

TRADE UNIONS AND EMPLOYMENT CHANGE

An Analysis of British Establishment Data*

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Few explanations of the changing employment structures of industrialised countries have omitted some reference to the role of trade unions. For some commentators, it is the unions' ability to raise wages above their 'natural market level' that constitutes a brake on employment growth by increasing the employer's costs and making product prices uncompetitive. For others, it is the unions' power to impose uneconomic working practices upon management that leads to decline or lack of growth of the organisation [for a discussion see Freeman and Medoff (1984), Mayhew (1983)]. Empirical testing of these and other lines of explanation has been hampered in Britain by lack of suitable datasets. While employment data are detailed and widely available, systematic and reliable information on the extent of trade union influence has been restricted to reported membership levels for broad industry groups [see, for example, Bain and Price (1983), Pencavel (1974)], the 'coverage' of collective bargaining derived from earnings surveys [see, for example, Mulvey (1976), Layard, Metcalf and Nickell (1978)] and the extent and frequency of strike action [see, for example, Smith et al. (1978)].

The availability of a new series of nationally representative surveys at the establishment level has enabled us to obtain new insights into the relationship between changes in employment and trade union organisation at the point where such relationships arguably occur – the place of work.¹ The

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¹Certain strategic decisions about employment are undeniably made at the headquarters level of multi-establishment enterprises, particularly regarding the closure of existing sites and the opening of new ones. Such decisions are infrequent and account for only a small proportion of job changes compared with the numerous and frequent changes made by existing establishments.

Workplace Industrial Relations Surveys conducted in 1980 and 1984 (WIRS1 and WIRS2 respectively) provide information from a representative sample of establishments in virtually all sectors of the British economy. Daniel and Millward (1983) and Millward and Stevens (1986) give an overview of the results, plus the technical details of the surveys.

Table 1 shows the results of classifying the WIRS1 sample of establishments into five categories of employment change according to their size and broad industrial sector at the time of the survey, for the period 1975–1980. These tabulations show quite wide variations in employment numbers over the five-year period, with 16 per cent of establishments having shrunk by 20 per cent or more and 27 per cent having expanded by 20 per cent or more. It is noticeable that larger establishments showed greater declines in employment than their smaller counterparts. The relative stability of employment in establishments in the public sector is also evident.

Equivalent results from the WIRS2 survey, with an alteration in the change period from five to four years, are shown in table 2. It shows a broadly similar pattern of change with respect to establishment size as was observed for the period 1975–1980, but somewhat different experiences between the broad sectors of the economy. The amount of employment change in private manufacturing is particularly striking compared with other sectors. A third of establishments in that sector had contracted by 20 per cent or more; again these were generally large establishments. In contrast, a quarter had expanded by at least 20 per cent.

Table 3 shows the result of aggregating the number of *employees*, rather than the number of establishments, for the four broad sectors, taking account of the fact that the greatest declines in employment occurred in the largest establishments. First, it is apparent that a higher proportion of individuals were employed in public sector establishments with at least 25 employees in 1984 than was the case in 1980. Secondly, total employment in all establishments declined by 3 per cent from 1975 to 1980 and by 10 per cent over the subsequent and shorter period, 1980–1984. Thirdly, employment decline was especially pronounced in private manufacturing and the nationalised industries over both time periods.

The main question this paper sets out to answer is whether or not the decline in employment identified above can be attributed to trade unions. If not, what are its principal determinants?

One of the great strengths of the surveys is that they contain a wide variety of measures of trade union organisation. Using managers' reports we have classified workplaces into three categories: 'non-union' (those without trade unions recognised for purposes of collective bargaining over pay and conditions, whether there were members present or not); 'weak union' (those with recognised unions but no 'closed shop' arrangement); and 'strong union' (those with a closed shop arrangement for at least some groups of workers).

Table 1
Change in employment, 1975-1980 (row percentages).

	Decrease 20% or more	Decrease of 5% to 20%	Stable	Increase of 5% to 20%	Increase of 20% or more	Weighted base	Unweighted base
All establishments	16	21	18	18	27	1,521	1,577
<i>N.o. of employees at establishment</i>							
25-49	16	20	21	16	26	776	282
50-99	14	22	13	20	30	369	278
100-199	17	23	13	21	26	199	294
200-499	12	23	21	17	26	121	291
500-999	23	20	23	17	17	34	204
1,000-1,999	7	36	21	21	14	14	116
2,000 or more	13	38	25	13	13	8	112
Private sector	18	19	14	17	31	1,022	1,056
Private manufacturing	21	20	10	18	29	394	638
Private services	16	18	17	17	32	628	418
Public sector	11	26	26	20	18	499	521
Nationalised industries	21	21	26	19	13	48	107
Public services	10	27	26	20	18	450	414

Base: Establishments where 1975 employment size reported.
Source: 1980 Workplace Industrial Relations Survey.

Table 2
Change in employment, 1980-1984 (row percentages).

	Decrease of 20% or more	Decrease of 5% to 20%	Stable	Increase of 5% to 20%	Increase of 20% or more	Weighted base	Unweighted base
All establishments	17	27	20	16	20	1,624	1,624
<i>No. of employees at establishment</i>							
25-49	15	29	21	18	18	824	279
50-99	16	26	19	14	26	436	317
100-199	21	25	19	20	16	200	283
200-499	23	23	22	13	19	112	281
500-999	26	25	18	13	18	32	239
1000-1999	21	45	22	9	4	13	157
2000 or more	27	26	28	14	4	5	68
Private sector	22	23	15	16	25	1,044	1,021
Private manufacturing	33	21	10	11	25	378	540
Private services	15	24	17	19	24	666	472
Public sector	7	36	30	16	11	580	612
Nationalised industries	9	33	46	6	6	79	133
Public services	7	36	27	18	12	501	479

Base: Establishments where 1980 employment size reported.
Source: 1984 Workplace Industrial Relations Survey.

Table 3
Percentage change in total employment, 1975–1984.

	Distribution of employment in 1980 (%)	Employment change 1975–1980 (%)	Distribution of employment in 1984 (%)	Employment change 1980–1984 (%)
All establishments	100	-3	100	-10
Private sector	64	-4	56	-13
Private manufacturing	38	-9	27	-19
Private services	26	+6	29	-4
Public sector	36	-2	44	-6
Nationalised industries	6	-15	8	-11
Public services	30	+2	36	-5

Base: Establishments where 1975/1980 employment size reported.

Source: 1980/1984 Workplace Industrial Relations Survey.

Tables 4a and 4b indicate an inverse relationship between the strength of trade union organisation and employment growth and especially so in the private sector. In the period 1980 to 1984 (see table 4b) this association was particularly strong.

To what extent can this association be explained by any differences in the economic conditions in the unionised and non-unionised parts of the private sector? Tables 5a and 5b show the cross-tabulation of employment change over the two time periods with the manager's assessment of the trend in demand for the establishment's main product or service over the preceding year. Both tables show the expected correlation between product demand and employment change. Again the correlation is stronger for the 1980–1984 period when competitive pressures in the British economy were particularly intense.

To determine whether the link between unions and employment contraction persists if we control for product demand conditions we turn to multiple regression analysis, taking the natural logarithm of employment in the year of the two surveys as our dependent variable. We do not attempt to present a fully specified model – work on such a model is ongoing – rather, we report a set of results that give the general tenor of this work.

In Table 6 we report a series of regressions using both WIRS1 (columns 1 to 4) and WIRS2 data (columns 5 to 8) which, because of the size of the coefficient on the lagged dependent variable, are best interpreted as employment *growth* equations. In eqs. 1 and 5 we include both 'weak' and 'strong' union dummy variables along with a constant and a five year lag on employment in the former case and a four year lag in the latter. In both instances we observe significant coefficients of around -0.07 on the two

Table 4
Employment change 1975-1984 (row percentages).

	Decrease of 20% or more	Decrease of 5% to 20%	Stable	Increase of 5% to 20%	Increase of 20% or more	Weighted base	Unweighted base
(a) 1975-1980							
All establishments	16	22	18	18	27	1,521	1,577
Non-union	13	17	12	18	39	536	350
Weak union(s)	16	22	20	19	22	657	721
Strong union(s)	19	27	23	15	17	328	506
Private sector	18	19	14	17	31	1,022	1,056
Non-union	14	17	12	18	39	504	328
Weak union(s)	23	17	17	16	28	312	378
Strong union(s)	21	29	17	16	17	206	350
(b) 1980-1984							
All establishments	17	27	20	16	20	1,624	1,624
Non-union	14	19	16	17	33	560	345
Weak union(s)	15	33	21	17	14	794	838
Strong union(s)	27	29	25	13	8	269	441
Private sector	22	23	15	16	25	1,044	1,012
Non-union	15	19	16	17	33	550	340
Weak union(s)	27	25	14	17	18	352	420
Strong union(s)	37	30	13	12	9	142	252

Base: Establishments where 1975/1980 employment size reported.
Source: 1980/1984 Workplace Industrial Relations Survey.

Table 5
Employment change 1975-1984 (row percentages).

	Decrease of 20% or more	Decrease of 5% to 20%	Stable	Increase of 5% to 20%	Increase of 20% or more	Weighted base	Unweighted base
(a) 1975-1980							
Private sector	18	19	14	17	31	1,022	1,056
<i>Demand</i>							
Rising	15	10	11	21	43	366	312
Constant	16	20	17	15	32	281	270
Falling	28	31	14	10	17	322	408
Other answers	6	12	26	35	21	102	66
(b) 1980-1984							
Private sector	22	23	15	16	25	1,044	1,012
<i>Demand</i>							
Rising	16	20	15	16	33	608	557
Constant	23	29	13	19	16	276	282
Falling	46	22	20	7	6	112	121
Other answers	25	25	12	21	17	48	52

Base: Private sector establishments where 1975/1980 employment size reported.

Source: 1980/1984 Workplace Industrial Relations Survey.

Table 6
Employment regressions.

	WIRS 1				WIRS 2			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Weak unions	-0.0637 (2.08)	-0.0182 (1.35)	-0.0072 (0.51)	-0.0158 (1.21)	-0.0799 (2.88)	-0.0244 (1.63)	-0.0226 (1.36)	-0.0154 (1.05)
Strong unions	-0.0775 (2.35)	-0.0070 (0.49)	0.0081 (0.52)	0.0042 (0.30)	-0.0875 (1.94)	-0.0301 (1.24)	-0.0283 (1.06)	-0.0127 (0.54)
Employment _{t-5}	0.9168 (99.2)	-0.0740 (4.82)	-0.0663 (4.33)	-0.0546 (3.59)	-	-	-	-
Employment _{t-4}	-	-	-	-	0.8997 (95.39)	-0.0419 (2.13)	-0.0432 (2.10)	-0.0247 (1.29)
Employment _{t-1}	-	1.0602 (66.93)	1.0536 (65.84)	1.0438 (66.84)	-	1.0164 (49.48)	1.0146 (47.30)	0.9983 (50.00)
Demand rising	-	-	-	0.0207 (1.61)	-	-	-	0.0586 (4.37)
Demand falling	-	-	-	-0.0677 (5.54)	-	-	-	-0.1016 (4.93)
Industry dummies	No	No	Yes	No	No	No	Yes	No
Constant	0.4996 (10.97)	0.0557 (2.66)	0.0335 (1.10)	0.0556 (2.60)	0.4688 (10.10)	1.3475 (5.19)	0.1124 (2.87)	0.1110 (4.15)
Adjusted R ²	0.9207	0.9849	0.9853	0.9856	0.9193	0.9765	0.9764	0.9780
F	4.082	17,198	1,768	12,053	3,840	10,487	852	7,489
Degrees of freedom	1,052	1,051	1,014	1,048	1,008	1,007	962	1,005

Base: Private sector establishments.

Source: Columns 1-4 from the 1980 Workplace Industrial Relations Survey.

Columns 5-8 from the 1984 Workplace Industrial Relations Survey.

Notes: T-statistics in parentheses.

All employment variables are entered in natural logarithms.

union variables, which are not significantly different from one another. The addition of a one year lag on employment in eqs. 2 and 6 is sufficient to remove the union effects; it is establishment size that is the dominant influence. The coefficients of the union variables remain insignificant even when we control for the state of the product market by the addition of a set of industry dummies. A similar conclusion can be drawn when we replace the industry dummies with two dummy variables which explicitly represent product demand conditions.²

Other analyses of these same datasets have shown effects of trade unions on variables other than employment. 'Strong' unions attract a wage premium for manual workers of around 7 per cent [see Blanchflower (1986), Blanchflower and Oswald (1987), Blanchflower, Oswald and Garrett (1987), Stewart (1987)]. In addition, trade unions have significant representational functions in many aspects of workplace behavior.³ However, contrary to expectations, we find no strong statistical evidence from these two large datasets of an association between employment change and trade union presence, whether in 'weak' or 'strong' forms, in the private sector after controlling for other significant influences.⁴

²Clearly, there is a difficulty here because the two demand variables are potentially endogenous. The existence of unions raises the price of labour (the wage), thereby increasing the price of the product and consequently reducing product demand. However, it is difficult to see how the same argument could be applied to the industry dummies, which are included as alternative indicators of the state of industry product markets.

³For analysis of the role of trade unions in the introduction of new technology using WIRS2 data see Daniel (1987). Millward and Stevens (1986) shows the extent of trade union involvement in, inter alia, consultation and communication, health and safety, discipline and grievance procedures, recruitment, selection for redundancy and a number of bargaining issues besides pay.

⁴This result applies to establishments that had been in existence for some years. The 'births' of establishments may well be connected with potential unionisation. A foreign employer, for example, may not open a factory in a country because of the possibility of the workforce subsequently becoming unionised. It is hard to see how this could be formally tested. On the other hand, establishment closures might be located disproportionately in the unionised sector. On this issue we intend to undertake further analysis of the smaller panel datasets available from the WIRS series.

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