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The Structure of Collective Bargaining in Northern Ireland, 1973-84

R.I.D. HARRIS and
V.J. WASS
The Queen's University, Belfast

Abstract: A unique database (the New Earnings Survey) is used to look at collective bargaining structures in 1973 and 1984. A comparison is made with the structures existing in Great Britain, and some attempts are made to identify the determinants of different types of bargaining structures.

I INTRODUCTION

This paper is the second of two studies relating to the structure and effect of collective bargaining in Northern Ireland. In Harris and Wass (1987) we estimated a well-known model to test the hypothesis that workers covered by collective agreements receive relatively higher wages. We found that they do. In this paper we look at the determinants of, and influences on, bargaining structures. Again, use is made of a unique database – the New Earnings Survey (NES) – since this provides information on individual employees' pay and collective agreements. We have also been able to expand the official NES carried out in 1984 using a voluntary return which sought additional information relating to the determinants of bargaining structure. With this data, we estimate "discriminant analysis" models to test the importance of certain factors that influence bargaining structures. To begin with, however, we present a brief survey of the literature in this area, in order both to introduce the subject, and to validate the variables entering the models estimated in Section IV. Section III provides a more aggregated look at bargaining structures in Northern Ireland 1973 and 1984, and compares these with the structures existing in Great Britain during the same period.

II THE DETERMINANTS OF THE STRUCTURE OF COLLECTIVE BARGAINING

Kochan (1980, p. 86) states that bargaining structures are constrained by environmental and organisational conditions; the latter depend upon (i) union organisation characteristics and (ii) management organisational characteristics. He argues that "... the interaction of these components influence how well the parties adapt to their environments by designing effective structures and policies for negotiating and administering collective agreements" (Kochan, op. cit., p. 86). In the British case, Clegg (1976) has stressed that union organisation is determined *by* bargaining structures, where these structures are in turn determined by the structures and attitudes of employers' associations and management. We too will stress the importance of the management and employers' contribution (especially in Section IV).

Over time, bargaining structures have adapted to changing environmental conditions by becoming more centralised (although there are more recent movements towards less centralisation, especially in manufacturing – see below). In a seminal contribution, Weber (1967) summarised some of these changes under the headings of "economic", "public policies" and "organisational" factors. The economic environment results in unions attempting to take wages out of competition by organising as much of the product market as possible and ensuring that equal wages are paid to workers in the relevant skills market. Given that product markets have tended to become more oligopolistic over time (see Prais, 1976), this change has been occurring on both sides of the bargaining process. Even in competitive markets, employers prefer multi-employer bargaining in order to equalise wage rates across competitors, so avoiding uneven cost advantages within the industry. (There are also certain economies of scale when many small firms are able to deal with Trades Unions collectively.) In general, Deaton and Beaumont (1980, p. 207) state that "... in discussions of the historical evolution of bargaining structure in Britain it has been suggested that much of the initial impetus to establish multi-employer, industry based structures came from employers concerned to regulate the extent of wage competition in their industries". This leads us to surmise that "industry" is an important determinant of bargaining structure (see also Brown, 1981, p. 10).

The policies adopted by an expanding government sector have not only set the tone for public sector bargaining (cf. the government's agreement to the recommendations of the Whitley Committee in 1917-18, and the resultant spread of national bargaining into all areas of the public sector – see Winchester, 1983), but government policy has also affected corporate attitudes towards (and involvement in) bargaining structures. In fact, one of the reasons given for a movement away from national agreements towards two-tier and single employer collective ageeements in the private sector has been government intervention "... in virtually every aspect of the employment relationship: in the labour market, in pay bargaining, in union recognition, in discipline and dismissal, in health and safety, in pensions and social security" (Purcell and Sisson, 1983, p. 101).

Finally, we consider some of the organisational factors that have influenced bargaining structures. As Kochan (op. cit., p. 102) points out:

> ... the growth of large corporations and the increased centralisation of decision making over key policy issues have led unions to seek to expand the structure of bargaining. A fundamental principle underlying these efforts is that unions will attempt to expand the structure of negotiations to the level where effective or critical management decision makers are involved.

In British manufacturing, management has traditionally organised itself within Employers' Associations, which lead to the growth of national agreements,[1] but more recently there has been a movement towards two-tier and single employer bargaining. This has resulted from the inability (highlighted in the report of the Donovan Commission, 1968) of national agreements, especially in multi-establishment firms, when it comes to regulating workplace-related issues (e.g., redundancy, work practices, working conditions, redeployment, manning levels, changes in production methods – see Daniels and Millward (1983) Table 8.3). This suggests that the size of the establishment and the company (and especially whether the company is a multi-establishment enterprise) are important organisational characteristics in determining collective bargaining structures. The significance of these control variables has also been outlined to some extent in Purcell (1983) and Marginson (1984). The former stresses the importance to industrial relations of the multi-plant corporation, which has traditionally been ignored as researchers concentrated on *workplace* industrial relations.[2] Marginson (op. cit.), using the Warwick Workplace Survey of Industrial Relations, considered the effect of plant and company size on such variables as strike frequency and union organisation. Concerning the latter, he argued that it is likely that both numerical strength and sophistication of union organisation are related to plant-size (because, for example, full time shop stewards are able to specialise, and form executive

1. For details, including the benefits to employers of national bargaining, see Purcell and Sisson (1983).

2. Purcell states that "... we have enough evidence already to be certain that the corporate headquarters of many companies exercise considerable control over the scope, outcome and style of industrial relations in the workplace, while paradoxically adopting business policies which emphasise decentralised responsibility for operating decisions (within the budget) and the pursuit of profit" (Purcell, op. cit., p. 14).

committees, as plant-size increases). As to the distinct effect of company size, union growth is also likely to be a function of union recognition, and the recognition decision is taken at company level. Recognition is more likely to be withheld in small companies and/or companies with existing low levels of unionisation.

This completes our admitted cursory survey of this area of industrial relations. However, it is important to finish by stressing the forces of "historical determination", "institutional inertia", etc., that act upon the British system of collective bargaining. No attempt at describing and explaining the farrago of collective bargaining levels can capture *all* the influences that have operated to produce a particular structure at any one point in time. Hence, bargaining levels are likely to be specific to certain occupational and/or industry groups, and so we have to distinguish between these in our empirical work.

III COLLECTIVE BARGAINING STRUCTURES IN NORTHERN IRELAND: A COMPARISON WITH GREAT BRITAIN

In 1973 the Northern Ireland NES sought additional information about the *type* of collective agreement affecting an individual's pay and conditions of employment. A special voluntary return was incorporated into the 1984 NES in Northern Ireland repeating the 1973 question, and requesting further information on corporate ownership, plant-size and company-size. In this section we make use of the information obtained for both years to examine the structure of collective bargaining in Northern Ireland, and to make comparisons with the structure existing in Great Britain in 1973 and 1985. We will also attempt to explain (where possible) the structure and development of collective bargaining with reference to the arguments presented in Section II.

Table 1 sets out the basic figures for collective bargaining coverage (including type) and average hourly earnings for male full-time adult workers at industry level. The figures underlined refer to Great Britain; the figures in parentheses refer to 1984 (in Northern Ireland's case) or 1985 (for Great Britain). Overall in Northern Ireland in 1973, coverage for males by collective agreement was high (over 70%) with the most important type of agreement being a two-tier bargaining structure. The predominance of a second-tier (i.e., a company, district or local agreement to supplement the national agreement) probably reflects the need of many firms to take account of the various local "environmental" influences upon pay bargaining (e.g., local labour market conditions and the different historical development of collective bargaining in Northern Ireland – see Black, 1986).

Table 1: *Coverage by Collective Agreement (Males) by Industry in Northern Ireland* and Great Britain *1973 and 1984/5*

Industry (1980 Division)		*Average Hourly Earnings (£)*	*Percentage Covered by* Any Collective Agreement	*National Plus Supplementary Agreement*	*National Agreement Only*	*Supplementary Agreement Only*
All Industries	(0-9)	0.84 (3.83)	70.1 (75.2)	35.1 (14.2)	27.0 (46.5)	8.0 (14.5)
		0.91 (4.53)	74.0 (64.2)	23.7 (14.5)	40.3 (37.7)	10.0 (12.0)
Agriculture etc.	(0)	0.76 –	55.3 (11.1)	29.0 (0.0)	2.6 (0.0)	23.7 (11.1)
		0.63 (2.65)	41.5 (38.9)	13.9 (7.08)	22.0 (28.8)	5.6 (3.0)
Energy and Water	(1)	1.13 (4.60)	100.0 (100.0)	84.6 (85.2)	15.4 (14.8)	0.0 (0.0)
		1.00 (5.03)	96.4 (90.4)	12.5 (15.9)	81.3 (69.9)	2.6 (4.8)
Metals and Chemicals	(2)	0.93 (3.25)	62.5 (32.3)	12.5 (6.5)	20.8 (9.7)	29.2 (16.1)
		0.98 (4.70)	71.6 (61.0)	37.7 (23.3)	19.6 (12.3)	14.4 (25.4)
Engineering and	(3)	0.84 (3.73)	93.2 (80.2)	82.2 (12.6)	9.6 (19.0)	1.4 (48.6)
Vehicles		0.97 (4.46)	76.4 (56.5)	44.4 (20.8)	18.4 (13.7)	13.4 (22.0)
Other Manufacturing	(4)	0.78 (3.31)	59.4 (66.3)	32.8 (27.5)	10.9 (15.3)	15.6 (23.5)
		0.93 (4.38)	66.8 (57.0)	24.3 (17.5)	25.9 (19.7)	16.6 (19.9)
Construction	(5)	0.74 (3.02)	76.8 (64.9)	44.6 (17.5)	32.1 (45.6)	0.0 (1.8)
		0.89 (3.90)	80.5 (66.3)	21.9 (16.8)	55.8 (46.8)	2.8 (2.6)
Distribution	(6)	0.75 (3.00)	23.7 (47.4)	13.6 (7.0)	3.4 (16.7)	6.8 (23.7)
		0.82 (3.82)	45.0 (33.9)	10.5 (6.2)	22.3 (17.3)	12.3 (10.4)
Transport and	(7)	0.82 (3.82)	91.2 (93.1)	20.6 (1.7)	47.1 (92.8)	23.5 (8.6)
Communications		0.91 (4.36)	87.7 (83.0)	14.5 (9.7)	63.4 (60.1)	9.8 (13.1)
Business Services	(8)	1.05 (4.53)	18.8 (65.4)	0.0 (0.0)	12.5 (57.7)	6.3 (7.7)
		1.26 (6.14)	40.6 (37.5)	9.9 (7.7)	16.6 (19.2)	14.1 (10.6)
Other Services	(9)	0.91 (4.13)	87.1 (91.4)	23.9 (4.3)	63.2 (86.3)	0.0 (0.8)
		1.09 (5.00)	87.7 (90.3)	13.3 (14.4)	72.5 (74.5)	2.0 (1.4)

Notes to Table 1: Figures underlined refer to Great Britain. Figures in parentheses refer to 1984 (Northern Ireland) and 1985 (Great Britain).

Source: New Earning Surveys NI and GB.

Industries with above average coverage levels were typically in the public sector (Energy and Water, Construction, Transport and Communications, and Other Services), while the high coverage figure for Engineering and Vehicles includes a sizeable number of employees working in companies held in public ownership (e.g., Harland and Wolff and Short Bros.). This confirms that it is easier to organise labour (and obtain union recognition) outside of the private sector. National plus Supplementary Bargaining[3] was particularly dominant in Agriculture, Energy and Water, Engineering and Vehicles and Other Manufacturing industries. In the Construction industry National Agreements were nearly as important, while in Distribution, two-tier bargaining dominated what was in fact a low level of bargaining coverage in 1973. Overall, the collective bargaining structure placed a good deal of emphasis on company and plant bargaining to supplement Northern Ireland and UK industry-wide agreements, and it is likely (given recent evidence for Great Britain, *viz*. Deaton and Beaumont, 1980) that supplementary bargaining was the most important feature of the bargaining process.

Bargaining structures were very similar in Northern Ireland and Great Britain in 1973 (the inter-industry correlation between overall coverage levels was 0.91). The major differences in 1973 were, first, a lower level of Supplementary Only agreements in Northern Ireland in Engineering and Vehicles,[4] Distribution and Business Services (the latter two industries also having only about half the number of employees covered by a collective agreement as in Great Britain), which may reflect the underdevelopment of these sectors in Northern Ireland relative to Great Britain and therefore less emphasis by Trades Unions on organising labour. (In 1973 Business Services employed only 63 per cent of the UK proportion in this industry, while Distribution was 84 per cent of the UK proportion). This contrasts with a greater emphasis on single employer bargaining in Agriculture, Metals and Chemicals[5] and Transport and Communications in Northern Ireland. In the case of Agriculture, it is likely that the development of the industry in Northern Ireland has affected the bargaining structures adopted locally, while the Transport and Communications industry is predominantly controlled from Great Britain and Supplementary agreements probably reflect a need to take into account local conditions. Secondly, the public sector in Great Britain was dominated to a greater extent by National Only bargaining, while in Northern

3. Supplementary bargaining covers company (all plants), district (some plants) and local (one plant) agreements.

4. This was no doubt influenced by the relatively smaller size of the Vehicles industry in Northern Ireland, since Supplementary bargaining was especially important in this GB industry in 1973.

5. This industry is dominated by the man-made fibres industry in which Supplementary bargaining is particularly important.

Ireland we have already mentioned the importance of Supplementary Only agreements in the Transport and Communications industry. It is also worth highlighting the lower level of National Only agreements in the Other Services sector in 1973, which was due to the importance of two-tier bargaining in Public Administration in Northern Ireland, which prior to that year was linked to a regional government at Stormont. Professional Services, such as Education and Health, were dominated by National Only bargaining,[6] as in Great Britain.

Between 1973 and 1984, collective bargaining structures changed significantly in Northern Ireland as compared to the change that took place in Great Britain (the correlation between coverage levels across industries in 1973 and 1984 in Northern Ireland was 0.59, while the comparable Great Britain figure was 0.95). Coverage levels in Northern Ireland increased slightly, although this was mostly the result of an expanding public sector offsetting decreases elsewhere, as well as a large increase in coverage for Distribution and Business Services as these sectors grew. At the other extreme, coverage in the rapidly declining Metals and Chemicals sector fell dramatically from over 62 to 32 per cent of male employees. Single employer agreements grew in importance, with large increases in the Engineering and Vehicles industries, Distribution, and Other Manufacturing, as "organisational" factors started to exert a greater influence on pay bargaining (e.g., the growth of external ownership in the private sector while local companies, e.g., Harland and Wolff, moved towards company-based collective agreements). Overall, as well as an increase in the importance of Supplementary Only coverage, National (NI and GB industry-wide) agreements became much more important, in Construction, Transport and Communications, Business Services and Other Services. This brought the Northern Ireland public sector into line with the public sector in Great Britain, where National Only ageements predominate. However, this movement towards greater conformity in the public sector was not matched in the private sector so that, overall, bargaining structures in Northern Ireland and Great Britain displayed greater differences by 1985 (the inter-industry correlation between overall coverage levels fell from 0.91 in 1973 to 0.74 by 1984/85).

The comparable figures on collective bargaining for females are given in Table 2. These show that female coverage was lower than male coverage in 1973, but grew four times faster between 1974 and 1984 as female involve-

6. The NES data we have for 1973 allow us to distinguish SICs 25 and 27, on the old 1968 Standard Industrial Classification, i.e., Professional Services and Public Administration. Note, the "National agreements" covering Professional Services were Northern Ireland industry agreements, although "parity" with Great Britain means that they can be treated as equivalent to the UK industry-wide agreements pertaining to this sector.

ment in the labour force expanded. The overall pattern is very similar to that for males, except that female full-time employment is very small in the Energy and Water, Metals and Chemicals, Construction and Transport and Communications industries,[7] which explains the relative differences for these industries. This is also the reason for the smaller proportion across all industries of female workers covered by single-employer agreements. Comparing Northern Ireland and Great Britain, there was greater (inter-industry) variation in female coverage between Northern Ireland and Great Britain in 1973 than in 1984/85 (the correlation between coverage levels in 1973 was 0.72, while in 1984/85 the degree of association had risen to 0.89). Given that Northern Ireland experienced much greater change between these years (the correlation between 1973 and 1984 inter-industry coverage levels was 0.57 for Northern Ireland, and 0.94 for Great Britain), this suggests that important forces were at work bringing the Northern Ireland collective bargaining structure closer to that which existed in Great Britain in 1985. This can be largely explained by the growth of female employment in the "Other Services" industry, which expanded rapidly throughout this period. Finally, it is worth noting that, as with the bargaining structures for males, National Only and Supplementary Only agreements were higher in Northern Ireland by 1984, the former because of the "Other Services" sector, and the latter because of Other Manufacturing and Distribution.

We now turn to coverage by agreement for males *by socio-economic grouping*, since occupation has exerted a strong influence on bargaining structures for largely historical reasons connected to the way in which Trades Unions have traditionally organised the workforce. Table 3 shows that coverage was generally lower in non-manual occupations in Northern Ireland, although in 1973 Junior Non-Manual workers had high coverage for a non-manual occupation, while Foremen were below average as a manual occupation. Overall, this probably results from a relatively smaller proportion of "white-collar" workers in Northern Ireland *vis-à-vis* Great Britain, because of the high level of "external control" of the economy by companies with their Headquarters elsewhere (see Crum and Gudgin, 1977). National agreements were predominant in the non-manual occupations (reflecting the dominance of the public sector), while manual workers tended to supplement industry-wide bargaining with company and plant agreements in 1973. This was the major difference in 1973 between the bargaining structures in Northern Ireland and Great Britain, although by 1984 male manual workers had significantly decreased their dependence on two-tier agreements in favour of National Only agreements. Lastly, Table 3 shows that single employer agree-

7. Agriculture and Engineering and Vehicles joins this list in 1984.

Table 2: *Coverage by Collective Agreement (Females) by Industry in Northern Ireland* and Great Britain *1973 (1984/5)*

Industry (1980 Division)		*Average Hourly Earnings (£)*	*Percentage Covered by* *Any Collective Agreement*	*National Plus Supplementary Agreement*	*National Agreement Only*	*Supplementary Agreement Only*
All Industries	(0-9)	0.52 (2.77)	62.5 (80.7)	22.4 (7.7)	35.2 (64.3)	4.9 (8.7)
		0.60 (3.34)	66.4 (64.0)	14.0 (10.4)	44.1 (45.8)	8.3 (7.8)
Agriculture etc.	(0)	0.57 —	78.6 —	50.0 —	7.1 —	21.4 —
		0.44 —	29.9 —	10.3 —	12.4 —	7.2 —
Energy and Water	(1)	0.57 (3.04)	100.0 (100.0)	100.0 (88.9)	0.0 (11.1)	0.0 (0.0)
		0.66 (4.01)	93.2 (83.1)	17.5 (27.8)	72.7 (52.0)	3.1 (3.3)
Metals and Chemicals	(2)	0.56 (2.15)	0.0 (20.0)	0.0 (20.0)	0.0 (0.0)	0.0 (0.0)
		0.55 (3.19)	51.4 (46.6)	19.6 (13.0)	16.4 (9.3)	15.5 (24.3)
Engineering and	(3)	0.53 (2.91)	92.9 (71.4)	78.6 (42.9)	14.3 (28.6)	0.0 (0.0)
Vehicles		0.55 (2.99)	68.8 (46.4)	37.8 (16.5)	18.2 (8.4)	12.8 (21.5)
Other Manufacturing	(4)	0.43 (2.20)	45.3 (68.7)	20.3 (17.9)	12.5 (17.9)	12.5 (32.8)
		0.53 (2.82)	60.7 (53.3)	18.8 (14.7)	27.2 (22.8)	14.7 (15.8)
Construction	(5)	0.47 (2.51)	0.0 (25.0)	0.0 (0.0)	0.0 (25.0)	0.0 (0.0)
		0.55 (2.98)	24.2 (16.8)	3.7 (2.8)	9.9 (11.0)	10.5 (3.0)
Distribution	(6)	0.39 (2.07)	13.2 (34.3)	7.9 (5.7)	0.0 (8.6)	5.3 (20.0)
		0.47 (2.61)	38.5 (36.5)	8.3 (5.0)	19.6 (21.5)	10.6 (9.9)
Transport and	(7)	0.57 (2.98)	100.0 (81.3)	0.0 (0.0)	100.0 (81.3)	0.0 (0.0)
Communications		0.67 (3.60)	78.5 (70.4)	5.3 (4.7)	64.9 (54.3)	8.1 (11.3)
Business Services	(8)	0.55 (3.37)	9.1 (68.4)	0.0 (2.6)	9.1 (57.9)	0.0 (7.9)
		0.66 (3.70)	47.3 (37.6)	11.7 (8.1)	26.6 (21.6)	9.0 (7.8)
Other Services	(9)	0.60 (2.92)	87.8 (96.4)	20.8 (1.8)	67.0 (93.2)	0.0 (1.4)
		0.75 (3.71)	87.3 (89.9)	7.8 (10.7)	77.5 (78.3)	2.0 (0.9)

Notes to Table 2: Figures underlined refer to Great Britain. Figures in parentheses refer to 1984 (Northern Ireland) and 1985 (Great Britain).— Sample-size too small.

Table 3: *Coverage by Collective Agreement (Males) by Socio-Economic Group in Northern Ireland* and Great Britain *1973 (1974/5)*

Socio-Economic Group (SEG)		*Average Hourly Earnings (£)*	*Percentage Covered by*			
			Any Collective Agreement	*National Plus Supplementary Agreement*	*National Agreement Only*	*Supplementary Agreement Only*
Managers	(1)	1.30 (6.27)	42.9 (51.3)	14.3 (5.3)	20.4 (34.2)	8.2 (11.8)
		1.54 na	44.4 (42.9)	9.1 (7.2)	24.7 (24.9)	10.6 (10.8)
Professionals	(2)	1.27 (5.24)	69.1 (27.5)	16.7 (13.7)	47.6 (61.8)	4.8 (2.0)
		1.46 na	62.2 (56.6)	12.8 (9.6)	41.6 (36.0)	7.8 (11.1)
Intermediate Non-Manual	(3)	1.02 (4.53)	60.0 (74.4)	20.0 (4.6)	34.6 (60.5)	5.5 (9.3)
		1.19 (4.51)	64.7 (65.6)	8.2 (7.8)	46.0 (48.0)	10.6 (9.8)
Junior Non-Manual	(4)	0.79 (4.04)	73.2 (68.0)	39.3 (4.1)	28.6 (59.8)	5.4 (4.1)
		0.87 (3.81)	67.2 (65.8)	15.0 (10.4)	43.0 (45.9)	9.2 (9.5)
Foreman	(5)	0.90 (3.81)	63.6 (78.3)	33.3 (17.4)	18.2 (52.2)	12.1 (8.7)
		0.96 (4.44)	74.7 (64.9)	21.2 (15.5)	41.5 (33.3)	11.9 (16.1)
Skilled Manual	(6)	0.81 (3.11)	83.0 (78.7)	50.3 (20.8)	24.9 (32.1)	7.9 (25.8)
		0.88 (3.91)	86.2 (74.3)	35.4 (20.8)	41.0 (40.5)	9.8 (13.0)
Semi-Skilled Manual	(7)	0.71 (2.87)	67.1 (76.7)	28.0 (19.4)	21.7 (37.2)	17.5 (20.1)
		0.77 (3.26)	77.6 (70.3)	29.4 (14.2)	36.9 (44.3)	11.3 (11.9)
Unskilled Manual	(8)	0.60 (2.49)	75.7 (89.5)	31.5 (16.3)	36.4 (62.8)	7.5 (10.4)
		0.70 (3.12)	83.6 (71.1)	28.2 (20.2)	47.0 (40.9)	8.4 (10.1)

Notes to Table 3: Figures underlined refer to Great Britain. Figures in parentheses refer to 1984 (Northern Ireland) and 1985 (Great Britain). NA not available.

ments were particularly important in the skilled and semi-skilled occupations, much more so than in these same occupations in Great Britain.[8] The major reason for this was the move towards this type of agreement in those locally-owned manufacturing and distribution firms that were particularly important users of skilled labour over the period 1973-84.

Finally, Table 4 contains the relevant figures for female workers classified into socio-economic groups. The most notable feature of this table is the higher coverage levels in non-manual occupations in Northern Ireland in 1984, both in comparison to manual occupations and to comparable non-manual occupations in Great Britain. This reflects the greater importance by 1984 of the Other Services sector in Northern Ireland for female employment, which also explains the growth in National Only agreements, even in those manual occupations in which two-tier bargaining predominated in 1973.

Overall, this section has shown that a dominating influence upon the changes that took place in the public sector seems to have been an effort to bring this sector's bargaining structures into line with those operating in Great Britain. Other "environmental" influences that had an effect included changes in organisational factors resulting in a greater role for single employer agreements in the private sector, which has traditionally had a high level of supplementary bargaining in support of industry-wide agreements, although over the period 1973-84 company agreements frequently ceased to be linked to nationally negotiated agreements.

IV THE DETERMINANTS OF COLLECTIVE BARGAINING STRUCTURES IN NORTHERN IRELAND IN 1984: SOME EMPIRICAL EVIDENCE

We now turn to the results obtained from the voluntary questionnaire incorporated into the 1984 NES for Northern Ireland.[9] This allows us to classify agreement types by ownership, establishment size and company size and, thus, we can consider the effects of "managerial organisation" upon bargaining structures. To begin with, we consider the evidence in tabular form in order to highlight the importance of these "control" variables, before going on to estimate models of bargaining structure using a "discriminant analysis" approach.

8. Adjusting the Northern Ireland figures (for industrial structure) by using GB employment weights by industry, increases the difference between Northern Ireland and Great Britain. This suggests that "structure" itself is not an important reason for the observed differences in collective bargaining structures by socio-economic groups. This is also true when the relative bargaining structures of female socio-economic groups are compared (in Table 4).

9. This return was sent out with the 1984 NES forms to employers. It was returned by 41 per cent of the total NES sample. Careful checking of the response rate, against the total NES returns for 1984 did not indicate a bias towards any particular industry and/or occupational grouping.

Table 4: *Coverage by Collective Agreement (Females) by Socio-Economic Group in Northern Ireland* and Great Britain *1973 (1974/5)*

Socio-Economic Group (SEG)		*Average Hourly Earnings (£)*	*Percentage Covered by*			
			Any Collective Agreement	*National Plus Supplementary Agreement*	*National Agreement Only*	*Supplementary Agreement Only*
Managers	(1)	1.11 (6.48)	66.7 (87.5)	0.0 (0.0)	66.7 (87.5)	0.0 (0.0
		0.96 na	48.6 (44.0)	3.7 (6.7)	35.9 (30.1)	9.0 (7.2)
Professionals	(2)	0.76 (4.32)	66.7 (05.0)	0.0 (10.0)	66.7 (85.0)	0.0 (0.0)
		1.02 na	74.0 (78.2)	12.0 (21.1)	58.6 (53.6)	3.4 (3.5)
Intermediate Non-Manual	(3)	0.79 (3.40)	84.1 (95.4)	15.9 (1.5)	68.2 (93.9)	0.0 (0.0)
		0.93 (3.44)	86.2 (68.2)	5.7 (5.8)	77.5 (60.2)	3.0 (2.2)
Junior Non-Manual	(4)	0.48 (2.61)	54.1 (76.5)	17.0 (7.1)	31.1 (63.4)	5.9 (6.0)
		0.57 (3.10)	56.7 (62.2)	10.4 (9.3)	37.0 (44.4)	9.3 (8.5)
Foreman	(5)	0.55 (2.67)	33.3 (74.9)	0.0 (8.3)	0.0 (58.3)	33.3 (8.3)
		0.57 (2.81)	60.8 (61.9)	18.5 (13.8)	29.8 (42.6)	12.5 (5.5)
Skilled Manual	(6)	0.42 (1.92)	64.3 (56.5)	28.6 (8.7)	28.6 (47.8)	7.1 (0.0)
		0.51 (2.41)	74.4 (66.2)	30.3 (16.2)	36.1 (43.7)	8.0 (6.3)
Semi-Skilled Manual	(7)	0.46 (2.27)	60.6 (79.3)	33.8 (12.1)	15.5 (31.0)	11.3 (36.2)
		0.50 (2.47)	69.2 (58.8)	26.4 (18.9)	32.8 (25.0)	10.0 (14.9)
Unskilled Manual	(8)	0.46 (2.11)	79.6 (84.9)	36.6 (15.2)	30.1 (63.6)	12.9 (6.1)
		0.46 (2.49)	71.6 (62.0)	17.7 (12.9)	42.9 (31.1)	11.0 (18.7)

Notes to Table 4: Figures underlined refer to Great Britain. Figures in parentheses refer to 1984 (Northern Ireland) and 1985 (Great Britain). NA not available.

Table 5 looks at collective bargaining structures in different industries by the location of each company's headquarters.[10] Since the voluntary return asked if the establishment in which the individual worked was part of a larger company/business/organisation, it is possible to split Northern Ireland-based companies into single-plant companies and multi-plant companies. Table 5 suggests that this latter distinction is important since single-plant companies had a significantly lower level of coverage by collective agreements, a result which generally holds when the figures are disaggregated into industry divisions (see Appendix 1, Table A). Companies whose headquarters were based in Great Britain had higher coverage across almost every industry (with Other Services being the major exception), and especially when compared to multi-plant companies in Northern Ireland. Establishments belonging to companies based outside the UK were important in manufacturing; coverage levels were lower than in GB-owned firms and comparable to manufacturing firms where ownership resided in Northern Ireland.

As to collective bargaining structure by size of establishment and location of company headquarters, Table 6 shows that coverage tended to increase with establishment size (although for single-plant firms, in the 100-499 and 500-999 employee size bands, coverage was relatively low). Northern Ireland-owned multi-plant establishments had coverage levels similar to GB-owned firms since multi-plant firms in the Other Services sector (Table A in Appendix 1) were fairly evenly distributed across the size bands in Table 6. Establishments with headquarters outside the UK did not have the expected relationship between size and coverage by agreements. A particular anomaly was found in the largest plants where only 7.1 per cent of the workers in the sample were covered by an agreement. (These large foreign-owned establishments were mainly located in the Man-Made fibres industry.)

Large multi-plant establishments in Table 6 were dominated by National Only agreements, which, for Northern Ireland-owned firms, reflect the relative importance of the Other Services sector (principally National Government and Hospitals), while for GB-owned firms this was due to the Telecommunications industry. Large single-plant firms were dominated to a large extent by single employer agreements, reflecting the relative importance of Shipbuilding and Higher Education. Medium-sized establishments, with headquarters in Great Britain, also show a strong preference for single employer agreements,[11] which contrasts with the bargaining structure in Northern Ireland-owned firms of similar size. Finally, smaller sized establishments had both relatively low coverage levels and a greater relative dependence on industy-wide agreements.

10. Multinational companies incorporated in Great Britain (e.g., Ford, UK) are included under Great Britain as the location of company headquarters.

11. This particular group covered the spectrum of industries given in Table 5.

Table 5: *Collective Bargaining Structure by Industry and Ownership in Northern Ireland,*[1] *1984*

Location of Company Headquarters	*Industry Division (1980 SIC)*	*Number in Sample*	*Any Collective Agreement*	*Percentage Covered by* National Plus Supplementary Agreement	*National Agreement Only*	*Supplementary Agreement Only*
Northern Ireland	0	11	9.1	0.0	0.0	9.1
	1	64	100.0	85.9	14.1	0.0
	2	19	31.6	5.3	10.5	15.8
	3	77	75.3	3.9	18.2	53.3
	4	103	61.2	18.5	16.5	26.2
	5	55	61.8	16.4	43.6	1.8
	6	116	36.2	4.3	17.2	14.7
	7	11	45.5	9.1	0.0	36.4
	8	48	45.8	0.0	35.4	10.4
	9	467	94.0	3.2	90.2	0.6
Total: Single-plant		357	57.7	6.2	32.8	18.8
Multi-plant		611	86.3	14.1	66.6	5.6
Great Britain	3	24	95.8	25.0	16.7	54.2
	4	49	83.7	36.7	16.3	30.6
	5	3	100.0	0.0	100.0	0.0
	6	29	69.0	20.7	0.0	48.3
	7	62	98.4	0.0	98.4	0.0
	8	37	89.2	0.0	83.8	5.4
	9	8	75.2	0.0	62.5	12.5
Total:		212	88.7	14.2	53.3	21.2
Other Country	2	17	29.4	11.8	0.0	17.7
	3	17	76.5	47.1	29.4	0.0
	4	14	57.1	14.3	21.4	21.4
	5-9	16	87.5	12.5	37.5	37.5
Total:		64	61.9	22.2	22.2	17.5

[1] Only Adult, Full-time, no loss of pay workers included in Tables 5-7.
Source: NES Voluntary Return.

Table 6: *Collective Bargaining Structure by Establishment Size and Ownership in Northern Ireland, 1984*

			Percentage Covered by			
Location of Company Headquarters	*Number in Sample*	*Size Band*	*Any Collective Agreement*	*National Plus Supplementary Agreement*	*National Agreement Only*	*Supplementary Agreement Only*
Northern Ireland						
Single Plant	173	<49	34.1	4.6	22.0	7.5
	42	50-99	71.4	4.8	50.0	16.7
	39	100-499	66.8	20.5	25.6	20.5
	16	500-999	56.3	6.3	50.0	0.0
	14	1000-1999	71.4	0.0	71.4	0.0
	70	2000+	100.0	4.3	40.0	55.7
Multi-Plant	156	<49	72.4	9.0	52.6	10.9
	79	50-99	76.0	17.7	46.8	11.4
	124	100-499	91.9	38.7	47.6	5.7
	77	500-999	85.7	10.4	74.0	1.3
	33	1000-1999	97.0	0.0	97.0	0.0
	117	2000+	100.0	1.7	98.3	0.0
Great Britain	41	<49	75.6	9.7	65.9	0.0
	16	50-99	75.0	6.3	37.5	31.3
	60	100-499	85.0	25.0	28.3	31.7
	33	500-999	93.9	18.2	36.4	39.4
	20	1000-1999	100.0	20.0	40.0	40.0
	42	2000+	100.0	0.0	100.0	0.0
Other Country	14	<49	64.3	7.1	28.6	28.6
	3	50-99	66.7	0.0	66.7	0.0
	31	100-499	87.1	35.5	25.8	25.8
	2	500-999	50.0	50.0	0.0	0.0
	14	1000-1999	7.1	7.1	0.0	0.0

Turning to company size and ownership, Table 7 shows that coverage by collective agreements tends to increase with company size. The single-plant information in Table 7 is of course the same as the data in Table 6 on single plants, although the size bands are slightly different. The company-size information for firms with headquarters in Great Britain[12] is greatly influenced by the largest size band, which is as expected. The most interesting group in Table 6 is the multi-plant firms with headquarters in Northern Ireland. The size-coverage relationship is more pronounced when company size is used, as compared to the relationship shown in Table 6 which is based on establishment size. Small companies had much lower coverage levels than small establishments, primarily because many of the latter were owned by larger companies which tended to "impose" a particular collective bargaining structure across all the plants belonging to the company. The importance of National Only agreements also increased with company size, whereas two-tier bargaining was a relatively stable component throughout the size range (except for companies with 2,000-4,999 employees, which were dominated by Local Government, Schools and Hospitals). In contrast, two-tier bargaining was more important in *establishments* with 100-499 employees, indicating that these plants belonged largely to companies having over 500 employees.[13]

Finally, it is interesting to note that for companies with headquarters outside the UK, establishment size and company size (i.e., total UK employment) were often similar,[14] indicating that these foreign companies tended to use Northern Ireland as their base for UK (or EEC) operations.

To conclude the descriptive side of our analysis, ownership, establishment size and company size have been shown to be important influences on collective bargaining in Northern Ireland. There was a discernible difference in coverage levels between Northern Ireland plants and those establishments with headquarters elsewhere. The most important result, though, is that collective bargaining seems to be greatly influenced by company size. This is in line with previous work (e.g., Marginson, op. cit.) and the views of Purcell as noted above (see Section II).

A more formal look at the determinants of bargaining structure involves model estimation using "discriminant analysis". This has two particular advantages: first, it has been used to good effect in previous attempts at distinguishing the determinants of bargaining structures (see Deaton and Beaumont, 1980); and, more importantly, the dependent variable in our data

12. Note, the size of the company refers to employment in the UK only, and not total employment.

13. In fact, they largely belonged to Electricity, National Government and Hospitals employing (as companies) over 5,000 workers.

14. E.g., of the 31 working in establishments with 100-499 employees, 21 in the sample were employed in *companies* with a similar-sized workforce.

Table 7: *Collective Bargaining Structure by Company Size and Ownership in Northern Ireland, 1984*

Location of Company Headquarters	*Number in Sample*	*Size Band*	*Percentage Covered by* Any Collective Agreement	*National Plus Supplementary Agreement*	*National Agreement Only*	*Supplementary Agreement Only*
Northern Ireland						
Single Plant	216	<99	41.2	4.6	27.3	9.3
	41	100-499	68.3	19.5	29.3	19.5
	16	500-999	56.3	6.3	50.0	0.0
	14	1000-1999	71.4	0.0	71.4	0.0
	68	2000-4999	100.0	1.5	41.2	57.4
Multi-Plant	51	<99	43.1	15.7	13.7	13.7
	78	100-499	59.0	11.5	26.9	20.5
	18	500-999	72.2	5.6	55.6	11.1
	36	1000-1999	91.7	8.3	61.1	22.2
	80	2000-4999	98.8	1.3	97.5	0.0
	338	5000+	96.2	18.9	77.2	0.0
Great Britain	2	<99	50.0	50.0	0.0	0.0
	4	100-499	50.0	0.0	0.0	50.0
	6	500-999	83.3	16.7	0.0	66.6
	6	1000-1999	66.7	33.3	33.3	0.0
	17	2000-4999	70.6	17.7	23.5	29.4
	141	5000+	97.2	10.6	66.7	19.9
Other Country	6	<99	33.3	0.0	16.7	16.3
	26	100-499	92.3	23.1	30.8	38.5
	13	500-999	61.5	30.8	30.8	0.0
	1	1000-1999	100.0	100.0	0.0	0.0
	13	2000-4999	7.7	7.7	0.0	0.0
	1	5000+	0.0	0.0	0.0	0.0

set is a categorical variable, i.e., it has values of 1, 2, etc., depending upon whether an individual was covered by a particular form of collective agreement. Standard OLS regression techniques are therefore not applicable in the case of limited dependent variables (see Johnston, 1984, Chapter 10.5). The method of "discriminant analysis" is similar to a regression where linear combinations of the independent (or "predictor") variables are formed into a discriminating function to serve as the basis for assigning individuals to a particular population (e.g., covered by a collective agreement).[15] If the discriminating function (or functions, if the dependent variable is trichotomous or a higher order polytomous variable) provides a good basis for classification, then the number of "misclassifications" should be low. It is also possible to compare the (standardised) values of the discriminating function coefficients to obtain information about the relative importance of the independent variables entering into the function. Thus, there are similarities with the regression technique as a means of statistical analysis. The "discriminating" variables[16] used include the location of the company's headquarters (a trichotomous variable, LOC); whether the organisation was a single-plant operation (a dichotomous variable, MULT); establishment size (broken down into 10 size bands, NEST); company size (broken down into 10 size bands, NCOMP); industry (dummy variables taking values of 1 for each Division of the 1980 Standard Industrial Classification); socio-economic occupation (dummy variables taking values of 1 for each of the SEGs used in Table 3); and the sex of the individual (male coded 1, female 0). The discriminant function was formed using a stepwise technique that only included a variable into the function if it passed on an entry criterion (based upon a minimisation of Wilks' lambda – see Norusis, 1985, for details of the SPSSx package used). Two models were estimated: the first split the sample of 1,759 individuals into "covered" and "not covered", while the second model used only the "covered" individuals and split them into the three bargaining groups that can be distinguished in the NES, namely National agreements only, National plus Supplementary agreements, and Supplementary agreements only. Note, however, that in the second model we have chosen to leave out the Other Services industry (Division 9), since it dominates our sample; employees were almost exclusively working in large multi-plant companies; and the structure of collective bargaining was heavily influenced by National

15. The major difference with the regression approach is that where the latter predicts the value of the dependent variable from the values of the independent variables, discriminant analysis does the opposite; it assigns the individual to a particular population (e.g., covered by a collective agreement), by forming the independent variables into a discriminating function such that this linear combination of independent variables becomes (in a sense) the "dependent" variable.

16. See Appendix 2 for a discussion of the variables.

Only agreements (see Tables 5-7 and Table A, for details). The results using all other industries prove more interesting when attempting to explain the major determinants of bargaining structures for employees who are "covered" by agreements.

(i) *Covered Versus Not Covered Individuals*

Of the possible 23 variables which were candidates for inclusion in the discriminant function, 9 did not pass the entry criterion (including the variables representing the sex of the individual and whether the individual worked in a multi-plant establishment). The standardised coefficients for the other variables are shown in Table 8 in decreasing order of importance. The discriminating function was able to classify 82 per cent of individuals correctly, while the canonical correlation between the discriminant scores and the groups was 0.63 (this statistic is equivalent to the eta statistic on a one-way analysis of variance). The mean scores on the discriminant function are -0.44 for covered workers and 1.51 for workers not covered by an agreement. This means that large company and establishment size, ownership outside of Northern Ireland, the Other Services industry and Skilled manual workers are associated with the "covered" sector of the population, whereas non-manual occupations and the other industries entering the discriminating function are associated with the "not covered" population of employees. This outcome therefore confirms the tabular results produced earlier.

Table 8: *Discriminating Function (Standardised) Coefficients for the "Covered" and "Not Covered" Model*

Variable		*Coefficient*
NCOMP	(Company Size)	-0.7137
SEG4	(Junior Non-Manual)	0.3742
DIV2	(Metals and Chemicals)	0.3105
DIV6	(Distribution)	0.2997
SEG1	(Managers)	0.2555
SEG2	(Professionals)	0.2020
DIV4	(Other Manufacturing)	0.2008
DIV9	(Other Services)	-0.1927
DIV0	(Agriculture)	0.1763
SEG3	(Intermediate Non-Manual)	0.1576
DIV3	(Engineering and Vehicles)	0.0948
NEST	(Establishment Size)	-0.0668
SEG6	(Skilled Manual)	-0.0617
LOC	(Location of Headquarters)	-0.0611

(ii) *Types of Bargaining Structures*

Again there were 23 possible variables to include in the discriminating functions (there are two functions because the dependent variable is trichotomous), and 15 passed the entry criterion. The standardised coefficients for the two functions were (in decreasing order of importance under the first function):

Table 9: *Discriminating Function (Standardised) Coefficients for the Bargaining Types Model*

Variable		*Coefficients*	
		(1)	*(2)*
DIV7	(Transport and Communications)	0.8120	0.4601
DIV8	(Business Services)	0.8080	0.2070
DIV5	(Construction)	0.4884	0.5846
DIV1	(Energy and Water)	-0.2943	0.9599
NCOMP	(Company Size)	-0.2097	-0.0459
LOC	(Location of Company Headquarters)	-0.1846	0.3496
NEST	(Establishment Size)	0.1827	-0.3100
MULT	(Single/Multi-plant Company)	0.1755	0.1831
DIV4	(Other Manufacturing)	-0.1314	0.4674
DIV6	(Distribution)	0.1257	-0.0699
SEG8	(Unskilled Manual)	0.1197	-0.0704
SEG7	(Semi-Skilled Manual)	0.0764	-0.2683
SEG1	(Managers)	-0.0712	-0.0866
DIV2	(Metals and Chemicals)	-0.0630	0.1158
SEG3	(Intermediate Non-Manual)	-0.0519	-0.1607

The model classifies correctly 67 per cent of individuals into their proper bargaining groups, and the canonical correlations for the two discriminating functions are 0.62 and 0.55 respectively. It is possible to compare the relative merits of the two functions to see if one function is sufficient to discriminate (between the various bargaining levels) with a tolerable level of accuracy *vis-à-vis* the omitted function. This can be done by comparing the percentage of the total between groups' variability attributable to each function (note the pooled within-groups variance is 1 as a matter of definition). Function 1 accounted for 59 per cent of the variability and Function 2 accounted for 41 per cent. Hence both functions are clearly necessary to the model.

In order to interpret the standardised coefficients, use has to be made of the respective means of the two discriminating functions for each dependent variable. These are given in Table 10.

Table 10: *Discriminating Functions Evaluated at Group Means*

Group	*Function 1*	*Function 2*
National & Supplementary Bargaining	-0.962	0.789
National Only Bargaining	0.845	0.177
Supplementary Only Bargaining	-0.448	-0.928

Therefore, National Only bargaining is (in Function 1) associated more with multi-plant companies; with larger establishments; and particularly with those industries and occupations having a positive coefficient in Table 9. However, in relation to Function 2, National Only bargaining is *not* particularly tied to company size, whereas there *is* more of a relationship with companies that have their headquarters outside of Northern Ireland. Where the mean values for each group have opposite signs across discriminating functions (and/or when coefficients have different signs), it is not possible to uniquely relate a particular type of bargaining structure to the value of one or other of the predictor variables. Only in those situations where the sign of the (discriminating function) mean values is the same as the sign of the coefficients in both functions can we specify a unique relationship. Thus, it is possible to relate two-tier bargaining to companies with headquarters located outside of Northern Ireland, and with the Energy and Water, Metals and Chemicals, and Other Manufacturing industries. National Only bargaining is associated with multi-plant companies, and the Construction, Transport and Communications and Business Services industries. Finally, Supplementary Only bargaining is particularly related to large company size, and Managerial and Intermediate Non-Manual occupations.

V CONCLUSIONS

This paper has compared the collective bargaining structures that existed in Northern Ireland, in 1973 and 1984, with those of Great Britain. We examined the changes that occurred over this period, finding that there was a movement towards the British type of bargaining structure in the public sector, and a movement towards greater single employer agreements in the private (especially the manufacturing) sector.

We also attempted to identify the determinants of different types of bargaining structures; this proved less successful than our ability to identify the variables that determine whether an individual is "covered" or "not covered" by an agreement. Following Deaton and Beaumont (1980), we also find that much of the explanatory power of the models we estimate comes from non-substantive industry and occupation dummies. This suggests that factors specific to these groups were important, and can only be analysed with the inclusion of information on the historical development of collective bargaining in these situations. This is an interesting result in itself, but should not detract from the success of the model(s) in substantiating the importance of "organisational" factors, *viz.* company and plant size, ownership and multi-plant operations.

REFERENCES

BLACK, B., 1986. "Regional Industrial Relations: The Case of Northern Ireland", Unpublished Ph.D. Thesis, Belfast: The Queen's University of Belfast.

BROWN, W., 1981. *The Changing Contours of British Industrial Relations*, Oxford: Basil Blackwell.

CLEGG, H., 1976. *Trade Unionism Under Collective Bargaining: A Theory Based on Comparisons of Six Counties*, Oxford: Basil Blackwell.

CRUM, R.E., and G. GUDGIN, 1977. *Non-Production Activities in UK Manufacturing Industry*, Commission of the European Communities Regional Policy Series 3.

DANIELS, W.W., and N. MILLWARD, 1983. *Workplace Industrial Relations in Britain*, London: Heinemann Educational Books.

DEATON, D.R., and P.B. BEAUMONT, 1980. "The Determinants of Bargaining Structure: Some Large Scale Survey Evidence for Britain", *British Journal of Industrial Relations*, Vol. 18, pp. 202-216.

HARRIS, R.I.D., and V.J. WASS, 1987. "The Effect of Collective Bargaining on Earnings in Northern Ireland in 1973", *The Economic and Social Review*, Vol. 19, No. 1.

JOHNSTON, J., 1984. *Econometric Methods* (Third Edition), Japan: McGraw-Hill International Student Edition.

KOCHAN, T., 1980. *Collective Bargaining and Industrial Relations: From Theory to Policy and Practice*, Illinois: Irwin.

MARGINSON, P.M., 1984. "The Distinctive Effects of Plant and Company Size on Workplace Relations", *British Journal of Industrial Relations*, Vol. 22, pp. 1-14.

NORUSIS, M.J., 1985. *Advanced Statistics Guide: SPSSx*, Illinois: McGraw-Hill for SPSS Inc.

PRAIS, S.J., 1976. *The Evolution of Giant Firms in Britain*, Cambridge: Cambridge University Press for the NIESR.

PURCELL, J., 1983. "The Management of Industrial Relations in the Modern Corporation: Agenda for Research", *British Journal of Industrial Relations*, Vol. 21, No. 1, pp. 1-16.

PURCELL, J., and K. SISSON, 1983. "Strategies and Practice in the Management of Industrial Relations", in G.S. Bain (ed.), *Industrial Relations in Britain*, Oxford: Basil Blackwell.

WEBER, A.R., 1976. "Stability and Change in the Structure of Collective Bargaining", in L. Ulman (ed.), *Challenges to Collective Bargaining*, New Jersey: Prentice-Hall.

WINCHESTER, D., 1983. "Industrial Relations in the Public Sector", in G.S. Bain (ed.), *Industrial Relations in Britain*, Oxford: Basil Blackwell.

APPENDIX I

Table A: *Collective Bargaining Structure by Industry with Company Headquarters in Northern Ireland, 1984*

	Industry Division (1980 SIC)	Number in Sample	Any Collective Agreement	Percentage Covered by National Plus Supplementary Agreement	National Agreement Only	Supplementary Agreement Only
Single Plant	0	4	25.0	0.0	0.0	25.0
	1	—	—	—	—	—
	2	7	42.9	14.3	28.6	0.0
	3	72	76.4	4.2	16.7	55.6
	4	66	57.6	19.7	18.2	19.7
	5	30	50.0	3.3	43.3	3.3
	6	65	26.2	3.1	12.3	10.8
	7	9	44.4	0.0	0.0	44.4
	8	22	9.1	0.0	9.1	0.0
	9	82	86.6	2.4	82.9	1.2
Multi-Plant	0	7	0.0	0.0	0.0	0.0
	1	64	100.0	85.9	14.1	0.0
	2	12	25.0	0.0	0.0	25.0
	3	4	50.0	0.0	50.0	0.0
	4	36	69.4	16.7	13.9	38.9
	5	25	76.0	32.0	44.0	0.0
	6	51	49.1	5.9	23.5	19.6
	7	2	50.0	50.0	0.0	0.0
	8	26	76.9	0.0	57.7	19.2
	9	384	95.8	3.4	91.9	0.5

APPENDIX 2

The variables (and their codes) used in the discriminant model were:

LOC	the location of the headquarters of the company (0 Northern Ireland, 1 Great Britain, 2 Other)
MULT	whether the plant was part of a larger organisation (0 No, 1 Yes)
NEST	establishment size (10 size bands from <10 to $> 5{,}000$)
NCOMP	company size (the same 10 size bands as for establishment size)
TSEX	(0 Female, 1 Male)
SEG1-SEG8	(dummies representing each socio-economic occupation)
DIV0-DIV9	(dummies representing each industry division)