Looking for HRM/Union Substitution: Evidence from British Workplaces

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January 2004

Abstract

In this paper we test the HRM/union substitution hypothesis that human resource management (HRM) practices act as a substitute for unionization. We use British workplace data between 1980 and 1998 which allows us to examine for the first time whether increased HRM incidence has coincided with union decline.

First, we compare changes over time in the incidence of HRM practices across union and non-union sectors, finding little cross-time difference occurring between sectors. Second, we ask whether newer workplaces (strongly shown by other research as more likely to be non-union) have experienced differentially faster HRM incidence; we are unable to find much evidence in support of this. Third, longitudinal changes also fail to pick up any evidence of faster union decline in workplaces or industries with faster take up of HRM practices. We find no evidence of HRM substitution operating in the hypothesised way of it replacing unions and conclude that increased HRM incidence does not seem to be an important factor underpinning union decline in Britain.

Keywords: Human Resource Management; Trade unions
JEL Classifications: J51

The Centre for Economic Performance is financed by the Economic and Social Research Council. This paper is produced under the 'Future of Trade Unions in Modern Britain' Programme supported by the Leverhulme Trust. The Centre for Economic Performance acknowledges with thanks, the generosity of the Trust. For more information concerning this Programme please e-mail **future_of_unions@lse.ac.uk**

Acknowledgements
This research is part of the Leverhulme Foundation-funded research on the Future of Trade Unionism in Modern Britain. The empirical research is based on data from the Workplace Industrial/Employee Relations series, which is deposited at the Data Archive at the University of Essex, UK (http://www.esrc.ac.uk). Neither the sponsors nor the Data Archive have any responsibility for the analysis or interpretation of the material contained in this paper. We would like to thank participants at the Labor seminar at Wharton Business School and Alex Bryson and Peter Capelli for their comments on a first draft of this paper, and to Alison Geldart for her editorial assistance.

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Published by
Centre for Economic Performance
London School of Economics and Political Science
Houghton Street
London WC2A 2AE

ISBN 0 7530 1706 7

Individual copy price: £5

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1. Introduction

The decline of trade unionism has been a feature of most countries in recent years (Verma, *et al*, 2002) and the subject of study of a large body of research. Union decline has been especially strong in Britain over the last twenty-five years. In the late 1970s over 13 million people – or around 58 percent of employees - were trade union members, and over 70 percent of employees' wages were set by collective bargaining. Since reaching its peak in 1979, unionization (however measured) has fallen year on year so that in 2003 less than 30 percent of workers are members of a trade union.

Coinciding with the decline in trade unionism has been an increase in the use of human relations practices and new forms of work organisation. These are often subsumed under labels such as high involvement, high commitment and high performance management, or simply human resource management. For convenience we shall follow Fiorito (2001), the major US writer on union substitution, and use the term human resource management (HRM). The increased adoption of HRM practices has been presented, particularly in the prescriptive management literature, as providing the basis for a new win-win relationship between workers and managers. It is argued that they offer management the prospect of improved performance whilst simultaneously improving workers' job satisfaction, security and perhaps pay.

The increasing adoption of the term high performance methods, even in the industrial relations literature, implies an acceptance of the validity of this chain of argument. If it is indeed the case that these modern HRM methods do enhance the satisfaction of workers, they might be expected to reduce the demand for trade unions. This possibility forms the basis of what has become known as the HRM/substitution explanation of union decline. The argument is that unions may become redundant in the eyes of workers (and employers) because of 'the effects that positive employer practices… have in reducing the *causes* (author's italics) of unionism i.e. worker dissatisfaction' (Fiorito, 2001: 335).

This paper explores empirically whether HRM/union substitution has been a major factor in the decline of trade unionism in Britain. It asks whether there is indeed a link between the rise of HRM and declining trade unionism in British workplaces. To do so we are able to draw upon rich data on workplaces over time from the British Workplace Industrial/Employee Relations series of data from 1980, 1984, 1990 and 1998.

We start by examining whether, in the era of union decline, HRM practices permeated into non-union workplaces at a faster rate than they did in unionized workplaces. If they did this would suggest that HRM practices do increasingly provide a voice for workers in non-union environments, and may well make trade unions anachronisms in the workplace. In other words, in this world of HRM, workers do not need union representation in their workplace to ensure that grievance procedures, health and safety arrangements, and other forms of involvement are there for them if required.

Moreover, were a more rapid implementation of HRM into non-union workplaces discovered, it would also question the notion expressed by some that HRM practices and unions are complementary. Moreover, and were it a long-term trend, it would severely question the 'mutual gains' (Kochan and Osterman, 1994) argument that HRM's performance effects will be enhanced when unions are present, even if HRM is substituting for unions.

It could, however, be the case that a correlation between non-unionism and HRM reflects the fact that HRM practices are newer than traditional unions and as such are more likely to be located in newer workplaces; as we know from other studies, newer workplaces in Britain are much more likely to be non-union as unions have failed to organise in more recently set up workplaces (Machin, 2000, 2003).

We set up tests for HRM substitution using repeated cross-section data on workplaces from the British Workplace Industrial/Employee Relations Surveys. These are representative surveys of workplaces (with 25 or more workers) undertaken in 1980, 1984, 1990 and 1998. The cross-time angle offered by the four cross-sections is important as we wish to see whether the period of rapid union decline was characterised by related patterns of the changing incidence of HRM practices.

The first approach we adopt considers differences over time in the use of HRM practices in the union and non-union sector. This enables us to look at whether one can identify differential trends through time in HRM incidence between union and non-union workplaces. For HRM substitution to be present we ought to see more rapid increases in the non-union sector.

The second approach acknowledges the potential significance of new workplace effects. We consider whether increased HRM incidence in newer workplaces as compared to older ones can be identified and, within this, whether there are differences between union and non-union sectors. This is a stronger test than the first approach as it factors in the observation made above that HRM factors may just be more prevalent because they are new. Focusing on differences in newer workplaces, relative to the older workplaces, effectively controls for this and so should be more informative on the HRM/union substitution hypothesis. Since failure to organise in new workplaces also seems key to union decline (Machin, 2000, 2003) consideration of this also says something about the importance, or otherwise, of increased HRM incidence as an explanatory factor.[1]

Finally we consider longitudinal data on workplaces and industries and explore whether the rise of HRM has, in fact, gone hand-in-hand with union decline. While some of the data is limited in terms of the number of HRM practices we are able to use these data to look at the dynamics of change asking whether one can identify whether within-workplace or within-industry changes in unionization display any correlation with changes in HRM incidence. We do this in two ways, first asking whether unionized workplaces that introduced HRM practices between 1990 and 1998

[1] See Pencavel (2002) for a general and wide ranging account of factors underpinning union decline in the UK.

saw falls in union presence relative to those that did not introduce practices and second modelling changes over time in industries between 1980 and 1998.

We structure the remainder of the paper into five sections. In section 2 we discuss in more detail the hypothesis of HRM/union substitution. In section 3 we describe the data, before presenting the evidence on the first approach that we take, namely examining union/non-union differences in temporal changes in the incidence HRM practices. Section 4 presents results from the analysis based on the second approach, looking at union/non-union differences stratified by workplace age. Section 5 then looks for HR substitution using longitudinal data. Finally, in section 6 we draw out some conclusions, reviewing the key findings and also focusing on the implications of our results for wider debates within industrial relations.

2. HRM Substitution

Increased Incidence of HRM Practices and Unionization

There is evidence in the UK that demonstrates that the increasing importance within management thought attached to HRM has been translated to an increased adoption of such practices. Wood and Albanese (1995: 232-234) showed that the use of an extensive range of 15 human resource management practices typically associated with high involvement, high commitment or high performance management – including team briefing, team working, formal assessment, merit pay, flexible job descriptions, and quality circles – all increased in their sample of 132 UK manufacturing plants between 1986 and 1990. Team briefing and flexible job descriptions had the highest rate of increase.

For a similar period in the subsequent decade, a study of manufacturing showed that both the uptake by companies and usage within them increased for three

key high involvement practices: team working, empowerment and learning culture (Wood *et al*, 2002). Analyses of the UK's Workplace Employee Relations Survey of 1998 have also documented the rise of direct communication methods and certain kinds of pay systems (Forth and Millward, 2002; Millward, *et al*, 2000; Sisson, 1993). Several more qualitative studies (e.g. Clark, 1995, Scott, 1994, Starkey and McKinlay, 1993: 40-81, and Wickens, 1987, for the UK, Rubinstein and Kochan, 2001) have concentrated on the development of HRM practices in the last two decades, Storey's (1992) being the first to document the freshness of these in key UK organisations, while Kochan, *et al* (1986) and Appelbaum and Batt (1994) did likewise for the USA.

The initial tendency to associate HRM practices with non-unionism was never as strong in the UK as it was in the USA, except when they were associated with US multinationals. Nonetheless, at least one British commentator, Guest (1989: 48), associated HRM with non-unionism when he wrote: 'An organisation pursuing HRM will almost always prefer a non-union path, emphasising individual rather than collective arrangements'. Yet while HRM might equate to non-unionism, no-unionism 'unfortunately', Guest noticeably added, could not be equated with HRM, as 'a company may pursue non-union policies or remain fortuitously non-union without practising HRM'.

The implication of the adverb 'fortuitously' is that HRM is a major, if not the only effective, means of remaining non-union. This is consistent with the way in which HRM is inherent to the definition of union substitution in some of the US literature, certainly when distinctions are made between it and union suppression. Fiorito (2001:335), for example, makes the distinction on the basis that 'union *suppression* refers to direct attacks on *symptoms* of "unionism" (pro-union attitudes,

intentions or actions) amongst workers' (author's italics). Since union substitution refers to positive employer practices concerned with employee involvement it is often conceived as being aimed at reducing worker dissatisfaction. Given that for Fiorito the adoption of such practices does not have to be consciously motivated by anti-unionism, any increase in their use could be taken by definition to be union substitution. Nonetheless, this prejudges too much, ahead of empirical research into the link between HRM and non-unionism. Fiorito in fact reports just such research, which shows that HRM practices may have differential relevance for union substitution.

In the most prominent HRM literature, that which has sought to test its performance effects, a wide variety of practices is taken to fall under its umbrella. They can be classified as concerned with job and work design (particularly with local empowerment), communications and representation, skill acquisition and training, appraisal, recruitment and selection, compensation, and internal employment practices (Appelbaum *et* al, 2000, Wood and Wall, 2002).

Several of the practices that fall under these headings are those which unions have campaigned for or which are at least consistent with their demands, the most obvious ones being representation, training, fair selection processes, priority given to internal recruitment, and job security. Yet this is not to deny that if management were to offer these independently of employee pressure, the dissatisfactions that may cause unionism may disappear and hence may reduce workers' willingness to join unions. Some practices, and particularly functional flexibility in a situation of negotiated work rules and demarcation regulations, may constitute substitutes for union-inspired rules and practices. As such, these may bring their own problems for workers, not least the undermining of the union's power base.

The practices that are thought to most directly constitute alternatives to unions are those that can replace bargaining and voice roles. More specifically, there are two core substitutes for unions: forms of individualized pay determination such as imposed merit and performance-related pay awards or individual bargaining, and methods of communication that purport to give workers a direct voice and avoid any third party such as a union or at least union representatives. Nonetheless, neither of these is likely to offer full alternatives to unions. Firstly, the individualized methods mean that individuals are negotiating without the strength of their fellow workers and awards may be subject to the arbitrariness of managers, one of the very forces that unions were historically set up to counter. Secondly, direct or non-union representative communication methods may offer lower levels of involvement, information-sharing and consultation rather than bargaining, and may not have the formal independence from management that the union has. However, it is towards such forms of pay systems (including those associated with economic involvement such as profit-sharing) and voice mechanisms that the argument about union substitution has tended to gravitate, and this is mirrored in the empirical testing of the link between HRM and unionization.

Existing Empirical Work From Britain

Existing empirical research on the link between HRM practices and unionism has almost exclusively been based on point in time cross-sectional analysis. This is true of all the British work we survey here, but is also a feature of the US work in this area. Wood (1996), using the full range of practices in his data from UK manufacturing, found that both the major HRM practices, and a composite measure of 'high commitment management' that he developed from them, were not associated with

unionism. In fact, both were neither more nor less likely to exist in non-unionized workplaces. Appraisal and merit pay were, however, more likely to be used in non-unionized plants and the rate of change in high commitment management between 1986 and 1990 was greater in non-union plants. This suggests unions have a dragging effect on HRM's introduction but ultimately do not reduce its uptake. It may also be indicative of a greater desire on the part of non-unionized managements to implement high commitment management, perhaps motivated by a desire to avoid unionism.

Various analyses of aspects of the Workplace Industrial/Employee Relations Survey Series (of 1980, 1984, 1990 and 1998) have explored the link between human resource management practices and unionism. Most of those that have concentrated on the merit pay and non-union voice mechanisms have concluded that they are not associated with non-unionism, being either neutral with respect to union recognition or even positively associated with it (Sisson, 1993, Cully *et al,* 2000, Gospel and Willman, 2003).

Wood and de Menezes (1998) developed a composite measure of high commitment management based on a mixture of data from WIRS for 1990 and a sister survey from 1990-91 (the Employers' Manpower and Skills Practices Survey) and found no association with unionism. Analysis of a fuller range of HRM practices that appeared for the first time in the WIRS/WERS series in 1998 found that the number of these practices used was associated with unionism (Cully *et al*, 2000: 110-111), but that this was mostly because they were more widespread in large private-sector workplaces and throughout the public sector. A more in-depth analysis of the practices that was included in Cully *et al*'s aggregate index of high commitment by Wood, de Menezes and Lasaosa (2003) revealed that the relationship was more complex. The family-friendly practices, for example, and internal labor market

employment practices included in their index were not associated with core high involvement practices associated with changes in work organisation. This does question the validity of indices based on simply aggregating practices. Using their superior measures, Wood *et al* (2003) found no strong relationship between union recognition or density and high involvement management (and indeed, nor family-friendly management).

Forth and Millward (2002) conducted a more direct assessment of the union substitution hypothesis, but only using cross sectional data (the 1998 Workplace Employee Relations Survey). They tested to see if direct communication channels were more prevalent where managers reported that they were generally not in favour of union membership than where managers were either neutral or positive towards unions. Forth and Millward first examined the subsample of workplaces with union recognition and then the non-union subsample, and found that direct communication was unrelated to management's orientation towards unionism in the unionized sample. In the unionized sample the existence of some direct communication channels is related to negative attitudes towards unions on the part of management, but the extent of their usage is greater where these attitudes are positive. Forth and Millward (2002: 23) conclude that non-union firms attempting union substitution provide the minimum necessary and 'do not provide further channels of communication that might be superfluous to the aim of union avoidance'.

Interpretation

The dominant finding of co-existence between HRM and unions may, however, reflect a variety of processes. Firstly, those who associate HRM with non-unionism may see the relationship simply as a transitional state or aberration. For example,

Guest by 1995 was readily prepared to admit the co-existence of unionism and HRM, but implied that this could reflect that one or other were in weak forms. Either the trade unionism was not robust or the HRM was fragmented or limited (Guest, 1995: 121). Moreover, the statistical results would be mirroring to some extent the rise of industrial relations situations where neither HRM nor unionism existed (the black hole of Guest, 1995: 125-127, or Sissons' bleak house, 1993: 207). According to Guest, HRM could not exist at high levels of unionization. The case of a mutually supportive relationship between the unions and HRM (what we might associate with Kochan and Osterman's mutual gains model or the currently vogue term partnership) was seen by Guest in 1995 as less likely than 'black holes' or 'bleak houses'. The viability of the mutual gains model is certainly dependent on a change of union attitudes so that they embrace the HRM model. This implies that they accept a role in enhancing economic performance on the basis that the assumed HRM-performance link is proven. Subsequently, Guest and Conway (1999) observed high HRM to be associated with higher levels of job satisfaction, commitment and leaving intentions, regardless of the union status of the individual. Nonetheless, those employees in unionized workplaces with low HRM had more negative attitudes than low-HRM workplaces with no union (i.e. those in his black hole)

Secondly, and linked to this, there is the possibility that the cross-sectional analysis may mask multiple processes. There may be cases where HRM and unionism are mutually supportive as seemingly in the original Saturn experiment in the US (Rubinstein and Kochan, 2001); cases where managements are using it to undermine the union; and cases where it is being used to keep unions at bay, alongside the black hole cases. There may also be a compartmentalisation of the major HRM practices from unionism, with the focus of the former on changing tasks

systems, the latter on governance. This being the case, the key test remains between systems that replace collective bargaining and union voice.

This emphasis on the dynamic nature of the HRM substitution hypothesis suggests that one may end up with misleading findings from point in time cross-sectional analysis. The complex position that may underlie the dominant co-existence-of-HRM-and-unionism result could be explored further by more sophisticated analysis that differentiates more clearly between different unionized situations. Some have done this to an extent by taking into account union density as a measure of union strength (Wood, 1996). It could also differentiate between the motives of management, and treat them as influencing the outcome of HRM. For example, Koys (1991) found that perceptions of the fairness of management's motives in using HRM practices influenced their effect on organisational commitment.

Equally the issue of substitutability could usefully be explored with data over time as is seemingly required by the dynamic processes associated with HRM adoption. Fiorito (2001: 351) himself admits after presenting his own cross sectional data at the individual level that we require measures of 'the use of HR practices over time' to really assess 'the extent to which they have contributed to the decline of unions over recent decades'. It is this cross-time approach emphasising dynamics that we adopt in our empirical investigation.

3. Union/Non-Union Differences in HRM Incidence Over Time

Data Description

The data used in this paper is drawn from the British Workplace Industrial/Employee Relations Surveys of 1980, 1984, 1990 and 1998. These are workplace-level surveys[2] with rich data on the industrial relations environment of workplaces that have been widely used by researchers to study a range of issues (see the bibliography of Millward, 2002, for details of these studies). Of most relevance for our analysis is the fact that the surveys were carried out over time as this permits us to address the question of whether HRM uptake has paralleled union decline. The survey data contain a number of measures of union presence and of HRM practices, which we describe next.

Measures of Union Presence and HRM

The union data in the WIRS/WERS series have been used by many researchers, both to look at union decline (Disney, Gosling and Machin, 1994, 1995, Machin, 2000, 2003) and to study the economic effects of trade unions (Millward *et al*, 2002). The usual measure on which researchers focus is trade union recognition, namely whether management recognises trade unions for collective bargaining purposes, but there is also data on workplace-level union density (the proportion of workers who are union members) and union coverage (the proportion of workers paid by collective bargaining contracts). As is illustrated below, all measures show sharp falls in union presence between 1980 and 1998.

The data are also rich on HRM variables, although coverage has become broader over time so that the 1998 survey covered most areas associated with HRM. Fortunately for our present concerns, the variables that have been included throughout the series (or in at least three surveys) relate to pay methods or employee voice, which

[2] The first three surveys were representative samples of establishments with at least 25 employees, whilst the 1998 survey lowered this size threshold to 10 employees. To maintain consistency over time

are at the core of the HRM literature. For our empirical analysis we have therefore identified the following variables that we can observe over time (with years available on a consistently defined basis in square brackets):

- the incidence of flexible pay (profit sharing or share ownership) [1984, 1990, 1998, trading sector workplaces only];
- the presence of a Joint Consultative Committee [1980, 1984, 1990, 1998];
- the presence of problem solving groups [1990, 1998];
- whether team briefings occur [1984, 1990, 1998];
- whether there are regular managements with senior management [1984, 1990, 1998];
- whether a management chain is present [1984, 1990, 1998];
- whether a suggestions scheme is in operation [1984, 1990, 1998];
- whether the workplace has a personnel specialist in place [1980, 1984, 1990, 1998].

Descriptive Statistics

As a starting point it is worth re-iterating the scale of union decline in Britain. The time series pattern of unionization, in particular the decline after 1979, is well known. Aggregate union density showed a remarkable stability in the post-war period (at around 40-45 percent membership), followed by a sharp rise in the 1970s, but then an even sharper fall from the late 1970s onwards. After 1979 aggregate union density has trended downwards so that, by the end of the 1990s, less than 30 percent of the workforce was a member of trade unions.[3]

Sharp union decline is also revealed in the WIRS/WERS data since 1980. Panel A of Table 1 shows the percentage of establishments that recognised trade

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analysis is restricted to workplaces with at least 25 employees.

[3] For selected years aggregate union density (in percent) was as follows: 1946 – 43; 1950 – 41; 1960 – 41; 1970 – 46; 1975 – 51; 1980 – 52; 1985 – 46; 1990 – 38; 1995 – 32; 1999 – 28. Sources for these

unions for collective bargaining fell from 64 to 42 percent between 1980 and 1998. Union density and coverage also fell sharply (to 36 percent for density, and 41 percent for coverage) over the same time period.[4]

Panel B of Table 1 gives means of the HRM variables over the relevant cross-sections. For most HRM practices the Table shows increased incidence - particularly flexible pay, team briefing and having a personnel specialist - although this is not true of all measures. The presence of the more traditional Joint Consultative Committee actually falls and the frequency of some of the others (regular meetings with senior management, presence of a management chain) remain fairly constant over time.

Changes Over Time by Union Status

Table 2 shows the difference in the incidence of HRM practices and how they have changed through time separately for union and non-union workplaces. The Table shows the percent of workplaces with each of the practices for a start and end year, and shows changes for each sector over time. The final column gives differences in these sector-specific changes as non-union/union gaps.

The numbers in the Table reveal several patterns. First, at a given point in time, the incidence of the HRM factors tends to be higher in the union, as compared to the non-union, sector. At face value this would suggest a complementarity between unions and HRM practices (as in Kochan and Osterman, 1995). However, it is any changes through time, during the period of union decline that are of most interest to us. On this the Table shows an increased uptake of most practices in both sectors, but the results concerning increased substitution into the non-union sector are uneven (see

numbers are Price and Bain (1983), Waddington (1992), Cully and Woodland (1998), and own calculations from the 1999 (Autumn) Labour Force Survey.

[4] Note that the 1980 number for density is based only upon full-time workers (see Millward, Bryson and Forth, 2000).

final column). Indeed, the only factor that seems to show a strong faster differential increase in incidence in non-union workplaces vis-à-vis union workplaces is flexible pay. There is has been an 8 percent faster increase in flexible pay incidence in the non-union sector. But this really is the only evidence of substitution. The next nearest is a 4 percent increase in Joint Consultative Committees, but the remainder show very similar patterns of change in non-union and union sectors (in the +2 to –3 percent range of differences).

4. HRM Substitution and Age of Workplace

Links With Age of Workplace

The evidence so far has not revealed evidence of HRM substitution. In this section we consider the question another way, looking instead at the extent to which newer workplaces have differentially introduced HRM practices. We adopt this approach in the light of the evidence that union decline in Britain has been, at least partially, driven by a failure of unions to secure recognition and build up membership in newer workplaces. Consider the upper panel of Table 3. This shows that 63 percent of workplaces set up before 1980 recognised unions for collective bargaining. Union membership density was 58 percent in these older workplaces. Considering workplaces set up in the period of union decline tells a very different story. Union recognition is 36 percent in workplaces set up in the 1980s and only 27 percent in those set up in the 1990s. Union density is 31 and 22 percent respectively. Hence one sees very sharp falls in unionization rates by age of workplace. Columns (6) and (7) of the Table show the scale of the declines, and that they are very strong in statistical terms (the numbers in brackets being standard errors).

This therefore looks like prime territory to try and identify HRM substitution. If new workplaces the absence of unions may well mean that workers want some alternative form of voice. If so we should see more rapid inflows of HRM practices into newer workplaces, especially as compared to older, more unionized workplaces. This is what we first look at in the lower panel of Table 3, which has the same structure as for the indicators of union presence, but now for the HRM practices.

The numbers in the Table show something of a mixed pattern, but they are in parts conducive to the idea that HRM practices are more likely to be present in newer workplaces. The strongest evidence in favour of this is for flexible pay and for the presence of a personnel specialist. Flexible pay is 8 percent (set up in the 1980s) and 10 percent (set up in the 1990s) higher in newer workplaces. Corresponding numbers for presence of a personnel specialist are 10 and 16 percent higher respectively. Age of workplace gaps are less marked for some of the other measures, but most are positive, the main exception being the more traditional practice, the Joint Consultative Committee.

However, over the time period being studied there have also been some important compositional changes, such as the increased incidence of smaller workplaces, and the move away from manufacturing to services. So we next present some empirical estimates of the relationship with age of workplace derived from statistical models that control for such shifts in composition. This is important because some of these HRM practices may be much more likely to be prevalent in certain workplaces. For example, larger workplaces are more likely to have a personnel specialist than are their smaller counterparts.

Statistical Estimates

Table 4 reports estimates of the workplace-age correlations from statistical models. Like the previous Table we begin, in the upper panel, by presenting evidence on union decline and workplace age conditional on the characteristics entered to control for compositional change. The lower panel presents analogous models for the HRM practices. The choice of control variables was made on the basis of a judgement of what are likely to have been the most important compositional changes in the economy over the time period under study. The variables included are: establishment size (five dummy variables compared to a base of 25-49 workers), whether the establishment was single-site, the proportion of part-time and female workers, whether the workplace is in the private sector and a set of one-digit industry dummies.

The upper panel of the Table reconfirms what is known from earlier work, revealing union recognition to be around -.10 to -.12 points lower in workplaces set up in the 1980s or 1990s conditional on the factors measuring compositional change. This is a sizeable effect and shows why many commentators now emphasise the role played by new workplaces in contributing to union decline. The same is true of union density, as given in the second specification of the upper panel, where 1980s and 1990s effects are very similar indeed.

The lower panel of the Table considers the HRM practices. It is immediately striking that the inclusion of the controls is much more important for the HR regressions than for the union ones. In statistical terms all of the correlations with workplace age are wiped out in the statistical models. Unlike for union decline, the changing composition of workplaces seems to fully explain the link between the incidence of HRM practices and workplace age. This, like the evidence of the previous section does not seem in line with HRM substitution taking place during the period of union decline in Britain.

Non-Union/Union Differences

Before coming to this conclusion, however, one should note that we have not looked, as substitution would predict, at whether it is predominantly new non-union workplaces that are increasingly introducing HRM practices. We therefore do this in Table 5 which considers separate age of workplace effects from statistical models for union and non-union workplaces and which looks at the gap between the two. HRM substitution related to age of workplace predicts that one should see more of a positive new workplace effect in non-union workplaces. The Table therefore presents (in columns (3) and (4)) coefficient estimates associated with indictors of whether workplaces were set up in the 1980s and 1990s for the union sector, analogous effects for the non-union sector (in columns (5) and (6)) and then non-union/union gaps in columns (7) and (8).

Table 5 shows non-union/union gaps to be rarely positive, as HRM substitution would predict. In fact none of the non-union/union differences in columns (7) and (8) are significantly positive and many are actually negative. This reflects that a number of the non-union effects are negative and they rarely are more positive than the union effects. None of this supports the HRM/union substitution thesis.

5. Longitudinal Changes in the Union-HRM Relation

Our analysis so far rejects the idea that HRM substitution, in its orthodox sense of substituting between union and non-union sectors, has occurred. But one more possibility remains: that where the use of HRM has risen within the union sector, it could have weakened unions. This would represent a form of HRM substitution occurring within the union sector.

We investigate this hypothesis by drawing upon the longitudinal sample of workplaces that the WIRS/WERS series looked at between 1990 and 1997. We are somewhat limited in the HRM variables we can look at here and, due to the nature of the available data, look only at the JCC and Flexible Pay measures. Table 6 shows the within-establishment change in union density broken down by whether a HRM practice was introduced, removed or there is no change between 1990 and 1997. The hypothesis that HRM substitution weakened unions within the union sector would correspond to larger falls in union density in workplaces that introduced an HRM practice.

The results in Table 6 are not in line with this view. For example, workplaces that introduced a JCC between 1990 and 1997 saw union density fall by 9 percent. At first glance one might think of this as union replacement. However, density also fell by 9 percent in workplaces that removed a JCC and by 6 percent in workplaces where JCC status remained unaltered. The same pattern is true of Flexible Pay. While density fell by 9 percent in workplaces that introduced Flexible Pay, it fell by 10 percent in those that got rid of the practice and by 6 percent in workplaces where no change occurred.

The results remain robust to controlling for 1990 to 1997 changes in log(employment), in the proportion manual workers and a set of one-digit industry dummies, as shown in Table 7. Overall there seems to be little evidence of faster union decline in workplaces that introduced HRM practices in the 1990s.

Another way of using the WIRS/WERS data to study longitudinal changes is to aggregate the workplace data in the four surveys of 1980, 1984, 1990 and 1998 to industry-level so as to study industry-level changes in the relationship between unionization and HRM incidence over time. We carry out this exercise in Table 8

where we have aggregated the data to 44 industries that we track over time. The Table shows regression coefficients from a regression of the proportion of workplaces in the industry with recognised unions on the HRM practice, including industry fixed effects. One can interpret these regressions as modelling the change in unionization as a function of the change in HRM practices at industry-level. They therefore pose the following question about HRM substitution: in industries where HRM incidence went up by more did unionization fall by more? To find evidence in line with this one would expect a negative coefficient on the HRM measures in the industry fixed effects specifications reported in the Table.

Table 8 is structured to show results that enter the HRM incidence measures separately (in columns (1) through (7) where no controls are included and columns (9) through (15) where controls are included) and all together (in column (8) without controls and column (16) with controls). The pattern of results is interesting. While there are a few negative coefficients, these are the exception to the rule, and even here only one of these is statistically significant (for Regular Meetings with Senior Management when no regression controls are entered in column (4)). In the specifications with controls in the lower panel of the Table there is absolutely no evidence of union decline being more prevalent where HRM incidence increased by more. As such, both sets of longitudinal data considered in this section are not in line with the hypothesis of HRM substitution.

6. Concluding Remarks

In this paper we consider one of the key hypotheses of modern industrial relations, namely that unionism has been replaced by alternative non-union forms of voice and communication through the adoption of HRM practices. Were such HRM substitution

taking place, then one should see more rapid introduction of HRM practices in non-union workplaces, or certainly that the new kinds of workplaces being set up in recent years should be characterised by these practices and not by unionization.

Our empirical investigation of the HRM/union substitution hypothesis, using workplace data from the Workplace Industrial/Employee Relations series of surveys in Britain between 1980 and 1998,. found no evidence to support the hypothesis of HRM/union substitution, at least operating in the commonly accepted and frequently stated way of HRM replacing unions. This is from several approaches. First we compared changes over time in the incidence of HRM practices across union and non-union sectors, finding little difference occurring between sectors. Second, we asked whether newer workplaces (strongly shown by other studies as more likely to be non-union) have experienced differentially faster HRM incidence and we are unable to find much evidence in support of this, and certainly no evidence of significant union/non-union gaps. Third, longitudinal changes also failed to find any evidence of faster union decline in workplaces or industries with faster take up of HRM practices. Overall, one cannot conclude anything other than saying HRM substitution does not seem to be a very important factor in explaining trade union decline.

The study does though have strong implications for the wider debate in industrial relations. If new work practices of the sort that we have considered are actually no less likely to be introduced in the union sector then this does question some of the discussion surrounding the future of industrial relations as a field of study that has been premised on HRM and unionism as alternatives. In fact it may be more the case that HRM may be as complementary to the organization of work in unionized workplaces as it is elsewhere. Critical to this is another subject we have not considered here, namely the impact of HRM introduction on workplace performance,

which is a difficult area fraught with questions to do with the direction of causation. Addressing this, together with its connection to the possibly different reasons for introducing practices in union and non-union environments, remains firmly on the agenda for future research.

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Table 1: Changes in Union Presence and the Incidence of HRM Practices Over Time (Proportions)

	1980	1984	1990	1998
A. Union Variables				
Union Recognition	.64	.66	.53	.42
Union Density[£]	.62	.58	.48	.36
Union Coverage	-	.71	.54	.41
B. HRM Variables				
Flexible Pay	-	.30	.54	.50
Joint Consultative Committee	.34	.34	.29	.29
Problem Solving Groups	-	-	.35	.42
Team Briefing	-	.36	.48	.53
Regular Meetings With Senior Management	-	.34	.41	.37
Management Chain	-	.62	.60	.60
Suggestion Schemes	-	.25	.28	.33
Personnel Specialist	.19	.20	.27	.27

Notes:
Aggregate (i.e. all establishments with 25 or more workers) weighted proportions in panel A taken from the sourcebooks for the 1980, 1984 and 1990 Workplace Industrial Relations Surveys and the 1998 Workplace Employee Relations Surveys (1980: Daniel and Millward, 1983; 1984: Millward and Stevens, 1986; 1990: Millward et al., 1992; 1998: Cully at al., 1998, 1999). 1998 recognition data recodes recognition to zero for fifteen workplaces which recognised teacher unions but who in fact had pay set by the Pay Review Bodies (this follows the same procedure as in Chapter 10 of Cully at al., 1999). The serial codes for these fifteen workplaces were kindly provided by John Forth and Neil Millward.
£ denotes that union density is for full-timers in 1980 and all workers in other years
Panel B weighted proportions are own calculations from the WIRS/WERS data.

Table 2: Union/Non-Union Differences in Changes in the Incidence of HRM Practices Over Time (Proportions)

		Union Sector			Non-Union Sector			Difference Between Sectors
	Start and End Year	Percent in Start Year	Percent in End Year	Change	Percent in Start Year	Percent in End Year	Change	Difference in Change Between Non-Union/Union Sector
Flexible Pay	1984 1998	.38	.55	.17	.23	.48	.25	.08
Joint Consultative Committee	1980 1998	.41	.38	-.03	.21	.22	.01	.04
Problem Solving Groups	1990 1998	.39	.49	.10	.30	.37	.07	-.03
Team Briefing	1984 1998	.39	.58	.19	.31	.49	.18	-.01
Regular Meetings With Senior Management	1984 1998	.36	.41	.05	.30	.35	.05	.00
Management Chain	1984 1998	.68	.70	.02	.51	.52	.01	-.01
Suggestion Schemes	1984 1998	.31	.42	.11	.15	.26	.11	.00
Personnel Specialist	1980 1998	.23	.32	.09	.12	.23	.11	.02

Table 3: Changes in Union Status and in the Incidence of HRM Practices Over Time Related to Age of Workplace

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years of Data	Measure	Set up Before 1980	Set up in 1980s	Set up in 1990s	Gap 1980s – Before 1980 (4) – (3)	Gap 1990s – Before 1980 (5) – (3)	Number of Workplaces
A. Differences in Union Status by Age of Workplace							
1980, 1984, 1990, 1998	Union Recognition	.63	.36	.27	-.27 (.02)	-.36 (.02)	8022
1980, 1984, 1990, 1998	Union density	.58	.31	.22	-.27 (.01)	-.36 (.02)	7028
B. Differences in HRM Incidence by Age of Workplace							
1980, 1984, 1990, 1998	JCC	.33	.24	.26	-.09 (.01)	-.07(.02)	8004
1984, 1990, 1998 Trading Sector	Flexible Pay	.42	.50	.52	.08 (.02)	.10 (.02)	4194
1990, 1998	Problem-Solving Groups	.39	.38	.37	-.01 (.02)	-.02 (.02)	3955
1984, 1990, 1998	Team Briefing	.45	.46	.50	.01 (.02)	.05 (.02)	5961
1984, 1990, 1998	Regular Meetings with Senior Management	.36	.40	.42	.05 (.02)	.07 (.02)	5978
1984, 1990, 1998	Management Chain	.61	.63	.53	.02 (.02)	-.07 (.02)	5978
1984, 1990, 1998	Suggestion Schemes	.28	.29	.32	.01 (.01)	.04 (.02)	5977
1980, 1984, 1990, 1998	Personnel Specialist	.32	.42	.48	.10 (.02)	.16 (.02)	4194

Table 4: Statistical Estimates of the relationship Between Changes in Union Status and the Incidence of HRM Practices Over Time and Age of Workplace

Years of Data	Measure	Set up in 1980s	Set up in 1990s	Sample size
A. Union Equations				
1980, 1984, 1990, 1998	Union Recognition	-.120 (.019)	-.100 (.026)	7483
1980, 1984, 1990, 1998	Union Density	-.102 (.011)	-.106 (.016)	6623
B. HRM Equations				
1984, 1990, 1998 Trading Sector	Flexible Pay	.003 (.024)	-.024 (.033)	3915
1980, 1984, 1990, 1998	JCC	-.052 (.021)	-.019 (.028)	7466
1990, 1998	Problem-Solving Groups	.000 (.021)	-.010 (.027)	3640
1984, 1990, 1998	Team Briefing	-.003 (.020)	.011 (.027)	5480
1984, 1990, 1998	Regular Meetings with Senior Management	-.003 (.019)	.046 (.027)	5497
1984, 1990, 1998	Management Chain	.001 (.018)	-.013 (.025)	5497
1984, 1990, 1998	Suggestion Schemes	-.020 (.019)	-.008 (.027)	5496
1980, 1984, 1990, 1998	Personnel Specialist	-.010 (.022)	.004 (.030)	7483

Notes: probit marginal effects, standard errors in brackets; all specifications include controls for establishment size (dummies for 50-99, 100-199, 200-499, 500-999, 1000+ workers relative to 25-49), female proportion , part-time proportion, private sector, one-digit industry dummies and survey year dummies.

Table 5: Differences in Age of Workplace Effects by Union Status From Statistical Models of the Incidence of HRM Practices

		Union Workplace		Non-Union Workplace		Non-Union/Union Difference		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Years of Data	Measure	Set up in 1980s	Set up in 1990s	Set up in 1980s	Set up in 1990s	Set up in 1980s (5) – (3)	Set up in 1990s (6) – (4)	Sample size
1984, 1990, 1998 Trading Sector	Flexible Pay	-.009 (.037)	.057 (.052)	.020 (.031)	-.053 (.040)	.029 (.047)	-.110 (.061)	3915
1980, 1984, 1990, 1998	JCC	-.018 (.027)	-.000 (.037)	-.074 (.030)	-.025 (.039)	-.056 (.039)	-.025 (.050)	7466
1990, 1998	Problem-Solving Groups	.028 (.029)	.036 (.037)	-.022 (.031)	-.050 (.037)	-.049 (.042)	-.084 (.048)	3640
1984, 1990, 1998	Team Briefing	-.008 (.027)	.041 (.037)	.022 (.029)	.004 (.037)	.030 (.038)	-.036 (.049)	5480
1984, 1990, 1998	Regular Meetings with Senior Management	-.017 (.026)	.011 (.036)	.022 (.028)	.089 (.037)	.039 (.038)	.077 (.048)	5497
1984, 1990, 1998	Management Chain	-.015 (.025)	.032 (.033)	.034 (.023)	-.029 (.033)	.048 (.031)	-.061 (.048)	5497
1984, 1990, 1998	Suggestion Schemes	-.019 (.025)	-.014 (.034)	.019 (.030)	.032 (.037)	.039 (.039)	.046 (.049)	5496
1980, 1984, 1990, 1998	Personnel Specialist	.010 (.029)	.040 (.039)	-.013 (.031)	-.018 (.040)	-.022 (.041)	-.057 (.051)	7483

Notes: probit marginal effects, standard errors in brackets; all specifications include controls for establishment size (dummies for 50-99, 100-199, 200-499, 500-999, 1000+ workers relative to 25-49), female proportion , part-time proportion, private sector, one-digit industry dummies and survey year dummies.

Table 6: Changes in Union Density (%) and HRM Introduction in Unionized Workplaces, 1990-97

	Introduced Practice	Removed Practice	No change
Flexible Pay	-8.9	-9.6	-5.8
Number of workplaces	87	42	319
JCC	-8.6	-8.8	-5.8
Number of workplaces	80	64	307

Notes: own calculations from 1990-97 WIRS panel. Sample covers workplaces that recognised trade unions for collective bargaining purposes in 1990 and 1997.

Table 7: Statistical Models Relating Changes in Union Density and HRM Introduction in Unionized Workplaces, 1990-97

	Dependent Variable: Changes in Proportion Union Members, 1990-97		
	Introduced Practice	Removed Practice	Sample Size
Flexible pay	-.008 (.025)	-.017 (.034)	444
JCC	-.026 (.027)	-.042 (.025)	451

Notes: all specifications include controls for change in log(employment), change in proportion manual and a set of one-digit industry dummies; standard errors in parentheses.

Table 8: Industry Panel (44 Industries) Relating Changes in Union Recognition to Changes in HRM Practices, 1980-98

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Flexible Pay	.105 (.070)							.042 (.069)
JCC		.077 (.092)						-.007 (.095)
Team Briefing			.219 (.081)					.061 (.090)
Regular Meetings with Senior Management				-.166 (.088)				-.151 (.078)
Management Chain					.160 (.096)			.048 (.095)
Suggestion Schemes						.166 (.106)		.003 (.094)
Personnel Specialist							.355 (.061)	.291 (.081)
Controls	No	No	No	No	No	No	No	No
R-Squared	.87	.90	.91	.91	.91	.91	.89	.93
Sample Size	176	130	132	132	132	132	176	130
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Flexible Pay	.097 (.082)							.103 (.072)
JCC		-.057 (.091)						-.160 (.122)
Team Briefing			.193 (.089)					.102 (.085)
Regular Meetings with Senior Management				-.068 (.092)				-.057 (.085)
Management Chain					.057 (.103)			-.028 (.112)
Suggestion Schemes						.146 (.099)		.022 (.105)
Personnel Specialist							.264 (.056)	.261 (.094)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	.91	.92	.93	.93	.93	.93	.91	.94
Sample Size	176	130	132	132	132	132	176	130

Notes: based upon aggregating the 1980, 1984, 1990 and 1998 WIRS/WERS establishment data to industry level; weighted by industry cell sizes; standard errors in parentheses.

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