

## Comparing Union and Nonunion Establishments in Britain

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[See table of contents](#)

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### Article abstract

Existing survey research in Britain has shown that there are notable differences between the characteristics of union and nonunion establishments. But at the same time case study research has indicated that the characteristics and employment practices of nonunion organizations vary quite widely. In order to try to reconcile these findings, this paper presents an analysis of some data contained in the 1990 national Workplace Industrial Relations Survey. The findings reveal that a sizeable minority of nonunion establishments have similar characteristics to unionized establishments which, in turn, make them particularly vulnerable to union organizing efforts and help account for the fact that it is these nonunion establishments which are most strongly opposed to a possible union presence. The implications of these findings for future research are then discussed.

# ***Comparing Union and Nonunion Establishments in Britain***

PHILLIP B. BEAUMONT  
RICHARD I. D. HARRIS

*Existing survey research in Britain has shown that there are notable differences between the characteristics of union and nonunion establishments. But at the same time case study research has indicated that the characteristics and employment practices of nonunion organizations vary quite widely. In order to try to reconcile these findings, this paper presents an analysis of some data contained in the 1990 national Workplace Industrial Relations Survey. The findings reveal that a sizeable minority of nonunion establishments have similar characteristics to unionized establishments which, in turn, make them particularly vulnerable to union organizing efforts and help account for the fact that it is these nonunion establishments which are most strongly opposed to a possible union presence. The implications of these findings for future research are then discussed.*

During the 1980s the influence of Freeman and Medoff's book, *What Do Unions Do?* (1984), together with the availability of the first (1980) and second (1984) national Workplace Industrial Relations Surveys, led to the appearance of a considerable number of studies in Britain designed to identify the impact of the union (as opposed to nonunion) status variable on various measures of establishment (and company) level performance, such as productivity, profitability and investment. (For a summary see Metcalf 1993.) The key assumption involved in this sort of work is that differences within both the union and nonunion employment sectors are considerably less than the differences between them. The validity of this

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assumption seemed to be confirmed by other research, based largely on the second (1984) workplace survey, which has shown that unionized establishments were relatively large, older, manufacturing organizations based in the northern part of the country, which were part of large, multiestablishment organizations (Beaumont and Harris 1989; Gregg and Naylor 1991). In other words, the characteristics of union and nonunion establishments were on average very different.

This being said, the case study work of mainstream industrial relations researchers has shown that the characteristics and employment practices of nonunion establishments vary quite widely. Witness, for instance, the long-standing distinction drawn in the relevant literature between union substitutionists (i.e., better standards nonunion organizations) and union suppressionists (i.e., poorer standards nonunion organizations) (Quinn Mills 1978; Kochan 1980). The wide variation in the employment practices of nonunion organizations has been related to the fact that some nonunion establishments feel particularly vulnerable to union organizing attempts, and hence try to offset such union initiatives by emulating the employment practices of union establishments. This proposition is most explicit in discussions of the 'union threat effect' in relative wage studies (Sherwin 1969).

Unfortunately, such insights have rarely been subject to systematic empirical analysis based on large-scale nationally representative sets of data. As a consequence we have not been able to provide answers to the following sorts of important questions. Why do some nonunion organizations feel particularly vulnerable to union organizing attempts? Are they similar to union organizations, and, if so, in what ways? How large is this particular subset of organizations in the nonunion sector as a whole? This paper seeks to provide some answers to these interrelated questions.

The analysis and findings presented here build on a previous paper (Beaumont and Harris 1994), which examined the responses to a question in the third (1990) national Workplace Industrial Relations Survey in Britain which asked nonunion establishments about the extent of their opposition to a possible union presence. The basic findings obtained in our prior work were that (i) roughly one in three nonunion establishments were strongly opposed to the idea of union organization in their establishments and (ii) significant differences existed between the characteristics of nonunion establishments which were strongly opposed to, as against relatively neutral towards, the prospect of a union presence. Here we take this work further by incorporating the union sector into our framework of analysis. This is done because of our belief that the nonunion establishments which are most opposed to a union presence will have considerable similarities to establishments in the union sector; this is the key proposition to be tested here.

Accordingly, in what follows we introduce our basic data source, indicate the framework of analysis developed in our previous paper and then test this framework by conducting multivariate analysis based on both the nonunion and union sector. The final section draws together the leading findings and implications of our work.

### ***THE BASIC DATA***

Using the 1990 national Workplace Industrial Relations Survey we initially excluded all public sector establishments on the grounds that union recognition (for collective bargaining purposes) is universally high throughout the public sector in Britain. Then, for all private sector establishments which employed manual (or blue collar) workers we identified the following four groupings:<sup>1</sup>

1. Establishments where manual trade union members were present in the workforce and unions were recognized for collective bargaining purposes: 34.5 per cent.
2. Establishments where there were no trade union members (manual or nonmanual) present in the workforce, but management expressed a relatively neutral attitude toward the possibility of a union presence: 37.9 per cent.
3. Establishments where manual trade union members were present in the workforce, but unions were not recognized for collective bargaining purposes:<sup>2</sup> 9.5 per cent.
4. Establishments where there were no trade union members present and management indicated that they were strongly opposed to a possible union presence: 18.1 per cent.

The percentage figures presented above are weighted by population totals, and this categorization is presented in order of likely resistance to union organization (i.e. from nil to strong).<sup>3</sup> The basic *a priori* hypotheses to be tested here are as follows:

1. There were important substantive differences between these four groups with regard to, for instance, perceived levels of labour productivity, the extent of employment change, and dismissal rates. (The relevant figures are available upon request.)
2. The question about the extent of management opposition to a possible union presence was not put to this particular subgroup of nonunion employees.
3. Attempts at an ordered probit/logit model using this sequencing did not work (i.e., would not converge). That is, the variables used in an ordered probit (or logit) model to determine membership of the various groups could not predict the sequencing suggested here, but a multinomial model (which allows each choice to be a discrete alternative) was successful.

1. The two groups of nonunion establishments most opposed to unions (i.e., groups 3 and 4) will have considerable similarities to the unionized group (i.e., group 1), and
2. The group of nonunion establishments least opposed to unions (i.e., group 2) will have few similarities to the unionized group (i.e., group 1).

If these two hypotheses are confirmed then a number of important findings and implications would appear to follow. Firstly, we should be able to indicate in what particular regards or aspects similarities exist between the unionized establishments and some of the nonunion ones. Secondly, we will have provided an important part of the explanation for why a subset of the nonunion sector is relatively strongly opposed to a union presence. Essentially, the explanation will be that they are similar to unionized establishments in certain respects, hence they expect to be the target of union organizing attempts<sup>4</sup> and may seek to develop, for example, a set of human resource management policies designed to thwart such organizing attempts. Finally, confirmation of these two hypotheses will have important implications for the debate about the degree of homogeneity within and between the union and nonunion sectors of employment. The basic point here is that if groups 3 and 4 are similar to group 1, whereas group 2 is different from group 1, then, given the respective sizes of groups 3/4 and 2 at the present time, a simple union/nonunion dichotomy is still probably a reasonably useful construct. However, if groups 3 and 4 become an increasing proportion of the nonunion sector over time this construct will become less relevant. This is because the differences between the union and nonunion employment sector will have shrunk relative to differences within the nonunion sector.

### ***THE FRAMEWORK OF ANALYSIS***

In the previous paper our analysis was confined solely to groups 2 and 4 above – i.e., nonunion establishments only. The starting point of that analysis was the proposition that those nonunion establishments which feel most vulnerable to, or threatened by, unions will be the most likely to express relatively hostile attitudes to them. There were in fact two dimensions to this notion of vulnerability or threat: (1) the management belief that their establishment-level and workforce characteristics were such

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4. It is worth noting here that 15.1 per cent of nonunion establishments opposed to unions (group 4) and 9.9 per cent of nonunion establishments neutral towards unions (group 2) had experienced union attempts to recruit manual workers in the six years prior to the 1990 survey; this difference in the means is significantly different from zero at the 9 per cent level.

as to make them a relatively attractive organizing proposition to, or target for, unions;<sup>5</sup> and (2) the management belief that if unions were to establish a membership presence in the establishment then this would have adverse consequences and implications for various aspects of their level of organizational performance.

In the light of this framework of analysis, the following individual hypotheses were put forward for investigation:

1. The greater the similarity in terms of establishment-level and workforce characteristics to establishments that unions have traditionally concentrated on in organizing terms, the greater the management concern about becoming a union target, and hence the more likely that union opposition will be expressed.
2. The more competitive the product market environment facing the individual establishment, the greater the concern about a union presence, and hence the more likely that union opposition will be expressed.
3. The more 'sophisticated' the technology, the greater the belief that a union presence would be a potential 'disruptive influence' to the full utilisation of the potential of such technology, and hence the more likely that union opposition will be expressed.
4. Those establishments involved in implementing organizational changes and/or pursuing substitutionist human resources policies are relatively more likely to oppose unions.

As indicated earlier, this model was quite successful at differentiating between groups 2 and 4. The question to be examined here is how well does the model perform when groups 1 and 3 are also included in the data set to be analyzed.

### ***THE EMPIRICAL RESULTS***

Essentially the same set of variables<sup>6</sup> (see Table 1) were used as before, and in Table 2 we present the mean values of our variables across the four groups of establishments included in our analysis.

Many of the univariate findings in Table 2 are reasonably predictable. For instance, there is a negative linear relationship between various aspects

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5. This proposition is highly consistent with the oft-heard argument that unions tend to concentrate their organizing efforts on "relatively familiar territory".

6. Compared to the previous paper, we dropped some variables that were either insignificant and/or potentially endogenous.

TABLE 1  
**Definition of Variables**

| <i>Variable</i>                  | <i>Definitions</i>   |
|----------------------------------|--|
| <i>Dependent variable</i>        |  |
| Union Status                     | 1=recognized; 2=neutral nonunion; 3=not recognized; 4=hostile nonunion                       |
| <i>Basic characteristics</i>     |  |
| UKEMP                            | UK company employment size coded 1 to 10 in WIRS, from <100 (UKEMP=1) to >100,000 (UKEMP=10) |
| SIZE                             | Number of employees in the plant   |
| AGE                              | Actual number of years at site (21 and above are coded 21)                                   |
| SHIFT                            | Coded 1 if shiftworking in operation in plant  |
| NORTH                            | Coded 1 if plant in Northern region, North West, Wales, Scotland, or Yorkshire-Humberside    |
| MANUF                            | Coded 1 if plant is mainly engaged in manufacturing  |
| MULTI                            | Coded 1 if the plant belongs to a larger organization  |
| <i>Workforce characteristics</i> |  |
| UNSKILL                          | % workforce comprising unskilled manual workers  |
| MANUAL                           | % workforce comprising manual employees  |
| FEMALE                           | % workforce comprising female employees  |
| <i>Organizational change</i>     |  |
| PARTIME                          | % workforce comprising part-time workers   |
| TEMPS                            | % workforce comprising temporary workers   |
| Δ PARTICIP                       | Coded 1 if an increase in employee participation in last 3 years                             |
| OWNSHARE                         | Proportion of employees in a plant participating in share ownership                          |
| MOVER                            | Coded 1 if plant has not always operated at present site                                     |
| <i>Technology</i>                |  |
| HIGHTECH                         | Coded 1 if plant is in the high tech. sector (see Butcher 1987)                              |
| NOMICRO                          | Coded 1 if technology uses no microelectronics in production-related applications            |
| QC                               | Coded 1 if a quality circle-group working introduced in last 3 years                         |
| <i>Markets</i>                   |  |
| REGIONAL                         | Coded 1 if major market for goods and services is regional                                   |
| NATIONAL                         | Coded 1 if major market for goods and services is national                                   |
| INTERNAT                         | Coded 1 if major market for goods and services is international                              |
| MANYCOMP                         | Coded 1 if there are many competitors in the market  |

TABLE 2  
**Characteristics of Variables Used in Regression Models**

| <i>Variable</i>                  | <i>Unions<br/>recognized</i> | <i>Nonunion:<br/>neutral attitude</i> | <i>Unions not<br/>recognized</i> | <i>Nonunion:<br/>hostile attitude</i> |
|----------------------------------|------------------------------|---------------------------------------|----------------------------------|---------------------------------------|
| <i>Basic characteristics</i>     |                              |                                       |                                  |                                       |
| UKEMP                            | 5.73                         | 4.12                                  | 4.28                             | 3.20 **                               |
| SIZE                             | 379                          | 204                                   | 237                              | 175 **                                |
| AGE (in years)                   | 16.18                        | 12.83                                 | 13.04                            | 13.22 **                              |
| SHIFT (%)                        | 39.32                        | 57.93                                 | 59.57                            | 63.75 **                              |
| NORTH (%)                        | 47.86                        | 33.10                                 | 46.81                            | 36.25 *                               |
| MANUF (%)                        | 47.01                        | 24.14                                 | 44.68                            | 45.00 **                              |
| MULTI (%)                        | 82.91                        | 64.83                                 | 65.96                            | 52.50 **                              |
| <i>Workforce characteristics</i> |                              |                                       |                                  |                                       |
| UNSKILL (%)                      | 21.28                        | 43.08                                 | 21.43                            | 30.69 **                              |
| MANUAL (%)                       | 62.70                        | 59.98                                 | 67.89                            | 59.35                                 |
| FEMALE (%)                       | 32.69                        | 46.10                                 | 33.79                            | 42.91 **                              |
| <i>Organizational change</i>     |                              |                                       |                                  |                                       |
| OWNSHARE (%)                     | 14.98                        | 6.61                                  | 13.96                            | 6.11 **                               |
| Δ PARTICIP (%)                   | 52.50                        | 38.36                                 | 27.27                            | 35.80 **                              |
| PARTIME (%)                      | 13.32                        | 27.23                                 | 18.51                            | 18.67 **                              |
| TEMPS (%)                        | 1.67                         | 0.96                                  | 0.89                             | 3.81 **                               |
| MOVER (%)                        | 24.79                        | 33.10                                 | 42.55                            | 46.27 **                              |
| <i>Technology</i>                |                              |                                       |                                  |                                       |
| NOMICRO (%)                      | 8.12                         | 13.10                                 | 8.51                             | 5.00 **                               |
| HIGHTECH (%)                     | 11.11                        | 1.38                                  | 8.51                             | 5.00 **                               |
| QC (%)                           | 8.55                         | 2.07                                  | 4.26                             | 7.51 *                                |
| <i>Markets</i>                   |                              |                                       |                                  |                                       |
| REGIONAL (%)                     | 8.97                         | 16.55                                 | 14.89                            | 16.25                                 |
| NATIONAL (%)                     | 29.49                        | 28.28                                 | 17.02                            | 28.75                                 |
| INTERNAT (%)                     | 19.66                        | 8.97                                  | 21.28                            | 13.75 **                              |
| MANYCOMP (%)                     | 48.72                        | 55.86                                 | 44.68                            | 56.25 **                              |
| No. of plants                    | 233                          | 143                                   | 47                               | 79                                    |

\* rejection of the null of no difference across groups significant at 5% (Kruskall-Wallis test)

\*\* rejection of the null of no difference across groups significant at 1% (Kruskall-Wallis test)



of size and resistance to unions, and establishments which recognize unions have more skilled, male, full-time and permanent manual employees. More advanced technology (incorporating microchip processes) and greater consultation is more likely where unions are recognized, while establishments with unions are more likely to sell internationally and have fewer competitors.<sup>7</sup>

The next step in our analysis was to estimate a multinomial logit equation which looks at the probability of an establishment belonging to any of the four groups, and asks how different are these four groups. The model estimates the relative probability of belonging to other groups (the nonunion neutral through to the hostile groups) with respect to the probability of belonging to the recognized group. The results are set out in Table 3.<sup>8</sup>

The probability of belonging to group  $j$ , given a change in one of the determining variables (i.e., the marginal effects,  $\partial p_i / \partial x$ ) are reported in Table 4, along with elasticities.<sup>9</sup>

On the basis of significant t-values, the results in Table 3 indicate that there are several factors that distinguish the neutral nonunion establishments from the establishments which recognize unions. For example, as company and establishment size increases, the probability of belonging to the neutral nonunion group is smaller vis-à-vis belonging to the recognized group.<sup>10</sup> However, there are statistically few factors that help to distinguish the not recognized and hostile nonunion groups from the recognized group.<sup>11</sup>

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7. Thus it is not surprising to find subsequently that the multinomial model has difficulty distinguishing establishments from these two groups on the basis of their characteristics.
  8. Note, the size of the UK company entered as a continuous variable (this performed better than using separate dummies for size groups).
  9. The statistical analysis was carried out using LIMDEP. The marginal effects are calculated using the formula:  $\partial_j = P_j(B_j - \bar{B})$  where  $P_j$  is Prob [group =  $j$ ]  $\bar{B} = \sum_j P_j B_j$  and the  $B_j$  refers to the relative probability parameters obtained from estimating the regression model (Table 3). The asymptotic covariance matrix for an estimator of  $\partial_j$  is calculated using the procedures set out in LIMDEP versions.
  10. Also the probability of belonging to the neutral nonunion group vis-à-vis the recognized group is lower as age increases, as a result of being located in the 'north' or belonging to the manufacturing sector, as the proportion of the workforce that is skilled, manual, full-time and male increases, and when increased participation occurs.
  11. For the not recognized group, as company size (and employee participation) increases the probability of belonging to the not recognized group vis-à-vis the recognized group decreases, while the probability of belonging to the hostile nonunion group vis-à-vis the recognized group decreases for the same reasons as well as being located in the 'north', and as more women workers are employed.

TABLE 3  
Multinomial Logit Model of Union Status, Great Britain, 1990

| <i>Variables</i>                         | $P_{g2}/P_{g1}$ | <i>t-values</i> | $P_{g3}/P_{g1}$ | <i>t-values</i> | $P_{g4}/P_{g1}$ | <i>t-values</i> |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <i>Basic characteristics</i>             |                 |                 |                 |                 |                 |                 |
| UKEMP                                    | -0.148          | 2.12            | -0.256          | 2.34            | -0.329          | 3.54            |
| SIZE (x10 <sup>3</sup> )                 | -1.989          | 2.49            | 0.617           | 0.55            | 2.237           | 1.14            |
| SIZE <sup>2</sup> (x10 <sup>6</sup> )    | 0.590           | 2.60            | -0.159          | 0.36            | -2.282          | 1.42            |
| AGE (x10)                                | -0.718          | 3.13            | -0.447          | 1.32            | -0.273          | 1.00            |
| SHIFT                                    | 0.064           | 0.22            | 0.288           | 0.71            | 0.360           | 1.05            |
| NORTH                                    | -0.913          | 3.24            | -0.063          | 0.17            | -0.652          | 2.00            |
| MANUF                                    | -0.615          | 1.73            | 0.396           | 0.75            | 0.005           | 0.01            |
| MULTI                                    | -0.273          | 0.68            | -0.253          | 0.46            | -0.437          | 1.00            |
| <i>Workforce characteristics</i>         |                 |                 |                 |                 |                 |                 |
| UNSKILL (x10)                            | 0.218           | 2.86            | 0.210           | 1.21            | 0.041           | 0.47            |
| UNSKILL <sup>2</sup> (x10 <sup>4</sup> ) | -0.879          | 2.38            | -2.371          | 1.49            | -0.248          | 0.66            |
| MANUAL (x10)                             | -0.431          | 1.78            | -0.201          | 0.56            | -0.259          | 0.95            |
| MANUAL <sup>2</sup> (x10 <sup>3</sup> )  | 0.323           | 1.41            | 0.313           | 0.94            | 0.168           | 0.64            |
| FEMALE (x10)                             | 0.105           | 1.57            | 0.011           | 0.11            | 0.169           | 2.24            |
| <i>Organizational change</i>             |                 |                 |                 |                 |                 |                 |
| PARTIME (x10)                            | 0.149           | 2.00            | 0.038           | 0.31            | 0.090           | 0.97            |
| TEMPS (x10)                              | -0.114          | 0.79            | 0.005           | 0.02            | 0.054           | 0.45            |
| OWNSHARE (x10)                           | -0.079          | 1.12            | 0.038           | 0.31            | 0.012           | 0.13            |
| Δ PARTICIP                               | -0.142          | 0.51            | -0.906          | 2.14            | -0.600          | 1.74            |
| MOVED                                    | -0.518          | 1.38            | 0.338           | 0.65            | 0.336           | 0.78            |
| <i>Technology</i>                        |                 |                 |                 |                 |                 |                 |
| QC                                       | -0.675          | 0.95            | 0.152           | 0.18            | 0.724           | 1.20            |
| NOMICRO                                  | -0.143          | 0.33            | -0.033          | 0.05            | -0.911          | 1.37            |
| HIGHTECH                                 | -1.107          | 1.29            | 0.800           | 1.13            | 0.187           | 0.28            |
| <i>Markets</i>                           |                 |                 |                 |                 |                 |                 |
| REGIONAL                                 | -0.112          | 0.26            | 0.124           | 0.21            | -0.310          | 0.59            |
| NATIONAL                                 | -0.061          | 0.17            | -0.761          | 1.37            | -0.547          | 1.28            |
| INTERNAT                                 | -0.240          | 0.51            | -0.007          | 0.01            | -0.721          | 1.37            |
| MANYCOMP                                 | -0.167          | 0.60            | -0.377          | 1.01            | 0.180           | 0.54            |
| Constant                                 | 3.486           | 3.83            | -0.067          | 0.05            | 2.174           | 2.09            |

Log-Likelihood=464.5; zero-slopes  $\chi^2(90)=302.6$ ;  $\bar{p}_1=0.545$ ,  $\bar{p}_2=0.283$ ,  $\bar{p}_3=0.074$ ,  $\bar{p}_4=0.094$ ;  
% correct predictions:  $g_{11}=80.7\%$ ,  $g_2=62.2\%$ ,  $g_3=21.3\%$ ,  $g_4=34.2\%$ .

TABLE 4  
**Marginal Effects and Elasticities Associated with the Multinomial Logit Model  
of Unions Status, Great Britain, 1990**

| Variables <sup>a</sup>           | $\partial p_1 / \partial x_i$ | elasticity <sup>b</sup> | $\partial p_2 / \partial x_i$ | elasticity | $\partial p_3 / \partial x_i$ | elasticity | $\partial p_4 / \partial x_i$ | elasticity |
|----------------------------------|-------------------------------|-------------------------|-------------------------------|------------|-------------------------------|------------|-------------------------------|------------|
| <i>Basic characteristics</i>     |                               |                         |                               |            |                               |            |                               |            |
| UKEMP                            | 0.051**                       | 0.443                   | -0.016*                       | -0.267     | -0.012*                       | -0.767     | -0.023**                      | -1.157     |
| SIZE (x 10 <sup>3</sup> )        | 0.164*                        | 0.085                   | -0.479**                      | -0.478     | -0.068                        | -0.260     | 0.247**                       | 0.742      |
| AGE                              | 0.014**                       | 0.371                   | -0.013**                      | -0.663     | -0.001                        | -0.195     | -0.001                        | -0.154     |
| SHIFT                            | -0.041                        | -0.038                  | -0.003                        | -0.005     | 0.016                         | 0.109      | 0.028                         | 0.150      |
| NORTH                            | 0.178**                       | 0.136                   | -0.166**                      | -0.244     | 0.020                         | 0.113      | -0.032*                       | -0.142     |
| MANUF                            | 0.079                         | 0.058                   | -0.133*                       | -0.188     | 0.040                         | 0.216      | 0.015                         | 0.064      |
| MULTI                            | 0.076                         | 0.099                   | -0.038                        | -0.095     | -0.008                        | -0.077     | -0.029                        | -0.219     |
| <i>Workforce characteristics</i> |                               |                         |                               |            |                               |            |                               |            |
| UNSKILL (x10 <sup>3</sup> )      | -0.440**                      | -0.023                  | 3.854**                       | 0.394      | 0.936**                       | 0.366      | -0.389*                       | -0.120     |
| MANUAL (x10 <sup>3</sup> )       | 0.878*                        | 0.100                   | -7.565                        | -1.659     | -0.272                        | -0.228     | -0.938                        | -0.619     |
| FEMALE (x10 <sup>2</sup> )       | -0.257*                       | -0.180                  | 0.165                         | 0.223      | -0.027                        | -0.139     | 0.119**                       | 0.483      |
| <i>Organizational change</i>     |                               |                         |                               |            |                               |            |                               |            |
| PARTIME (x10 <sup>2</sup> )      | -0.293**                      | -0.100                  | 0.269                         | 0.178      | -0.012                        | -0.030     | 0.036                         | 0.072      |
| TEMPS (x 10 <sup>2</sup> )       | 0.145                         | 0.005                   | -0.247                        | -0.015     | 0.023                         | 0.005      | 0.079                         | 0.015      |
| OWNSHARE (x10 <sup>3</sup> )     | 0.527                         | 0.011                   | -1.956                        | -0.076     | 1.222*                        | 0.183      | 0.207                         | 0.024      |
| ΔPARTICIP                        | 0.094                         | 0.073                   | 0.008                         | 0.013      | -0.054**                      | -0.315     | -0.048*                       | -0.217     |
| MOVED                            | 0.049                         | 0.029                   | -0.121                        | -0.138     | 0.032                         | 0.140      | 0.041*                        | 0.141      |
| <i>Technology</i>                |                               |                         |                               |            |                               |            |                               |            |
| QC                               | 0.051                         | 0.006                   | -0.149                        | -0.033     | 0.018                         | 0.015      | 0.080*                        | 0.053      |
| NOMICRO                          | 0.054                         | 0.009                   | 0.020                         | 0.006      | 0.005                         | 0.006      | -0.079**                      | -0.077     |
| HIGHTECH                         | 0.103                         | 0.014                   | -0.212                        | -0.054     | 0.073                         | 0.071      | 0.037                         | 0.028      |
| <i>Markets</i>                   |                               |                         |                               |            |                               |            |                               |            |
| REGIONAL                         | 0.029                         | 0.007                   | -0.017                        | -0.008     | 0.013                         | 0.022      | -0.025                        | -0.034     |
| NATIONAL                         | 0.069                         | 0.048                   | 0.019                         | 0.018      | -0.047*                       | -0.175     | -0.041*                       | -0.120     |
| INTERNAT                         | 0.076                         | 0.022                   | -0.029                        | -0.016     | 0.010                         | 0.022      | -0.057                        | -0.097     |
| MANYCOMP                         | 0.031                         | 0.029                   | -0.031                        | -0.056     | -0.024                        | -0.167     | 0.023*                        | 0.127      |
| Constant                         | -0.651**                      |                         | 0.649**                       |            | -0.093                        |            | 0.095                         |            |

\*\* significant at 5% level; \* significant at 10% level.

<sup>a</sup> only marginal effects are multiplied by numbers in parentheses.

<sup>b</sup> elasticities associated with marginal effects [i.e.  $\partial p_j / \partial x_i \cdot (\bar{x}_i / \bar{p}_j)$ ]

To pursue our analysis more precisely, we returned to the original hypotheses set out in our previous paper and which were summarized in an earlier section of this paper. In order to test each of these hypotheses we adopted an approach based on both the relative probabilities provided in Table 3 and the impact on the probability of belonging to a specific group of changes in the determining variables in the model (i.e., the marginal effects and elasticities provided in Table 4).

## THE INDIVIDUAL HYPOTHESES

### *Hypothesis 1*

Based on the relative probabilities, a Wald test<sup>12</sup> was conducted on the null that the parameter estimates relating to 'basic characteristics'<sup>13</sup> and 'workforce characteristics' are zero for each group in Table 3. Failure to reject the null for any group will be taken as an indication that, *ceteris paribus*, these characteristics are not sufficiently dissimilar to distinguish the group from the group of establishments which recognize trade unions. The results are reported in Table 5.

TABLE 5  
Wald Tests of Hypotheses

| <i>Hypothesis</i>                       | <i>Nonunion:<br/>neutral attitude</i> | <i>Unions not<br/>recognized</i> | <i>Nonunion:<br/>hostile attitude</i> |
|---|---------------------------------------|----------------------------------|---------------------------------------|
| (1) Basic and workforce characteristics | 7.530***                              | 0.123                            | 0.942                                 |
| (2) Markets                             | 0.479                                 | 0.766                            | 2.013                                 |
| (3) Technology                          | 2.917*                                | 0.001                            | 0.001                                 |
| (4) Organizational change               | 1.006                                 | 1.410                            | 0.081                                 |

\*\*\* reject null at 1%; \*\* reject null at 10% level; \* reject null at 10% level.

The contents of Table 5 confirm the earlier results for groups 1 and 3, since the parameter estimates of relative probabilities relating to basic and workforce characteristics for the not recognized group are not significantly different from zero. Similarly, relative probabilities are not significantly different between the recognized and hostile nonunion group, suggesting that overall they share common characteristics which make establishments belonging to the hostile nonunion group vulnerable to union organizing activities (see footnote 4); hence the attitude taken by management. In contrast, the basic and workforce characteristics of the neutral nonunion group are significantly different to those pertaining to the recognized group, as indicated by the highly significant rejection of the null that relative probabilities are zero.

12. The Wald test available in LIMDEP is similar to the F-test that would be computed for a linear model.

13. Excluding company size.

The t-tests of the null that the parameter estimates relating to 'basic characteristics' and 'workforce characteristics' are zero for each group in Table 4 (based on the marginal effects) tend to confirm these results. Increases in establishment size are significantly associated, *ceteris paribus*, with increases in the probability of belonging to the recognized and hostile nonunion groups, and decreases in the probability of belonging to the neutral nonunion group. Older plants are more likely to belong to the recognized group, and much less likely to belong to the neutral nonunion group (as indicated by a comparison of the parameter estimates in Table 3 and the elasticities reported in Table 4). Further, being located in the 'north' is associated with union recognition, while location in the 'south' is associated with nonunion status, although the effect is much stronger for the neutral group. Manufacturing establishments are also much less likely to belong to the neutral nonunion group. As for workforce characteristics, the greater the proportion of skilled and/or manual workers, the lower the relative and absolute probability of belonging to the neutral nonunion group and the greater the probability of belonging to the recognized or hostile nonunion group. A greater proportion of unskilled workers is associated with nonrecognition, while increasing the proportion of women workers is clearly linked to nonunion status. Finally, in terms of basic establishment characteristics, the results relating to the role of company size confirms that this is a crucial determinant of recognition status (as indicated by the elasticities attached to this variable in Table 4).

### *Hypothesis 2*

There is little support for the hypothesis that the product market environment is an important determinant of recognition and nonunion status. Serving national markets is weakly related to nonrecognition and hostile nonunion status, while a greater number of competitors increases the probability, *ceteris paribus*, of a hostile nonunion stance.

### *Hypothesis 3*

As with hypothesis 2, we find that technology was not a clear indicator of status. The existence of quality circles, and the greater use of microtechnology, are, however, associated with the hostile nonunion group.

### *Hypothesis 4*

The Wald tests indicate that, overall, we cannot reject the null that relative probabilities are the same for all groups. However, consideration of the absolute probabilities (Table 4) shows that as the proportion of part-time workers increases the probability of belonging to the neutral nonunion

group significantly declines. Increased share ownership is positively linked to membership of the not recognized group, while changes in employee participation reduce the probability of nonrecognition and hostile nonunion status (see also Table 3). Relocation of an establishment is positively associated with a hostile nonunion stance. There is some support for union avoidance policies (e.g., the relocation variable), but generally the results are not clear-cut or favourable to supporting the overall hypothesis.

### CONCLUSIONS

The major findings to emerge from this paper may be summarized as follows:

1. Britain has a relatively heterogeneous nonunion employment sector.
2. Parts of the nonunion employment sector have considerable similarities to the union employment sector, particularly as regards establishment (e.g., size) and workforce characteristics.
3. Those parts of the nonunion employment sector which are most similar to the union sector are characterized by (a) the presence of trade union members but managerial unwillingness to recognize unions for collective bargaining, and (b) management attitudes hostile to a possible union presence, these attitudes undoubtedly stemming from their (accurately) perceived vulnerability to union organizing attempts.

At the present time those parts of the nonunion employment sector which are most akin to the union sector constitute only a minority of the nonunion employment sector. But have they grown as a proportion of the nonunion sector over time? The short answer is that we do not know, as the question analyzed here from the 1990 workplace survey did not appear in the earlier two surveys. However, if their share of the nonunion sector does increase over time it is very likely that the traditional union/nonunion dichotomy (utilized as either a dependent or independent variable) will increasingly yield less explanatory power.<sup>14</sup> The reason for such an occurrence will be the fact that the traditional assumption that differences between the union and nonunion sectors outweigh the differences within each sector is increasingly less realistic.

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14. As a suggestive (and we put it no more strongly than that) finding it is worth noting that the same estimating equation for the determinants of the union (as opposed to the nonunion) status of establishments was considerably more successful on the 1984 survey data than was the case with the 1990 survey data. (These results are available upon request.)

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## RÉSUMÉ

### **Une comparaison entre firmes syndiquées et non syndiquées en Grande-Bretagne**

Suite à la parution du livre de Freeman et Medoff intitulé *What Do Unions Do?* (1984), une bonne partie de la recherche en Grande-Bretagne a tenté d'évaluer l'effet des syndicats (comparé aux milieux non syndiqués) sur différentes mesures de performance organisationnelle. Cette recherche se basait sur les données de l'enquête nationale de 1984 (*Workplace Industrial Relations Survey*). Elle faisait l'hypothèse que les différences entre le secteur syndiqué et non syndiqué sont plus grandes que les différences intra secteur d'emploi.

Cependant, on reconnaît depuis longtemps que les caractéristiques et les pratiques d'emploi dans les organisations non syndiquées varient beaucoup. On a relié de telles variations au fait que certaines organisations

non syndiquées se sentent particulièrement vulnérables aux campagnes d'organisation syndicale. Elles essaient alors d'annuler l'effet de telles initiatives en imitant les pratiques d'emploi des firmes syndiquées.

Malheureusement, ces points de vue n'ont pas été examinés sur une large échelle. Conséquemment, nous ne pouvions répondre à des questions importantes, telles pourquoi certaines organisations non syndiquées se sentent particulièrement vulnérables aux campagnes d'organisation syndicale ? Sont-elles à cet égard semblable aux organisations syndiquées et, si oui, comment ? Quelle est la taille de ce sous-groupe particulier d'organisations dans l'ensemble du secteur non syndiqué ?

Afin de fournir quelques réponses à ces questions, nous analysons ici des données du *Workplace Industrial Relations Survey* de 1990. La présente recherche poursuit notre travail antérieur qui n'examinait que le secteur non syndiqué et qui concluait à des différences significatives entre les organisations non syndiquées très réticentes à une possible présence syndicale et celles qui avaient une position plus neutre à cet égard. Ici, nous étendons notre analyse pour inclure le secteur syndiqué.

Nos principales conclusions sont les suivantes :

- une bonne minorité d'entreprises non syndiquées ont des caractéristiques relativement similaires aux entreprises syndiquées ;
- ces similarités visent essentiellement les caractéristiques organisationnelles de base de ces établissements et leur main-d'œuvre ;
- ce sous-groupe particulier de firmes non syndiquées se sentent (et sont) plus vulnérables aux campagnes d'organisation syndicale, et
- comme conséquence de ce qui précède, ce sont ces établissements non syndiqués qui sont le plus fortement opposés à une possible présence syndicale.

Malheureusement, les données existantes ne nous disent pas si ce sous-groupe particulier du secteur non syndiqué a crû avec le temps. Cependant, si tel devait être le cas, il en résulterait alors un secteur non syndiqué de plus en plus hétérogène. Tel résultat aurait des implications importantes pour les recherches visant à évaluer l'impact du statut syndical (opposé au statut non syndical) sur les mesures de performance organisationnelle.