

# What Effect Do Unions Have On Relative Wages In Great Britain?

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A recent book by two Harvard economists, Freeman and Medoff (1984) summarised the results of research into the role and influence of trade unions in the United States. The book caused a good deal of controversy when it was published, (see the discussion in the *Industrial and Labour Relations Review*, Vol. 38 pp. 244-263, 1985) not least because of their conclusion that 'unionisation appears to improve rather than harm the social and economic system' (1984, p. 19). Freeman and Medoff identified two 'faces' of unionism:

- 1) the undesirable face, which enables unions to raise wages above the competitive level. This reduces national output and distorts the distribution of income.
- 2) the desirable face of unionism, which is its collective voice. This enables unions to channel worker discontent into improved workplace conditions, fundamentally altering the social relations of production. On the basis of their findings, the authors judged that the damaging effects of monopoly power were outweighed by the beneficial effects of collective voice in the US economy.

Despite the fact that trade unions are one of the key institutions in the operation of the labour market in Great Britain, surprisingly little empirical micro-economic evidence exists on their overall impact. (See Oswald's paper to this conference for a discussion of the large body of macro-economic evidence that exists.) Such empirical work that is available has tended to concentrate on the 'monopoly face' of unions, largely ignoring the 'collective voice' element. The major reason for this, in my view, does not stem so much from lethargy on the part of the academic community, but rather from totally inadequate data. Suitable information has simply not been available for labour economists to examine the extent to which unions in Great Britain have influenced turnover rates, quit rates, productivity, fringe benefits, profits or wage inequality, in a way that has been possible for the United States. (For an exception see Green, Hadjimatheou and Smail, 1985.) Consequently, it is not possible for us to compare the two faces of unionism in Great Britain in the same way as Freeman and Medoff have

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done for the United States, because we simply do not have sufficient information to do so. It is appropriate, therefore, to limit our discussion to the micro-economic evidence that exists on the 'monopoly face' of unions in Great Britain.

## THE ESTIMATION OF UNION/NON-UNION WAGE DIFFERENTIALS

The main body of work on the 'monopoly face' of unions in Great Britain has involved the estimation of union/non-union *ceteris paribus* wage differentials. The majority of this work used aggregate cross-section data at either the industry (e.g. Pencavel, 1975), or the occupational levels (e.g. Mulvey and Foster, 1976). Estimates of the overall differential obtained in these studies varied between -6 per cent and 40 per cent, (for a survey of results see Blanchflower, 1984). In the last few years this work has been subjected to a good deal of scrutiny and has been found to be flawed in a number of ways. A serious deficiency was that the set of explanatory variables used to control for labour quality and workplace characteristics was very limited. Evidence presented by Stewart (1983) also suggests that there is considerable variation in the differential across industries. As the model used in these aggregate level studies ignores the possibility of such a variation, union differentials obtained from them will be subject to aggregation bias. In addition, Geroski and Stewart (1986) concluded that estimates of union differentials obtained from such studies were so unstable that little if anything could usefully be deduced from them. Finally, H. Gregg Lewis has argued that estimates obtained from such aggregate studies should not be interpreted as union/non-union wage differentials since they tend to estimate the sum of two quite distinct effects, only one of which is the wage gap; the other being an 'extent of unionism' effect, (1983, p. 23). A number of recent studies have utilised more preferable micro-data at either the individual worker (Stewart, 1983, and Shah, 1984) or the establishment level (Blanchflower, 1984, 1985, 1986 and Stewart, 1985). Union/non-union wage differentials obtained in these studies are generally smaller than those obtained from the aggregate level studies, (for further details see Blanchflower, 1984). A broadly similar picture has also been reported by Lewis (1983) for the United States.

In the next section of this paper I discuss a series of estimates of union/non-union wage differentials for Great Britain I have derived using establishment level data from the 1980 Workplace Industrial Relations Survey. Although this is the most recent date for which estimates are available, it would be surprising if these differentials were to remain uniform over time. There is every reason to suppose that union/non-union wage differentials will vary according to the state of the labour market. The usual textbook view, following Lewis (1963), is that the average differential varies counter-cyclically. That is to say it is smallest when the labour market is tight and largest when it is slack. The reason for this, it is argued, is that wages in the

union sector are stickier over the business cycle than wages in the non-union sector, because it takes time to negotiate union agreements, whilst in the non-union sector wages may be adjusted more rapidly. This seems to be a crucial factor in the United States where the length of the typical collective agreement is from one to three years. Some evidence in support of this view for Britain is provided by Layard, Metcalf and Nickell (1978). If this is the case then one would expect union differentials at the time of writing (1986) to be larger than in 1980, the year to which the most recent estimates discussed in this paper relate. If unions are prepared to sacrifice wage objectives in order to sustain employment (or some other objective such as improving fringe benefits) then it is possible that these differentials would be lower than in 1980.

It has to be noted, of course, that the period since 1980 has not been characterised by a regular swing of the business cycle. The number of unemployed in Great Britain approximately doubled between 1980 and 1984 to well over three million. At the same time there were considerable changes in the industrial relations scene. Aggregate union membership, for example, fell by a million and a half in the two years from 1980. The period since 1980 has also seen considerable legislative changes in the industrial relations area. Marked changes in industrial structure as well as in technology which occurred over this period may have had different impacts on pay structures in the union and non-union sectors. Such changes may result in further shifts in differentials. The availability of a second sweep of the Workplace Industrial Relations Survey in 1984 means that it will be possible to investigate changes in union/non-union relative wages that occurred between 1980 and 1984. This work is being undertaken in collaboration with Mark Stewart, with funding from the Economic and Social Research Council.

## UNION/NON-UNION WAGE DIFFERENTIALS IN GREAT BRITAIN, 1980

The principal concern of my own research has been to determine the extent to which unions are able to alter the wages of unionised labour, relative to comparable non-unionised labour in Great Britain. As Lewis (1963) has pointed out, although unions may change the general level of money or real wages throughout the economy and/or the rate at which money wages are increasing, these are the absolute wage effects of unions. If trade unions are successful in securing relative gains wholly by raising the level of union wages, with non-union wages unchanged, then this implies a rise in the general level of wages. However, if they are made, even in part, by a reduction in the wage that non-union workers would get in the absence of unions, then the implications for the general level of wages would be very different. The effects of unionism on the general level of either money or real wages, therefore, cannot be deduced from knowledge only of the relative effects of unionism.

A number of difficulties do arise in assessing the size of the union/non-union wage differentials or wage gap, even with the use of large micro data sets, if trade unions succeed in raising the pay of both organised and unorganised workers via threat effects. These will occur, for example, if non-union employers pay union rates to prevent the unionisation of their workforces. In some cases non-union employers pay their workers the full union rate and yet will prefer to remain non-union because this gives them greater flexibility in personnel policies and because their plants can operate while union plants are engaged in industrial disputes. In these circumstances the non-union wage is higher than it would have been in the absence of unions. Unfortunately it is not possible to observe what the earnings of individuals would be if they were not in a union and in the absence of unionism elsewhere in the economy. The *wage gain* that would result if such a comparison were possible would be the true measure of the degree to which unions are able to influence relative wages (see Lewis, 1983). It is not possible to observe the wage gain because it is not feasible suddenly to impose unions on some sectors of a previously non-union economy and measure what happens to the wages of workers who become unionised. As a second best, therefore, a measure of the impact of unions is the *wage gap*, which is defined by Lewis as the excess of an individual's real wage if unionised (covered by a collective bargaining agreement) over his real wage if non-union (not so covered) given his working conditions (1983, p. 2). Where threat effects exist the wage gap will understate the wage gain, which is the true wage effect of unions.

If unions are able to restrict the supply of workers into the union sector, then workers who would otherwise have been employed in union jobs will seek jobs in non-union establishments. Their competition with workers already working or seeking jobs in these establishments may well drive down the wage rates in the non-union sector i.e. spillover effects. In these circumstances the non-union wage would be below the wage that would exist in the absence of all unions; the wage gap, therefore, overstates the wage gain.

In any particular case it is difficult to determine the extent or even the direction of the overall bias as it depends on a complex combination of factors such as the relative elasticities of supply and demand and the relative strengths of threat and spillover effects. Empirical estimation of the extent of these effects is fraught with difficulties, both of a conceptual and econometric nature. Their resolution requires detailed knowledge of wage setting and collective bargaining practices across industries, localities and occupations. Such information is unlikely to be available at anything other than a highly disaggregated level of analysis.

If unions are able to raise the relative wages of their members, as we noted above, this implies that the distribution of income and resources in the economy will be changed. Consequently, there are important policy implications if it can be established that unions are able to exert a considerable influence on the pay of their members. Minford, for example,

has argued that these influences are so substantial that monopoly power from the union side 'now rates as a major allocational issue' (1982, p. 63). Minford based this claim on an estimate of a union/non-union differential in Great Britain in 1979 of 74 per cent using time series data.<sup>1</sup> He regarded this estimate as indicative of the 'immense power' wielded by trade unions in the British economy and argued a case for drastic reforms, including the removal of all union immunities under common law and the abolition of the closed shop (Minford, 1983a, pp. 61-77). Nickell (1984) has already shown that Minford's estimates are 'vastly too large simply because of his use of an estimated model which is mis-specified relative to his own theory' (1984, p. 9). Moreover, recent empirical work by Nickell and Andrews (1983) in response to Minford's work and using comparable time series data, found a differential for the period 1951-79 that ranged between 7 per cent and 31 per cent; for 1979 the estimated differential is 29 per cent. My research, and subsequent work by Stewart (1985) using the same data, suggests that even this estimate is substantially upward biased. The overall union markup in Great Britain in 1980 appears to have been relatively small and in single figures.

Through a special arrangement with the sponsoring bodies (the ESRC, the Department of Employment and the Policy Studies Institute), I was given privileged access to unique establishment level data from the 1980 Workplace Industrial Relations Survey (WIRS). The data set contains details both of worker and workplace characteristics of 2040 establishments with at least 25 employees (full or part-time), across most sectors of the British economy (see Daniel and Millward, 1983). Earlier studies had been restricted to an analysis of specific groups of workers, usually male manuals, within particular sectors, generally manufacturing. The comprehensiveness in the coverage of the data meant that it was possible to obtain estimates of the union/non-union wage differential, or wage gap, for both the non-manufacturing and manufacturing sectors of the economy, for manual and non-manual workers. In addition, it was possible to include a much fuller set of controls for differences in worker and workplace characteristics than had been possible in most earlier studies. This helps to ensure that an influence is not attributed to unions when it is more correctly attributable to other factors such as establishment size, for example, which themselves enhance wages.

Using data from the 1980 WIRS it was possible to compare the gross weekly wages of 'typical' employees in union and non-union establishments, holding other factors constant. Separate wages information was available for four groups of workers: semi-skilled and skilled manuals, clerical workers and middle managers. An establishment was classified as 'union' if management reported that manual (non-manual) unions were recognised at the establishment for negotiating pay and conditions for any sector or sections of the manual (non-manual) workforce. Overall, estimated wage gaps for Great Britain in 1980 were found to be relatively small; only in the case of semi-skilled manuals were they found to be in double figures.<sup>2</sup> As can

be seen from Table 1, wage gaps for semi-skilled manuals and middle managers tended to be higher in the non-manufacturing sector than in the manufacturing sector. In contrast, wage gaps for skilled manuals and clerical workers were not significantly different from zero in either the manufacturing or the non-manufacturing sectors, (see Blanchflower 1985, chapters 4 and 5).

TABLE 1  
Wage Gaps in Great Britain, 1980 (%)

	<i>Manual</i>		<i>Non-Manual</i>	
	<i>Semi-Skilled</i>	<i>Skilled</i>	<i>Clerical Workers</i>	<i>Middle Managers</i>
Great Britain	10.2*	-0.4	0.7	4.0*
Manufacturing	2.0	-0.7	3.0	2.6
Non-Manufacturing	14.0*	-0.9	-0.5	3.5*
Private sector	7.8*	-1.0	1.3	2.3
Public sector	25.5*	6.7	12.4*	3.5

Source: Blanchflower (1984, 1985)

Notes: \* Significantly different from zero at the 5 per cent level.

Perhaps the most puzzling results in Table 1 are the relatively large differentials in the public sector compared with those in the private sector. (For further details see Blanchflower (1985) pp. 249–269). This is especially apparent in the case of semi-skilled manuals. Although there were very high levels of union recognition amongst establishments in the nationalised industries, a relatively high proportion of establishments in public administration which employed one or more manual (non-manual) workers, did not recognise manual (non-manual) unions.<sup>3</sup> These establishments were generally small, employed relatively high proportions of both part-timers and full-time females in their workforces, and were disproportionately located in the education sector, (see Blanchflower (1985) pp. 268–269). One possible explanation for this phenomenon is that establishments which do not recognise unions in the public sector are marginal to the industry in which they are located. This may mean that it is not feasible to make separate bargaining arrangements for them, as they are different from all other establishments in that industry. Similarly, within establishments there are likely to be certain marginal occupations whose work is not central to the main activity of the establishment and for whom formal bargaining arrangements do not exist. In certain cases particular types of occupations may exist that are exclusive to the establishment and do not exist elsewhere. In general, it does appear that the 'typical' gross weekly wage levels of workers in such establishments are relatively low. The fairly substantial wage gaps in the public sector may have arisen, therefore, because of

unmeasured differences between 'union' and 'non-union' establishments in workplace and/or workforce characteristics. This is the subject of current research.

The wage gap was also observed to be systematically related to variations in a number of exogenous variables. The extent of this variation appears to be greatest in the case of semi-skilled manual workers, for whom strong evidence was obtained that the wage gap was negatively related to establishment size.<sup>4</sup> For both semi-skilled and skilled manuals, evidence was found that the wage gap varied according to the extent of industry unionism.<sup>5</sup> It appears that wage gaps are highest in industries with unionisation levels near the middle of the spectrum (i.e. 60 per cent to 70 per cent). This is broadly consistent with the view of Rosen (1969) who argued that the wage gap is likely to have a low positive value when the unionisation rate is low, since that may indicate basic union weakness. As the unionisation rate rises the wage gap might be expected to be more strongly positive. However, at very high levels of unionisation Rosen argued that the wage gap would fall off in value and even become negative, because it would not be worth the relatively small gains to the union compared with the organisational effort to organise the remaining non-union firms. Consequently, the wage gap at these extremes would be relatively low; if it were high there would be a greater incentive for unions to organise employees (1969, p. 195).

There are a number of criticisms that could be directed against this work. The failure to control adequately for threat and spillover effects; the lack of information on other significant groups such as unskilled manual workers; the lack of data disaggregated by sex; the failure to control fully for the quality of the workforce could all be mentioned in this context. Despite such caveats, this is the most comprehensive analysis of union relative wage effects in Great Britain currently available. The finding of a relatively small relative wage effect of unions in 1980 suggests that the lost output caused by the misallocation of labour to areas where it was less productive was quite small.<sup>6</sup>

As was noted above the availability of a second sweep of the Workplace Industrial Relations Survey in 1984 means that it will be possible to investigate directly, changes in union/non-union differentials that occurred between 1980 and 1984. Also included within the survey is a panel element of 245 establishments interviewed in both the 1980 and 1984 surveys. This permits direct observation of changes in typical pay levels and allows analysis of how they differ between union and non-union sectors. The availability of longitudinal or panel data, potentially has the added benefit of allowing controls for unobserved, but unchanging, characteristics of establishments. However, this approach is not without its econometric problems, foremost among these will be the likely lack of change in the union recognition variables between the two dates. The 1984 survey also allows extension of the analysis to incorporate investigations of the impact of a number of factors that were not included in the 1980 survey. This includes

the role of market structure, product price sensitivity, labour cost ratios and other such factors in the determination of the pay differentials between the union and non-union sectors. The 1984 survey will also permit the decomposition of the union/non-union differential in weekly pay into that in hourly pay and that in the number of (basic and overtime) hours worked.

It must remain a matter of speculation whether the estimates of union relative wage effects obtained from the second stage of our work will be substantially different from the estimates for 1980. Even with such knowledge we will still be a long way from evaluating the overall impact of unions in the economy. Without knowledge of the effects, and indeed, changes in the effects, of unions upon wage inequality, productivity, fringe benefits, health and safety at work etc., it is almost impossible to assess whether unions in recent years have improved or harmed the social and economic system of Great Britain.

## NOTES

1. These claims should not be taken too seriously as they are based upon estimates of a differential between:  
'the totality of the union sector including its satellites and the non-unionised parts; think of mineworkers or firemen relative to cleaning ladies or Liverpool taxi drivers.' (1984, p. 955)  
Why such a comparison is interesting or useful is not made clear!
2. Stewart (1985) has now broken down the differentials for manual workers reported in this paper according to whether or not pre/post-entry closed shops exist at the workplace. He found that the presence of a pre-entry closed shop tended to raise differentials somewhat. Average differentials, however, are not significantly different from those reported here. (9 per cent for semi-skilled manuals and 3 per cent for skilled manuals).
3. The extent of union recognition in the public and private sectors was as follows:

	<i>Manual*</i>	<i>Non-Manual**</i>	(%)
Private sector	50	30	
Private manufacturing	68	32	
Private services	35	29	
Public sector	76	90	
Nationalised industries	98	94	
Public administration	73	89	

Base; \*all establishments that employed manual workers

\*\*all establishments that employed non-manual workers

Source: Daniel and Millward (1983), Table II.27

4. Wage gaps for semi-skilled manuals were found to be related to establishment size as follows:



<i>Number of employees</i>	<i>Wage gap</i>
25-49	10.2%*
50-99	10.7%*
100-199	2.5%
200-499	-2.6%
500+	-5.4%

Notes: \*Significantly different from zero at the 5% level

Source: Blanchflower (1985) p. 293

5. Wage gaps for manual workers were found to be related to the extent of industry unionism as follows:

<i>Unionisation rate</i>	<i>Wage gap (%)</i>	
	<i>Semi-skilled</i>	<i>Skilled</i>
Below 40%	7.9	-10.8*
40% but under 60%	7.8*	-0.6
60% but under 70%	12.1*	6.0*
70% but under 90%	6.4*	5.9*
90% and over	5.0	1.5

Notes: \*Significantly different from zero at the 5% level

Source: Blanchflower (1985) pp. 244-245

6. Freeman and Medoff (1984, p. 57) estimate on the basis of wage gaps of much higher orders of magnitude to those reported here, that union monopoly wage effects in 1980 cost the U.S. economy only between 0.2 to 0.4 per cent of G.N.P.

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