequencies show that 36.6% of managers believe that unions help firms to improve performance.

Again, it is important to note that managers are the respondent to the proposed question. McLennan (2005) stresses that the managerial perspective on unions' action and readiness to cooperate is influenced by the level of alignment of major goals. For example, in some industries, unions and management may jointly oppose policies to expand trade or deregulate the industry. We understand that in firms where managers recognize that unions are helping to improve performance, the alignment of unions and management goals is high enough to rule out the conflict scenario. As explained above, we assume that, when goals are shared, unions' attitude towards outsourcing should be guided by, presumably, the same criteria as managers: efficiency and strategic value.

4. Results

4.1. The likelihood of outsourcing.

The estimation of naturally ordered categorical data (variable *outsourcing*) is commonly performed using the well-known Ordered Logit model (Cameron and Trivedi, 2005). Including zero, the estimation shown in Table 3 covers 12 ordered categories. A total of 11 cuts (one for each category change) on the intercept are estimated $\mu(1)$ to $\mu(11)$. Positive coefficients on the explanatory variables indicate an increase in the likelihood

of outsourcing an additional service. In the first column, results for the full sample are shown, while the second and third columns list the results for the conflict and cooperation subsamples, respectively.

Table 3. Factors affecting the outsourcing decision: O-Logit results

<i>Sample</i>	<i>Full</i>	<i>Conflict Cooperation=0</i>	<i>Cooperation Cooperation=1</i>
$\mu(1)$ to $\mu(11)$	<i>Included</i>	<i>Included</i>	<i>Included</i>
<i>Log(workers)</i>	.185 [.050] ^{***}	.116 [.070] [*]	.199 [.064] ^{***}
Unionization variables			
<i>Density</i>	.407 [.385]	.138 [.303]	.500 [.299] [*]
<i>Dedication</i>	-.373 [.299]	-.462 [.201] ^{**}	-.278 [.316]
<i>Multi-Unions</i>	-.070 [.035] ^{**}	-.181 [.051] ^{***}	-.018 [.052]
Organizational cost variables			
<i>Supervision ratio</i>	2.66 [.658] ^{***}	3.14 [1.23] ^{**}	2.43 [.772] ^{***}
<i>Communication</i>	.078 [.063]	.129 [.112]	.086 [.096]
<i>Motivational</i>	.196 [.050] ^{***}	.214 [.081] ^{***}	.176 [.056] ^{***}
Market-Industry variables			
<i>Services</i>	§	§	§
<i>Manufact</i>	.930 [.205] ^{***}	1.26 [.300] ^{***}	.674 [.218] ^{***}
<i>Electric</i>	1.15 [.320] ^{***}	1.79 [.436] ^{***}	1.299 [.396] ^{***}
<i>Construc</i>	.317 [.383]	.061 [.545]	.172 [.342]
<i>London</i>	§	§	§
<i>Midlands</i>	-.371 [.197]	.077 [.339]	-.642 [.218] ^{***}
<i>South</i>	-.834 [.206] ^{***}	-.555 [.351] ^{***}	-.1.03 [.259] ^{***}
<i>North</i>	-.930 [.205] ^{***}	-1.17 [.347] ^{***}	-.803 [.260] ^{***}
<i>Scotland</i>	-1.16 [.255] ^{***}	-1.08 [.398] ^{**}	-1.28 [.346] ^{***}
<i>Wales</i>	-1.09 [.300] ^{***}	-1.16 [.470] ^{**}	-1.11 [.400] ^{***}
RBV Variables			
<i>Cost_goal</i>	§	§	§
<i>Sales_goal</i>	.662 [.170] ^{***}	.436 [.264] [*]	.849 [.228] ^{***}
<i>Quality_goal</i>	.190 [.232]	-.161 [.353]	.387 [.312]
<i>HR_goal</i>	-.090 [.326]	.015 [.451]	-.614 [.507]
Number of observations	938	585	353
LR Chi2	177.29 (p<.00)	92.62 (p<.00)	100.37 (p<.00)
Log Likelihood function	-2013.50	-735.63	-1258.43

Significant at * 90%, **95% and ***99%.

Our findings provide some support for *H1* and confirms *H2*. Regarding *H1*, the results show that, both in the full sample (-.070) and conflict sample (-.181), the number of *unions* appears to disrupt the outsourcing decision. In the case where firms' and unions' objectives are not aligned, the variable *dedication* is also negatively (-.462) related to the likelihood of outsourcing. In sum, two out of three measures of unionization are negatively related to outsourcing when the conflict scenario prevails.

As hypothesized, when conflict is replaced with collaboration, the results show that unions do not interfere in the make or buy decision, as coefficients of the unionization variables are not significant. *H2* is therefore supported. Nevertheless, the coefficient associated with *density* is significant and indicates increases in the likelihood of using the market (.500). Such a result suggests that, as some authors have pointed out (Bryson, 2004), unions could act as mediators of management decisions when they adopt the collaborating strategy.

Most of the defined organizational cost variables behave as expected. First, the size of the firm favors the use of the market, particularly when cooperation applies. We argued that size of the firms is related to the availability of financial resources and the stronger bargaining power, which may help to explain the prevalence of the external option in large organizations. Second, the *supervision ratio* positively relates to outsourcing in all scenarios. According to the arguments above, this result confirms that firms where more managers are needed to supervise the workforce opt for the external option and reduce their supervision costs. Third, results also reveal that *motivational costs* are strongly related to outsourcing or, in other words, that firms with simple reward systems prefer to use the internal option. Finally, results show that *communication costs* are unrelated to the likelihood of outsourcing, at least when all the services, regardless of their

complexity, are taken as equal. More precise results by type of service are provided in Table 4.

Our findings also show that the industry and market are key factors when the outsourcing decision is analyzed. Not surprisingly, firms operating in the *manufacturing* (.930) and *electrical* (1.55) industries tend to outsource more ancillary services than firms operating in the *service* industries, where internal synergies between the main activity and other services are more likely. For example, it is more likely that cleaning will be undertaken internally by a firm operating industrial cleaning than by an automotive company. Surprisingly, construction firms do not outsource more than service firms, although synergies are not likely to appear. Further analysis by the type of service will help to clarify this evidence in the next section.

The results also show that location strongly influences the likelihood of outsourcing. In particular, it increases in markets where the concentration of suppliers is high, such as the London area and the Midlands, and therefore the bargaining power of the contracting firm increases. Finally, RBV variables also have an impact on outsourcing. The results show that firms where *sales* are the main goal tend to outsource more. This may indicate that the strategic value of such firms is mainly given by their customer portfolio, and therefore ancillary services may be better contracted out.

4.2. Differences between ancillary services.

The diversity of the services computed in the variable outsourcing is large, ranging from some ancillary activities such as cleaning and security, to some other more strategic activities such as training and IT services. Furthermore, while some services such as cleaning and catering are likely to employ a large number of low-skilled employees, others such as training and recruiting will employ few but highly skilled professionals. Hence, it is expected that both management's and unions' attitude towards outsourcing

will depend on the type of activity to be outsourced. The results in Table 4 confirm that such differences strongly influence the unions' effect on the likelihood of outsourcing.

Union *density* is positively related to the likelihood of outsourcing for most of the ancillary services, such as *cleaning* (.504), *catering* (1.17) and *maintenance* (.907). However, the share of union members behaves in exactly the opposite direction when HR services are to be outsourced. In particular, negative relationships are found for *training* (-.495), *recruitment* and *temporary* (-.463). This contrasts with results for the number of *unions*, which is found to influence, negatively, the outsourcing of subsidiary, but labor-intensive, services: *cleaning* (-.206), *security* (-.165), *maintenance* (-.126) and *transport* (-.083). In contrast, *unions* are unrelated to the rest of services, with the sole exception of *pay roll* services, where the influence is positive (.169) towards outsourcing. Regarding *dedication* of union representatives, the results reveal that the influence is limited and mixed. In particular, when representatives work full-time in union issues, they positively influence the outsourcing of the *cleaning* services (.763) but act against the externalization of *catering* (-1.33).

The firm's size is consistently related to outsourcing, especially with that of subsidiary services: *cleaning*, *security*, *catering*, *printing* and *transport*. Quite logically, as training may be understood as a public good in terms of low marginal costs, such activity is preferred to be undertaken internally (-.228) in large firms. Like size, the *supervision ratio* positively relates to the likelihood of outsourcing of the ancillary services - *cleaning*, *security*, *catering*, *maintenance* and *transport* - but is unrelated to the remaining services. In most cases, *communication* costs are unrelated to the likelihood of outsourcing. The only exception is *printing* - a service very much bound up with the information system - which tends to be outsourced (.147) when communication costs

Table 4. The outsourcing of ancillary activities: Logit results

<i>Activity</i>	<i>Cleaning</i>	<i>Security</i>	<i>Catering</i>	<i>Maintenance</i>	<i>Printing</i>	<i>Pay roll</i>
<i>Constant</i>	-.504 [.437]	-.946 [.403]**	-3.30 [.459]***	.576 [.422]	-2.26 [.489]***	-.938 [.460]**
<i>Log(workers)</i>	.284 [.063]***	.219 [.058]***	.467 [.063]***	.037 [.059]	.145 [.067]**	-.088 [.065]
Unionization variables						
<i>Density</i>	.504 [.260]*	.310 [.244]	1.17 [.257]***	.907 [.253]***	-.121 [.298]	.047 [.269]
<i>Dedication</i>	.763 [.327]**	.077 [.295]	-1.33 [.420]***	-.077 [.300]	-.340 [.408]	-.288 [.341]
<i>Multi-Unions</i>	-.206 [.045]***	-.165 [.046]***	.005 [.044]	-.126 [.043]***	-.121 [.298]	.169 [.045]***
Organizational cost variables						
<i>Supervision ratio</i>	3.14 [.992]***	3.29 [.846]***	1.92 [.845]**	1.65 [.864]*	.155 [.903]	1.02 [.838]
<i>Communication</i>	.044 [.078]	.039 [.074]	.066 [.081]	.077 [.076]	.147 [.089]*	-.040 [.087]
<i>Motivational</i>	.318 [.077]***	.175 [.061]***	.235 [.065]***	.108 [.066]	.038 [.070]	-.009 [.070]
Market-Industry variables						
<i>Services</i>	§	§	§	§	§	§
<i>Manufact</i>	.301 [.226]	.551 [.203]***	.670 [.218]***	-.611 [.206]***	.009 [.238]	.125 [.236]
<i>Electric</i>	n.a	1.81 [.534]***	1.44 [.565]**	.245 [.491]	.010 [.584]	-.481 [.578]
<i>Construc</i>	-.538 [.342]	-.090 [.333]	-.760 [.415]*	-1.39 [.349]***	.700 [.352]*	-.818 [.494]*
<i>London</i>	§	§	§	§	§	
<i>Midlands</i>	-.399 [.275]	-.584 [.233]**	-.016 [.244]	-.445 [.266]*	-.445 [.266]*	-.074 [.253]
<i>South</i>	-.847 [.283]***	-.610 [.246]**	-.171 [.261]	-.835 [.275]***	-.835 [.275]***	-.429 [.278]
<i>North</i>	-.907 [.278]***	-.708 [.242]***	-.529 [.260]*	-.956 [.271]***	-.077 [.281]	-.501 [.273]*
<i>Scotland</i>	-1.46 [.340]***	-1.02 [.312]***	-1.11 [.341]***	-1.20 [.327]***	.096 [.349]	-.661 [.363]*
<i>Wales</i>	-.530 [.416]	-.788 [.370]**	-.684 [.409]*	-1.23 [.386]***	-.468 [.475]	-.138 [.404]
RBV Variables						
<i>Cost_goal</i>	§	§	§	§	§	
<i>Sales_goal</i>	.443 [.203]**	.213 [.201]	.093 [.221]	.532 [.199]***	.274 [.249]	.273 [.239]
<i>Quality_goal</i>	.098 [.277]	-.169 [.279]	.360 [.291]	-.345 [.268]	-.054 [.355]	.296 [.308]
<i>HR_goal</i>	-.458 [.397]	.210 [.392]	.098 [.421]	-.463 [.388]	-1.30 [.767]*	.806 [.410]**
Number of observations	915	938	938	938	938	938
Pseudo R squared	.100	.065	.150	.075	.031	.034
LR Chi2	120.66 [p<.00]	83.89 [p<.00]	188.54 [p<.00]	94.31 [p<.00]	34.58 [p<.00]	35.13 [p<.00]
Log Likelihood function	-537.31	-603.50	-532.19	-577.45	-462.16	-490.98

Table 4. The outsourcing of ancillary activities: Logit results (continued)

<i>Activity</i>	<i>Transports</i>	<i>Computing</i>	<i>Training</i>	<i>Recruit</i>	<i>Temporary</i>
<i>Constant</i>	-1.14 [.424] ^{***}	-.796 [.445] [*]	.574 [.402]	-1.76 [.533] ^{***}	-2.35 [.425] ^{***}
<i>Log(workers)</i>	.115 [.060] [*]	-.115 [.063] [*]	-.228 [.058] ^{***}	.003 [.075]	.264 [.059] ^{***}
Unionization variables					
<i>Density</i>	.172 [.258]	.618 [.264] ^{**}	-.495 [.241] ^{**}	-.765 [.350] ^{**}	-.463 [.248] [*]
<i>Dedication</i>	-.051 [.318]	-.192 [.316]	-.236 [.289]	-.356 [.462]	.391 [.298]
<i>Multi-Unions</i>	-.083 [.047] [*]	-.028 [.049]	.078 [.042] [*]	-.036 [.063]	-.012 [.043]
Organizational cost variables					
<i>Supervision ratio</i>	1.93 [.804] ^{**}	.948 [.803]	.502 [.759]	1.35 [.907]	.748 [.777]
<i>Communication</i>	.075 [.078]	.003 [.082]	-.019 [.074]	.092 [.094]	.098 [.076]
<i>Motivational</i>	.118 [.062] [*]	.089 [.064]	.087 [.060]	.005 [.077]	.095 [.061]
Market-Industry variables					
<i>Services</i>	§	§	§	§	§
<i>Manufact</i>	1.40 [.211] ^{***}	-.096 [.225]	.983 [.207] ^{***}	.747 [.237] ^{**}	.880 [.204] ^{***}
<i>Electric</i>	1.24 [.458] ^{***}	-.030 [.511]	.086 [.776]	.086 [.776]	1.43 [.466] ^{***}
<i>Construc</i>	.134 [.350]	-.269 [.393]	.318 [.420]	.318 [.420]	.532 [.331]
<i>London</i>	§	§	§	§	§
<i>Midlands</i>	-.561 [.235] ^{**}	-.094 [.242]	-.495 [.276] [*]	-.495 [.276] [*]	.025 [.234]
<i>South</i>	-.959 [.254] ^{***}	-.299 [.260]	-.594 [.296] ^{**}	-.594 [.296] ^{**}	-.318 [.251]
<i>North</i>	-.912 [.248] ^{***}	-.474 [.258] [*]	-.780 [.301] ^{**}	-.780 [.301] ^{**}	-.171 [.245]
<i>Scotland</i>	-.725 [.317] ^{**}	-.726 [.355] ^{**}	-1.02 [.428] ^{**}	-1.02 [.428] ^{**}	-.586 [.319]
<i>Wales</i>	-1.06 [.398] ^{***}	-.831 [.429] [*]	-.940 [.535]	-.940 [.535] [*]	-.193 [.375]
RBV Variables					
<i>Cost_goal</i>	§	§	§	§	§
<i>Sales_goal</i>	.452 [.217] ^{**}	.573 [.239] ^{**}	.435 [.201] ^{**}	.775 [.318] ^{***}	.430 [.214]
<i>Quality_goal</i>	.074 [.299]	.408 [.312]	.012 [.276]	.415 [.430]	.456 [.286]
<i>HR_goal</i>		.085 [.479]	-1.44 [.649] ^{**}	-.046 [.684]	.186 [.414]
Number of observations	938	938	938	938	938
LR Chi2	117.30 [p<.00]	30.17 [p<.02]	64.32 [p<.02]	67.25 [p<.00]	74.47
Log Likelihood function	-556.69	-528.73	-608.97	-568.25	-584.44

are high. Finally, the relationship between *motivational* costs and the likelihood of outsourcing is positive. However, this only applies to subsidiary activities such as *cleaning, security, catering* and *transport*. In more strategic HR activities, *motivational* costs are unrelated to outsourcing, probably because the cost of monitoring a small team of workers is low.

In general, market-industry variables behave similarly to the broad results described in Table 3; firms operating in *manufacturing* and *electrical* industries are likely to outsource more than *service* and *construction* firms. In the latter case, the results show that *maintenance* is likely to be undertaken internally, probably because the specificity of the maintenance service on construction sites makes the internal option more attractive. Regarding firms' location, again, the propensity of firms based in the London area to outsource is consistent across all the services analyzed.

Finally, the results also confirm that the strategic orientation of the firm does inform the make or buy decision in most of the services analyzed. There is evidence of a great level of homogeneity across services, that is, outsourcing is more likely in firms where sales are the main objective. As expected, firms that make HR their main goal prefer to keep *training* (-1.44) within their internal activities.

5. Discussion and conclusions

In this paper we analyze the effect of unions on the make or buy decision. Two possible scenarios are drawn to argue that unions' attitude towards outsourcing is contingent on the relationship between management and unions. The paper shows that the more generalized view about union actions, where some degree of opposition to outsourcing is taken for granted, does not always prevail, as in some circumstances, unions may choose not to challenge management decisions. The key role of the relationship between

management and unions for the success of operations strategy, stressed by Pagell and Handfield (2000), is therefore confirmed for outsourcing.

The first and fundamental finding of the paper is that firms do not adopt the outsourcing decision exclusively on the basis of efficiency and strategic criteria. Specifically, we found that unions are able to influence this strategic decision. Econometric results reveal that the expected likelihood of outsourcing, given by the effect of the TCT and RBV variables only, is lowered by some unionization variables in the conflict scenario. The joint contribution of non-cooperative industrial relations and several dimensions of unionization may therefore induce some potential efficiency losses to firms by impeding the use of the market to buy some ancillary activities.

This is an important contribution of this paper, as for the first time hypotheses regarding unions' attitudes towards outsourcing are tested for the two possible scenarios. In particular, when cooperation is missing, the number of unions and dedication of representatives play a role in the outsourcing decision. However, this effect disappears when management reckons that unions are cooperative. This result can be aligned with the "right to manage" scenario, where unions allow managers to make decisions guided, in theory, by efficiency and strategy considerations. Therefore, the first straightforward implication of the paper is that firms' efficiency could benefit from cooperative industrial relations, as in such a situation the outsourcing decision is purely informed by performance-enhancing criteria.

Focusing on firms where unions and management do not cooperate, results show that multi-unions and dedication of union representatives make it more likely to produce ancillary services at home. As argued above, outsourcing might alter the power equilibrium between unions. Thus, as expected, results suggest that when competition between unions is strong, generally in firms with a large number of recognized unions,

outsourcing is less likely than in firms where workers are represented by fewer unions. Furthermore, the disaggregate analysis for each service reveals that multi-unionism negatively affects the likelihood of outsourcing low-skilled, but labor-intensive activities, such as cleaning, security, maintenance and transport. On the other hand, HR services and other more skilled activities such as computing remain unaffected. This result reinforces Perry's (1997) idea of (multiple) unions opposing the outsourcing of activities in order to prevent big losses of potential union members, regardless of the value of the activity, which could change the balance of power.

Contrary to our hypothesis, we observe that union density remains unrelated to outsourcing in the conflict of interest scenario, while, in the collaborative scenario, we found that the density of unionized workers is positively related to the probability of buying ancillary services in the market. This result offers two possible explanations. On the one hand, unionized workers who remain in the firm - likely to be linked to core activities - tend to sustain the competitive advantage of the firm. They may see how contracting out non-essential activities could improve their wages and secure jobs, and therefore press for outsourcing. On the other, results may reflect the fact that unions are able to attract employees who are high skilled and/or more experienced. These workers could use their membership to protect and improve their wages and work conditions (Gallie, 2005) and therefore bargain in favor of outsourcing non-essential activities.

Our findings offer some other interesting insights into unions' behavior when the outsourcing of different ancillary services is analyzed separately. Chiefly, they reveal that both unions as institutions and union members do not point in the same direction on this issue. Union density increases the likelihood of outsourcing of subsidiary services, such as cleaning, catering, maintenance and computing, while multi-unions and, in some cases, dedication reduces it. In addition, density is found to be negatively related

to the use of the market to provide all HR activities, such as training, recruiting and hiring of temporaries, while multi-unions and dedication are unrelated. This evidence suggests that while union members' goal may be to create specific and highly skilled human capital, by maintaining control over the HR activities and outsourcing the subsidiary, institutional unions are more devoted to preserve their power by keeping labor-intensive activities.

The results obtained have important implications for both managers and unions. For managers, first, the results underline the benefits of collaborative industrial relations, where managers and unions cooperate to improve firm performance. They can even use good relations with unions to improve communication and control over the workforce, reducing the cost of implementing their decisions (Bryson, 2004). Second, problems associated with multi-unionism reveal the need to improve the bargaining process, particularly when multiple agents are involved. In response to problems caused by multi-unionism, firms may oppose the recognition of a large number of unions, or try to favor only the largest. In both cases, industrial democracy could be damaged by impeding the free choice of union representation by workers. To avoid this, unions and management should be able to establish clearer and more trustworthy bargaining rules.

For unions, the evidence we have presented shows that union action is far from being appropriately oriented. First, the conflict-cooperation scenario clearly indicates that opposing outsourcing, regardless of efficiency and strategic criteria, is contingent on the relationship with management. In other words, it is not an ideologically founded action of unions, as in such a case it should persist regardless of their relationship with management. Second, the divergence between the effect of union density and the other unionization measures reveals a great deal of divergence between members and

representatives. Such a conflict of interest is not sustainable in the medium to long term and, arguably, may help to explain unions' recent decline and de-recognition.

Finally, there are some limitations to our analysis that are worth noting. First, the relationship between outsourcing and union power may not be unidirectional. Girma and Ghorg (2004) argue that managers of highly unionized firms may prefer outsourcing, as union work rules may act to increase costs. Perry (1997) also suggests that outsourcing may have weakened unions' power, drawing an inverse causal relationship to the one specified in the model. In such a case, unionization variables will become endogenous, creating some well-known methodological problems (Cameron and Trivedi, 2005). To resolve endogeneity, the most common approach is the use of Instrumental Variables related to the endogenous regressor (unions), while remaining unrelated to the dependent variable (outsourcing). Unfortunately, the great variety of services included in the analysis cannot be effectively instrumentalized with the data available in the WERS. However, we understand that, even if endogeneity cannot be ruled out, its magnitude is not critical as this analysis is focused on ancillary services. It is difficult to think that managers will strategically take outsourcing decisions looking for a weakness in unions' power; if this were the case, they could be expected to opt for outsourcing main productive activities, rather than subsidiary services.

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