

PSI RESEARCH DISCUSSION PAPER 2

Have British Workers Lost their Voice, or Have they Gained a New One?

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ISBN 0 85374 780 6

PSI Report No 872



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Abstract

Over the last two decades, there has been a major switch in British workplaces away from union voice and representative worker voice more generally, towards direct, non-union forms of voice. This paper assesses the implications of this switch for the effectiveness of worker voice, as measured by employee perceptions of managerial responsiveness. In general, perceptions of management are no better among employees with voice than they are among employees with no voice. However, intensive use of direct communication methods improves perceptions of management. Direct voice is particularly effective in a union setting.

Introduction

When Richard Freeman and James Medoff wrote their seminal work *What Do Unions Do?* (1984) nearly two decades ago, they identified two mechanisms by which people dealt with problems they faced at work: ‘exit’, whereby workers leave less desirable for more desirable jobs, and ‘voice’, whereby workers use ‘direct communication to bring actual and desired conditions closer together’ (1984: 8).

In both the United States and Britain, the most established mechanism for voicing the concerns and opinions of workers to management is representation by trade unions. Freeman and Medoff argued this was for good reason. They maintained that for worker voice to be ‘effective’ in delivering for workers it needed to be ‘collective’ rather than ‘individual’ for two reasons. First, ‘the danger of job loss makes expression of voice by an individual risky. Collective voice, by contrast, is protected both by the support of all workers and by the country’s labor law’ (1984: 9). Consequently, where voice is delivered through representatives backed by a group of workers, those workers can express their concerns without the fear of reprisal. Secondly, collective voice creates the incentive for individuals to make the effort to change their working environment in a way that individual voice does not. As the authors point out, many of the goals pursued by workers are public goods, that is:

‘goods which will affect the well-being (negatively or positively) of every employee in such a way that one individual’s partaking of the good does not preclude someone else from doing so... Without a collective organisation, the incentive for the individual to take into account the effects of his or her actions on others, or to express his or her preferences, or invest time and money in changing conditions, is likely to be too small to spur action’ (1984: 8–9).

Of course, not all representative voice is trade union voice. In Britain, for example, many workplaces have joint consultative committees of managers and employees that sit to discuss issues of common concern. They differ

from unions in two important respects. First, they are primarily concerned with consultation, rather than negotiation over terms and conditions. Secondly, they are not independent of management in the way that trade unions are.¹ The same might be said of other non-union forms of representative voice, such as non-union employee representatives.² However, according to Freeman and Medoff, voice must be independent of management if it is to challenge effectively managerial prerogatives and deliver for workers:

‘In the absence of unionism, the worker has limited responses to orders that he feels are unfair: the worker can quit, or he can perhaps engage in quiet sabotage or shirking, neither of which is likely to alter the employer’s actions. In the union setting, by contrast, the union constitutes a source of worker power, diluting managerial authority and offering members protection through both the ‘industrial jurisprudence’ system, under which many workplace decisions are based on rules (such as seniority) instead of supervisory judgement or whim, and the grievance and arbitration system, under which disputes over proper managerial decision making on work issues can be resolved. As a result, management power within enterprises is curtailed by unionism, so that workers’ rights are likely to be better enforced’ (1984: 11).

At the time Freeman and Medoff wrote their book, one might have been forgiven for equating union voice with worker voice. However, since then, in common with much of the rest of the industrialised world, British workplace industrial relations has changed fundamentally. The essence of this change has been a progressive decline in the system of collective relations whereby management and unions jointly regulated workplace relations through voluntary collective bargaining, and its replacement by arrangements set largely at the behest of management. At the very heart of this transformation has been a major shift in the nature of worker voice (Table 1).

Since 1984, there has been little change in the proportion of workplaces without worker voice, the figure remaining at about one in every six. However, between 1984 and 1998 there was a steep decline in voice arrangements where unions formed the single channel of communication (union-only

1 In Britain, the Government’s Certification Officer establishes whether trade unions are truly independent of employers as defined in Section 5 of the Trade Union and Labour Relations (Consolidation) Act 1992. If so, they are issued with a certificate of independence in accordance with Section 6 of the Act.

2 Some employer-specific bodies, known as staff associations, do attain independent status, whereupon there is little to distinguish them from trade unions.

Table 1: *Changes in worker voice arrangements, 1984 to 1998*

<i>Type of voice arrangement (5 items)</i>	Column percentages		
	<i>1984</i>	<i>1990</i>	<i>1998</i>
Union only	24	14	9
Union and non-union	42	39	33
Non-union only	16	28	40
Voice, but nature not reported	2	*	*
No voice	16	19	17
Representative voice only	29	18	14
Representative and direct voice	45	43	39
Direct voice only	11	20	30
Voice, but nature not reported	0	*	*
No voice	16	19	17
<i>Weighted base</i>	<i>2,000</i>	<i>1,997</i>	<i>1,991</i>
<i>Unweighted base</i>	<i>2,019</i>	<i>2,059</i>	<i>1,920</i>
<i>Type of voice arrangement (7 items)</i>			
Union only	..	11	6
Union and non-union	..	42	37
Non-union only	..	33	46
Voice, but nature not reported	..	*	*
No voice	..	14	11
Representative voice only	..	15	10
Representative and direct voice	..	48	46
Direct voice only	..	23	33
Voice, but nature not reported	..	*	*
No voice	..	14	11
<i>Weighted base</i>	..	<i>1,996</i>	<i>1,995</i>
<i>Unweighted base</i>	..	<i>2,058</i>	<i>1,923</i>

Source: adapted from Millward, Bryson and Forth (2000), Tables 4.13 and 4.15.

Key: .. = not available; * = under 1per cent. Base: all workplaces with 25 or more employees. Union voice defined as one or more trade unions recognised by employers for pay bargaining or a joint consultative committee meeting at least once a month with representatives chosen through union channels. Non-union voice defined as a joint consultative committee meeting at least once a month with representatives not chosen through union channels, regular meetings between senior management and the workforce, briefing groups, problem-solving groups, or non-union employee representatives. Note that the last two measures were not available in 1984.

voice), and a less marked decline in ‘dual-channel’ voice involving union and non-union channels in combination. These two changes were offset by a steep increase in voice arrangements that did not involve unions.

Table 1 also clearly demonstrates that the shift has been away from representative voice towards direct forms of voice.³ Between 1984 and 1998, the proportion of workplaces with only representative voice arrangements halved, while those with solely direct voice mechanisms more than doubled. Both union and non-union representative voice have declined over the period, so that the increase in non-union voice is wholly accounted for by the rise of direct voice.

For the 1990s, we are able to gain considerable insight into how these changes occurred through the analysis of panel data for workplaces which survived over the period (continuing workplaces), coupled with data on workplace closures and new workplaces.⁴ When discussing the issue of workplace transformation, most commentators focus on behavioural change within continuing workplaces. This is a very important factor in understanding change in Britain during the 1990s, since workplaces that had been in existence since 1990 accounted for 72 per cent of all workplaces in 1998 (Millward, Bryson and Forth, 2000: 8). However, change may also occur through compositional change, whereby workplaces entering the population differ from leavers and continuing workplaces.

During the 1990s, the decline in union-only voice was largely accounted for by continuing workplaces switching from single-channel union representation to dual-channel arrangements (Millward, Bryson and Forth, 2000: 124–125).⁵ In fact, the large-scale adoption of non-union voice within unionised workplaces has been apparent since the first half of the 1980s (Table 2). This may reflect an increasing desire on the part of employers to deal with employees directly, rather than with unions. Certainly, this was a view expressed by over half (54 per cent) of managers in unionised workplaces in 1998.⁶ There is no evidence that managers were intentionally introducing direct communication methods to undermine union influence. On the contrary, ‘the addition of direct forms of participation was just as likely among workplaces where management actively encouraged union membership as it was among workplaces in which management gave no active encouragement to unionism’ (Millward, Bryson and Forth, 2000: 126).

3 Our ‘direct voice’ measure incorporates team briefings, regular meetings between senior management and the workforce, and problem-solving groups, including quality circles, all of which provide opportunities for two-way communication between workers and management.⁴ For a full description of these data see Millward, Bryson and Forth (2000: 248–255).

5 It was very rare for continuing workplaces to deunionise, replacing union voice with non-union voice or no voice at all (Millward, Bryson and Forth, 2000: 125).

6 Compared to 86 per cent in non-unionised workplaces. These figures are based on managerial respondents to the Workplace Employee Relations Survey 1998 in all workplaces with 10 or more employees.

Table 2: *Union and non-union voice arrangements in unionised workplaces, 1984 to 1998*

<i>Type of voice arrangement (5 items)</i>	Column percentages		
	1984	1990	1998
Union only	35	26	21
Union and non-union	63	73	78
Voice, but nature not reported	2	1	1
Representative voice only	40	29	25
Representative and direct voice	60	71	74
Voice, but nature not reported	0	*	1
<i>Weighted base</i>	1327	1053	845
<i>Unweighted base</i>	1593	1416	1116
<i>Type of voice arrangement (7 items)</i>			
Union only	..	22	13
Union and non-union	..	78	85
Voice, but nature not reported	..	1	1
Representative voice only	..	24	15
Representative and direct voice	..	76	84
Voice, but nature not reported	..	0	1
<i>Weighted base</i>	..	1053	845
<i>Unweighted base</i>	..	1416	1116

Base: all workplaces with 25 or more employees recognising unions for pay bargaining.⁷ Union voice is defined as one or more recognised trade unions or a joint consultative committee meeting at least once a month with representatives chosen through union channels. Non-union voice defined as a joint consultative committee meeting at least once a month with representatives not chosen through union channels, regular meetings between senior management and the workforce, briefing groups, problem-solving groups, or non-union employee representatives. Note that the last two measures were not available in 1984.

Nevertheless, it seems likely that the widespread adoption of alternative voice mechanisms in unionised workplaces has the potential to undermine union influence, albeit inadvertently.⁸ Indeed, if one assumes that unions view non-

⁷ The weighted number of workplaces with recognised unions is greater using time-series data than the weighted number using the WERS98 cross-section (discussed later) because the time-series weights inflate the weighted bases to 2000.

⁸ Two large nationally-representative surveys of employees in Britain in the mid-1980s and early 1990s offer 'some support for the view that direct participation has the indirect effect of reducing employees' sense of the necessity of union membership' (Gallie, White, Cheng and Tomlinson, 1998: 109).

union voice as a potential threat, the presence of dual-channel voice may signal the presence of weak unionism.⁹

The increase in solely non-union voice arrangements between 1990 and 1998 was accounted for by new workplaces adopting direct communication methods. They were much more likely to have solely non-union voice than continuing workplaces and those which had left the population in the 1990s (Millward, Bryson and Forth, 2000: 124–125). However, new workplaces were clearly committed to retaining two-way communication channels since the proportion with no voice channels was not significantly different to other workplaces. These trends point to a conscious decision to adopt direct communication methods in preference to union-based representation. Since new workplaces account for the increase in non-union only voice, it is likely that it will become even more prevalent in British workplaces in future.¹⁰

Irrespective of the underlying reasons for the growth in non-union and direct voice, from Freeman and Medoff's perspective we would expect direct voice to be less effective than union voice, and representative voice in general, in ensuring that management is responsive to employees. This is the proposition we examine in this paper using matched employer-employee data from the 1998 British Workplace Employee Relations Survey. Section Two outlines the hypotheses tested. Section Three introduces our data. Section Four outlines the method of analysis. Section Five presents results and Section Six concludes.

HYPOTHESES

First hypothesis: For voice to be effective in delivering public good-type outcomes it needs to be representative as opposed to direct voice.

9 Certainly, union involvement in strategic decision-making, which has characterised wholesale transformation of industrial relations in large American corporations (Kochan, Katz and McKersie, 1986; Walton, 1987), has been rare in Britain (Storey, 1992: 139).

10 That said, statutory changes may also increase the incidence of representative voice. For the first time in Britain since the early 1970s, there is a statutory mechanism for establishing union recognition. It came into force under the Employment Relations Act 1999 on 6 June 2000. However, some question whether this can reverse union decline (Millward, Bryson and Forth, 2000: 235-236). Some suggest that the procedures suffer from similar shortcomings to those governing the establishment of workplace unions in the United States (Wood and Godard, 1999). In any event, the legislation does not extend to the smallest workplaces with fewer than 21 employees. The other potential source of statutory change is the European Union. Although the European Works Council Directive has encouraged the growth of consultative machinery in larger multiple-establishment organisations, it has yet to have a pervasive influence on the extent of consultative arrangements in Britain (Millward, Bryson and Forth, 2000: 113).

We have already outlined Freeman and Medoff's reasons why this might be so. Of course, there are contrary views, and these have come to dominate the management literature since the mid-1980s. There are perhaps two key themes in this literature. First, there is the suggestion that worker representation, rather than efficiently and effectively communicating workers' wishes and concerns to management, may actually create a barrier between management and workers. This barrier can be breached if management eschews intermediaries and deals directly with employees, either on a one-to-one basis, or in groups (Storey, 1992; Peters, 1988; Lawler, 1986). Secondly, there is the concept of treating workers as individuals, rather than as a collective. If one recognises that the wishes and needs of workers are, in fact, heterogeneous, management may be better able to understand them and respond to them through direct voice channels (Storey, 1992; Lawler, 1992; Pfeffer, 1994).

Second hypothesis: For voice to be effective in adjusting employer behaviour it must be union voice as opposed to non-union voice.

For Freeman and Medoff, effective worker voice requires management to 'give up power and accept a dual-authority channel within the firm. Such a change in power is difficult to attain in the absence of a genuine independent union or union-like organisation ... if management gives up power, it creates the seeds of genuine unions; if it doesn't, employee representation plans may be mere window-dressing' (1984: 108).¹¹

An alternative to this hypothesis is our first hypothesis, in which case the effectiveness of voice depends upon how representative it is, rather than whether or not it is union voice. The issue is whether non-union representatives are as effective as union ones, and whether joint consultative committees can influence management in the way that unions may be able to. Recent British research into collective forms of representation in non-union firms points to the apparent powerlessness of collective non-union representation (Terry, 1999: 28), arising in part from the lack of legal protection afforded to non-union representatives when organising opposition to their employer. However, if as Freeman and Medoff (1984: 18) suggest, the legitimacy of union representatives derives in part from the mandate they are given as elected representatives, one might expect similarly elected non-union representatives

¹¹ This perspective does not necessarily entail a zero-sum conception of management-worker interests in which one side's gain is the other's loss. Some view a strong and independent worker voice as a prerequisite for dual allegiance to union and employer, an allegiance which can result in increased organisational loyalty, commitment, and ultimately a better industrial relations climate (Marshall, 1992; Dastmalchian, Blyton and Adamson, 1991).

to have greater impact than their unelected counterparts, some of whom will be chosen by management. We test for these differences in our analyses.

In any case, can we really be sure that unions do exert influence over management in the way they may have done in the early 1980s? Their ability to do so rests on their representation of the bulk of workers in workplaces where they are present. Yet, over the last two decades, declines in union density and collective bargaining coverage have severely weakened unions even in those workplaces where they continue to be recognised by employers for pay bargaining (Millward, Bryson and Forth, 2000: 138–145; 159–167). This has led to conjecture that British unions have become a ‘hollow shell’ with little or no influence over management. Although the evidence is mixed, with unions still able successfully to challenge managerial decision making in the late 1990s (Millward, Bryson and Forth, 2000: 173–177), it seems likely that union effects will vary according to union strength on the ground. At one extreme, moribund unions may play little role in setting the bargaining agenda and have no representatives to act as the workers’ voice.¹² At the other extreme, there will be those unions who, perhaps with management support, have full-time representatives operating as very effective voice mechanisms. We incorporate these and other features of union (and non-union) voice to identify differential effects across variants of our main voice types.

Third hypothesis: Union voice is better than non-union voice at representing the preferences of less marketable workers to management, so we would expect these workers to have more positive perceptions of managerial responsiveness where union voice exists.

Freeman and Medoff (1984: 9) argue that ‘the collective nature of trade unionism fundamentally alters the operation of a labour market and, hence, the nature of the labour contract’. In a non-union setting, where exit-and-entry is the predominant form of adjustment to problems (as opposed to voice), employers’ concern is the marginal worker who may leave or be attracted by small changes in conditions of employment. In a union setting, all or most workers are represented, whether they are likely to leave or not. If unions are better at representing less marketable workers, they may shift the distribution of power between marginal and more permanent employees, causing management to respond accordingly by taking greater account of the ‘average’ worker. We test this hypothesis by running models on sub-groups of more and less marketable workers.

¹² One of the most striking developments in the 1990s has been the sudden appearance of a large proportion of workplaces where unions were recognised for pay bargaining but where unions were not actively involved in pay bargaining (Millward, Bryson and Forth, 2000: 160–167).

Fourth hypothesis: The impact of non-union voice will differ across union and non-union workplaces because non-union voice will be influenced by the climate in which unions seek to represent all workers.

Although union and non-union voice are often viewed as substitutes for one another, in practice they exist together in the majority of unionised workplaces, as noted above. It may be that the impact of non-union voice will differ across unionised and non-unionised workplaces. As Storey (1992: 43) notes, ‘if HRM [human resource management] is primarily pursued on an individualistic plane, the reaction from trade union representatives and union members might be expected to play a not inconsiderable part in the success or otherwise of such an approach’. But just how direct and non-union representative voice may affect managerial responsiveness to employees in a union setting is an empirical question. If, as Freeman and Medoff suggest, the labour contract is fundamentally altered in the presence of trade unions, non-union voice may be better able to accommodate the needs of the average worker than in the non-union environment. Union and non-union voice may prove complementary, particularly if union coverage is not total and non-union voice can help ‘fill the gap’ for non-members. It may also be complementary in the sense that the concerns addressed by non-union voice can be quite different from those addressed by union voice, whereupon the two channels may cover a wider spectrum of issues than one or the other alone. In these circumstances, dual-channel voice may prove particularly effective. On the other hand, if unions are intent on undermining non-union voice, or management is committed to supporting non-union voice at the expense of union voice, dual-channel voice may be particularly ineffective in influencing management.

We address the effects of non-union voice in unionised and non-unionised workplaces by running separate models for the two sectors, as well as testing interactions in full sample models.

Fifth hypothesis: Unionised workers have poorer perceptions of management due to ‘voice-induced complaining’.

It is a standard finding in the British and American literatures that unionised workers express greater dissatisfaction with management than non-unionised workers (Freeman and Medoff, 1984; Gallie, White, Cheng and Tomlinson, 1998; Bryson, 1999). Freeman and Medoff’s exit-voice analysis offers an explanation for this in the greater politicisation of unionised workers. They suggest that unionised workers are more prone to express their voice ‘loudly’ to ensure that it is heard, resulting in ‘voice-induced complaining’ (1984:

142) which they distinguish from ‘true’ dissatisfaction. They also suggest that ‘some of the critical attitude of the union workers is due to their greater awareness of problems and willingness to speak out’ (1984: 142).¹³ As Gallie, White, Cheng and Tomlinson (1998: 113–114) point out: ‘unionism as an oppositional form of representation may highlight organisational inefficiencies and colour perceptions of management competence’. We test for this in ways described in Section Four.

DATA

Our data are from the 1998 Workplace Employee Relations Survey (WERS). It is the fourth in a series of nationally representative samples of British workplace surveys conducted since 1980. However, it differs from its predecessors in two important respects. First, it is representative of all workplaces with ten or more employees, whereas the previous threshold was twenty-five employees. Secondly, it contains a survey of employees drawn from the surveyed workplaces. The analyses presented in Section Five use this matched employer-employee data set, which consists of 28,215 employees drawn from 2,191 workplaces.

These data have a number of advantages. First, they are nationally representative of British employees working in workplaces with ten or more employees. Secondly, they are of very high quality. The surveys had high response rates (80 per cent in the case of the workplace survey, and 64 per cent in the case of the employee survey), giving us some confidence that the data are representative of the populations from which they were drawn.¹⁴ Thirdly, rigorous piloting and developmental work and considerable post-fieldwork data editing and checking assure data quality.¹⁵ Fourthly, the combination of employee data on demographics, qualifications, job characteristics, and attitudes to their job, management and unions, coupled with

13 As Freeman and Medoff note (1984: 141), it is also the case that the stock of dissatisfied workers will be greater in unionised workplaces because dissatisfied workers are less likely to quit in unionised workplaces than they are in non-unionised workplaces (see, for example, Bryson and McKay, 1997).

14 The primary sampling unit is the workplace. Workplaces were drawn as a stratified random sample. Up to twenty-five employees were then drawn randomly from within these workplaces. Where the workplace had twenty-five or fewer employees, all employees were selected. The probability of worker selection is the product of the probability of the workplace being selected and the probability of an employee being selected from within that workplace. See Cully, Woodland, O’Reilly and Dix (1999: 306) for the advantages of this approach.

15 For full information on the design of the four surveys see Millward, Bryson and Forth (2000) and for additional information on the design of the 1998 survey see Cully, Woodland, O’Reilly and Dix (1999).

workplace data obtained from the manager responsible for personnel or human resource issues at the site, allows us to control for a very wide range of individual-level and workplace-level information to estimate precisely influences on managerial responsiveness to employees.

Measures of managerial responsiveness to employees

The survey of employees included a bank of questions that asked each employee to provide a rating, on a five-point scale from ‘very poor’ to ‘very good’, of how managers at their workplace were on five items: keeping people up to date about proposed changes; providing everyone with the chance to comment on proposed changes; responding to suggestions from employees; dealing with work problems you or others may have; and treating employees fairly. All five can be regarded as ‘public goods’ in that they affect the well being of every employee in such a way that one individual’s partaking of the good does not preclude someone else from doing so. They are therefore appropriate for testing Freeman and Medoff’s propositions.

Although all five are correlated positively with one another, the correlations are not sufficiently strong to suggest that employees simply went down the list and ticked the same box in each case.¹⁶

Table 3 shows that there is quite a lot of variation in the distribution of responses on the five items. Around half of employees think managers are good or very good at treating employees fairly and dealing with employees’ work problems, but only a third think they are good or very good at responding to employees’ suggestions or providing everyone with a chance to comment on changes.

Voice measures

Most of our analyses use two ‘voice’ typologies derived from information obtained in the personnel manager interview: one that distinguishes between union and non-union voice, and one that distinguishes between representative and direct voice.

Each composite variable consists of ‘voice’ mechanisms that have two common features. First, they allow for the possibility of two-way communication between management and employees, giving employees the

16 For full information on the design of the four surveys see Millward, Bryson and Forth (2000), and for additional information on the design of the 1998 survey see Cully, Woodland, O’Reilly and Dix (1999)

17 One-way communication methods, such as systematic use of the management chain for cascading information down to employees, are used as control variables in some models (see below).

Table 3: *Employees' perceptions of management's responsiveness and fairness, 1998*

<i>How good would you say managers here are at...</i>	Column percentages				
	<i>Keeping everyone up to date about proposed changes</i>	<i>Providing everyone with the chance to comment on proposed changes</i>	<i>Responding to suggestions from employees</i>	<i>Dealing with work problems you or others may have</i>	<i>Treating employees fairly</i>
Very poor	10	14	12	8	9
Poor	20	25	22	16	13
Neither good nor poor	26	30	33	27	26
Good	34	25	27	39	39
Very good	10	7	6	10	13
<i>Weighted base</i>	<i>28,222</i>	<i>26,917</i>	<i>26,557</i>	<i>27,121</i>	<i>27,217</i>
<i>Unweighted base</i>	<i>27,513</i>	<i>27,108</i>	<i>26,665</i>	<i>27,176</i>	<i>27,294</i>

Base: all employees in workplaces with 10 or more employees who had non-missing data.

opportunity to voice their wishes and concerns.¹⁷ Secondly, where they depend upon intermittent forms of communication, the opportunity for voice must occur regularly. Thus, team briefings are included only if they occur at least once a month, and joint consultative committees are only included where they meet at least once per quarter. This ensures that we do not underestimate the impact of voice by including mechanisms that exist on paper but not in practice.¹⁸

Table 4 shows the incidence of union and non-union voice among British workplaces and their workers in 1998. Whereas there was no worker voice in 17 per cent of workplaces, only 7 per cent of employees had no access to voice, reflecting the concentration of 'no voice' among smaller workplaces. This is also true of non-union only voice which characterised almost half of

18 This approach means that there are some workplaces categorised as having 'no voice' which do have voice mechanisms that operate infrequently. This may understate the effects of having no voice at all. We test the sensitivity of our results to alternative variable specifications, reporting differences where they are significant. We also test the effects of other voice variables available, such as works councils and other consultation mechanisms operating at higher levels in multiple-establishment organisations. The incidence of all the voice variables used in our analyses are presented in Appendix Table A1.

Table 4: Summary of union and non-union voice arrangements in 1998

<i>Type of voice arrangement</i>	Column percentages	
	<i>Workplaces</i>	<i>Employees</i>
Union voice only	5	5
Union and non-union voice	31	54
Non-union voice only	47	34
No voice	17	7
<i>Weighted base</i>	<i>2,130</i>	<i>26,837</i>
<i>Unweighted base</i>	<i>2,089</i>	<i>26,812</i>

Base: all workplaces with 10 or more employees; all employees in those workplaces. Excludes those with missing data.

Note: union voice defined as having at least one of the following: one or more unions recognised by the employer for pay bargaining; an on-site union representative; a joint consultative committee meeting at least once a month with representatives chosen through union channels. Non-union voice defined as having at least one of the following: an on-site non-union employee representative; a joint consultative committee meeting at least once a month with representatives not chosen through union channels; regular meetings between senior management and the workforce; briefings for a work group, section, team or department which occur at least once a month and in which at least some time is given over to questions from employees, or for employees to offer their views; groups that solve specific problems or discuss aspects of performance or quality.

workplaces but around a third of employees.¹⁹ The majority of employees work in workplaces with both union and non-union voice (‘dual-channel’ arrangements).

Table 5 shows the incidence of representative and direct voice. It is notable that representative-only voice is twice as prevalent as union-only voice. Direct voice-only accounts for over a third of workplaces, but a fifth of employees, indicating a greater prevalence among smaller workplaces.

CONTROL VARIABLES

Our analyses control for a wide range of individual and workplace characteristics to minimise estimation bias arising from omitted variables. To allow for comparability across models, we use the same set of controls for each of the five dependent variables.

Appendix Table A2 defines these variables and shows their incidence in the sample, but we briefly introduce them here.

¹⁹ The distribution of workplace union/non-union voice is similar but not identical to that shown in the lower panel of Table 1 for the time-series. The figures differ in some respects because the cross-section data allow for a more elaborate classification and because the time-series is confined to workplaces with 25 or more employees.

Table 5: *Summary of representative and direct voice arrangements in 1998*

<i>Type of voice arrangement</i>	<i>Column percentages</i>	
	<i>Workplaces</i>	<i>Employees</i>
Representative voice only	10	11
Representative and direct voice	36	61
Direct voice only	37	21
No voice	17	7
<i>Weighted base</i>	<i>2,090</i>	<i>26,844</i>
<i>Unweighted base</i>	<i>2,091</i>	<i>26,803</i>

Base: all workplaces with 10 or more employees; all employees in those workplaces. Excludes those with missing data.

Note: Representative voice defined as having at least one of the following: one or more unions recognised by the employer for pay bargaining; an on-site employee representative; a joint consultative committee meeting at least once a month. Direct voice defined as having at least one of the following: regular meetings between senior management and the workforce; briefings for a work group, section, team or department which occur at least once a month and in which at least some time is given over to questions from employees, or for employees to offer their views; groups that solve specific problems or discuss aspects of performance or quality.

Individual-level control variables

Demographic: our analyses incorporate gender, age and ethnicity, all of which have been associated with employee perceptions of management in previous studies (Bryson and McKay, 1997; Gallie, White, Cheng and Tomlinson, 1999). More highly educated workers often have higher expectations of involvement, and may therefore be particularly critical of management where participation is denied. We therefore include individuals' highest educational qualification, and whether they possess a vocational qualification.

Job-related characteristics: we control for five aspects of individuals' jobs: occupation (based on the 1990 Standard Occupational Classification); years spent working at the workplace; hours usually worked each week; whether the contract is a permanent one; and gross weekly wage. Together these variables help capture an individual's attachment to their workplace, the investment they have made in working there, and their status in the organisation.

The twelve-category ordered variable capturing gross wages controls for a well-known union effect which may confound the voice effect, namely the union mark-up on wages. As Freeman and Medoff (1984: 94ff) note, union-induced wage increases may make workers more positive about their working environment than they otherwise would be, so confounding estimates of a union-induced voice effect. Ordered probit models estimating gross wages confirmed that there was a powerful wage mark-up effect attached to being a union member.²⁰

²⁰ These models are not shown. They are available from the author: a.bryson@psi.org.uk.

Union membership status: we distinguish between current union members, ex-members and individuals who have never been union members. Controlling for individual union membership helps identify whether there is voice-induced complaining among union members.

Workplace-level control variables

We use data obtained from the manager responsible for employee relations at the workplace to control for workforce composition, sector, ownership, location (region), the nature of the activity at the workplace, and personnel practices.

Workforce composition: six variables capture the composition of the workforce. Four of them (the percentage of employees who are women, the percentage who are part-timers, the percentage who are managers, and the percentage from non-white ethnic minorities) are the workplace-level analogues of individual-level variables in the model. In addition, we include the percentage of managers who are women to identify whether there is anything distinctive about the style of women managers.²¹ The effectiveness of different voice mechanisms is likely to vary with the number of workers at the workplace. In smaller workplaces, where workers are in closer proximity to the decision-making process, it may be more effective to conduct employee relations face-to-face rather than through representation. We have therefore included the total number of employees in the workplace as a control variable.

Sector, ownership and location: Single-site and multi-site organisations differ markedly in the way they manage employee relations, and across the public and private sectors of the economy (Millward, Bryson and Forth, 2000: 61–80), so our models control for this. We also include industry dummies to capture unmeasured industry differences. A twelve-category regional variable captures workplace location.

Workplace activity: How responsive management is to its workforce may depend, in part, on its exposure to a competitive market environment. Our workplace activity variable distinguishes workplaces producing goods and services for consumers, those supplying to other companies, those supplying to other parts of the organisation they belong to, those that do not produce goods or provide services for the open market, and those that are purely administrative offices.

Management practices: Any positive effects of employee involvement on firm performance may be upwardly biased if they are simply an indicator that a workplace is well managed generally and no attempt is made to control for

²¹ This is a live debate in Britain at present (Wajcman, 1996).

‘good management’ (Huselid and Becker, 1996). This is equally true with respect to the impact of voice on employees’ perceptions of management. We include three measures of management practice to account for this possibility. First, a dummy variable identifying whether the workplace is covered by a formal strategic plan which sets out objectives and how they will be achieved. Secondly, a variable identifying whether the workplace or organisation to which it belongs has been accredited as an Investor in People.²² Thirdly, we include a variable identifying those workplaces with a formal written policy on equal opportunities or managing diversity.

ANALYSIS

General modelling approach

To test the impact of voice measures on employee perceptions of management responsiveness we run regressions on each of the five dependent variables described in Section Three. Each variable is a categorical indicator defined in terms of ordered responses, so use an ordered probit estimator. Each variable runs from 1 (‘very poor’) to 5 (‘very good’), so that more positive coefficients indicate more positive perceptions of managerial responsiveness.

The analysis takes account of the complex survey design. First, all models are run on data weighted by the inverse of the employee’s sampling probability. As well as allowing the results to be generalised to the population from which the sample is drawn, the use of probability weights also guards against estimation bias that can arise through differential sample selection probabilities.²³ Secondly, we employ the Huber-White robust variance estimator that produces consistent standard errors in the presence of heteroscedasticity.²⁴ Thirdly, we obtain accurate standard errors by taking account of sample stratification and the non-independence of individual observations due to clustering in the primary sampling units, namely workplaces.

22 The Investors in People (IiP) award is given to workplaces or organisations by independent assessors from Training and Enterprise Councils in England and Wales (Local Enterprise Companies in Scotland) which have a planned approach to setting and communicating business objectives and developing people to meet those objectives.

23 Differential sampling fractions can result in standard estimator biases (Skinner, 1997). The weights account for all variation in sampling probabilities, thus eliminating differential sampling probability as a possible source of estimating bias.

24 The F statistic reported for each model is a Wald test based on the robustly estimated variance matrix.

Testing for voice-induced complaining

To test for voice-induced complaining among union members we do three things. First, we establish whether it exists. We adopt the test proposed by Freeman and Medoff (1984: 140–141), that is, we establish whether unionised workers express greater dissatisfaction with aspects of their work in spite of enjoying better work conditions. Secondly, we establish the impact of various voice mechanisms on current union members, ex-members and employees who have never been members by running separate models on each group. Thirdly, we distinguish between union membership effects and what might be termed the ‘workplace effect’ associated with the unionisation of a workplace by running models of four separate sub-samples: members in workplaces where unions are recognised for pay bargaining; non-members in workplaces recognising unions; members in workplaces which do not recognise unions; and non-members in workplaces which do not recognise unions.

Testing the sensitivity of results to different voice measures

It would be over simplistic to assume that all forms of direct voice perform in a similar way, and that all forms of representative voice operate in a similar way. Both voice types contain heterogeneous practices, sometimes with quite different substantive emphases. For example, under the rubric of direct voice we include problem-solving groups, in which employees are personally involved in decisions going beyond their immediate work task, and team briefings and meetings with senior management where employee involvement is sought through better two-way communications.²⁵ We disaggregate our voice measures to establish the contribution of individual practices, and consider the effect of practices in combination to establish the effectiveness of specific types of voice in addition to our generic types. We also test the sensitivity of our results to alternative formulations of the voice variables we construct, a process made possible by the richness of the WERS data. Further sensitivity tests involved the addition of one-way communication methods from management down to employees. Although these do not offer employees the opportunity to voice their views, they may nevertheless have an impact on the degree to which workers view managers as responsive to their needs.

²⁵ The former has been termed ‘direct participation’ and the latter ‘communicative involvement’ (Gallie, White, Cheng and Tomlinson, 1998: 89).

Limitations to our methodology

Voice mechanisms are not randomly distributed across workplaces. Take, for example, unionisation: if there are what Freeman and Medoff (1984: 23) term ‘pre-union differences’ between unionised workplaces (or individuals) and non-unionised workplaces which are unobserved or unobservable that sort them into or out of unionised status, and these differences are correlated with the outcome of interest, then estimates of union voice effects will be biased. As Freeman and Medoff put it: ‘This uncaptured ‘pre-union difference’ may explain part of the outcome difference that we attribute to unionism’ (1984: 23). It is possible to account for these selection processes by modelling the likelihood that a workplace will be unionised or not, for instance. However, the selection problem is compounded in the case of matched employee–employer data since there is possible sorting among workplaces and among employees. Furthermore, we are testing the effect of a wide range of voice mechanisms, so that seeking to control for selection into each or all of them would become very complicated. In this paper we have simply incorporated a wide range of factors that we know influence employee perceptions of management to minimise the problem of omitted variables bias. We also test whether our findings hold across sub-samples where we might expect systematic differences in the association between voice and perceptions of management (within the unionised and non-unionised sectors, the public and private sectors, and among union members and non-members).

The cross-sectional nature of our data presents a second difficulty, namely the direction of any causal link between voice and employee perceptions of management responsiveness. Voice mechanisms may even be endogenous if they are introduced in response to perceptions of management. For example, management may introduce direct voice where it has identified communication difficulties between management and staff. If so, the model will understate any positive association between direct voice and employee perceptions of management. Although endogeneity problems may be tackled through instrumentation, we do not attempt this here. Instead, we simply point to the relative durability of voice mechanisms over the eight years of the Workplace Industrial Relations Survey (WIRS) Panel (Millward, Bryson and Forth, 2000: 120–121). This gives us some confidence that our voice measures predate individuals’ perceptions of management at the time of the survey interview.

RESULTS²⁶

Whole sample baseline models

Table 6 presents our baseline results for our two key voice typologies: models for each of our five dependent variables using our representative versus direct voice typology appear in the top half of the table, and the models using our union versus non-union typology appear in the bottom half of the table.

Contrary to what we might have expected from Freeman and Medoff's perspective, single-channel direct voice was associated with better perceptions of managerial responsiveness than representative voice alone. This finding is consistent with what we might have anticipated from the human resource management literature referred to earlier. However, the combination of representative and direct voice is equally effective, pointing to possible complementarity between these two voice mechanisms. It is clear from the lower half of the table that the poor performance of representative voice only is due, in large part, to the negative effect of union voice relative to non-union voice. Non-union only voice elicits more positive attitudes to management than union-only voice on all but our 'fair treatment' measure.

What neither the human resource management literature nor Freeman and Medoff might have anticipated is that, in all but two instances, perceptions of management were no better among employees with voice than they were among employees with no voice.²⁷

Perhaps what matters most to employees is whether voice helps to make their establishment a better place in which to work. One measure of this is the employee rating of how good managers at their workplace are at treating employees fairly. Yet on our 'fair treatment' measure the only significant difference across voice arrangements was the higher rating among employees in workplaces with a combination of representative and direct voice relative to workplaces with representative voice only. Direct-only voice did not deliver 'fair treatment'. Whether voice was union-only, non-union only or dual-channel also made no significant difference. Furthermore, none of the voice arrangements made a significant difference relative to having no voice. Thus, on this crucial test, the 'newer' forms of voice performed no better than the traditional union and representative methods.

26 Copies of full models used for this paper are available from the author.

27 Managers were thought to be better at giving employees the chance to comment where representative and direct voice were present in combination, and they were thought to be better at dealing with employees' work problems in the presence of non-union voice only. Both effects were significant relative to no voice at a 10 per cent confidence level.

Sensitivity tests

We undertook a number of sensitivity tests to see whether the whole sample results were robust to alternative specifications. First, we added extra control variables to the models. These included additional voice variables identifying representative voice mechanisms beyond the immediate workplace (for instance, works councils and consultative committees higher up in the organisation, and employee representatives based off-site), as well as other mechanisms such as suggestion schemes. They also included one-way communication methods that, although they offered no opportunity for workers to voice their concerns, nevertheless provided means for management to communicate with workers (for example, systematic use of the management chain for cascading information, regular newsletters, other types of meeting between management and employees). Although some of these variables had significant effects themselves,²⁸ they had little impact on the voice effects reported above. The main exception was a small increase in the non-union only voice coefficient in the ‘fair treatment’ model which resulted in it being positive and significant at a 10 per cent confidence level relative to union-only voice (0.11, t-stat = 1.84) and dual-channel arrangements (0.07, t-stat = 1.81).

It is common practice to exclude managerial employees from analyses of employee views about management. We chose not to do this since, like other employees, most will experience ‘being managed’ by others higher up in the managerial hierarchy. However, because employees in managerial occupations were more positive about management responsiveness than other employees (see Appendix Tables A3(a) and A3(b)), we tested the sensitivity of our results to their exclusion from the models. Their exclusion made no difference to our results.

What is driving the effects observed?

To establish what was ‘driving’ the effects identified in the whole sample models we broke up our voice typologies into their component parts, running three additional sorts of models. First, we distinguished between union representative voice, non-union representative voice, and direct voice, and interacted them with one another to see whether interactions across these voice categories revealed effects hidden by the typologies already discussed. In nearly all instances, the interactions were not significant. Secondly, we broke down the categories still further with dummy variables capturing the

²⁸ Most notably, newsletters were positively associated with higher management ratings on all five dependent variables.

Table 6: *Type of voice arrangements and employees' perceptions of management's responsiveness and fairness, 1998*

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct	0.16 (3.48)	0.22 (4.82)	0.14 (3.18)	0.11 (2.67)	0.10 (2.22)
Direct only	0.13 (2.26)	0.16 (2.85)	0.12 (2.09)	0.11 (1.96)	0.08 (1.41)
No voice	0.06 (0.80)	0.10 (1.32)	0.04 (0.54)	0.02 (0.32)	0.03 (0.39)
(Ref Representative voice only)	—	—	—	—	—
<i>F</i>	(88, 1338) = 12.50	(88, 1338) = 12.14	(88, 1337) = 13.22	(88, 1338) = 11.51	(88, 1336) = 14.01
<i>Unweighted base</i>	21,281	20,989	20,615	21,021	21,139
<i>Union/non-union voice arrangements:</i>					
Union and non-union	0.08 (1.48)	0.14 (2.40)	0.07 (1.20)	0.06 (1.12)	0.05 (0.93)
Non-union only	0.14 (2.38)	0.19 (2.99)	0.11 (1.75)	0.12 (1.93)	0.10 (1.57)
No voice	0.06 (0.71)	0.10 (1.25)	0.02 (0.29)	0.02 (0.27)	0.03 (0.42)
(Ref Union only)	—	—	—	—	—
<i>F</i>	(88, 1337) = 12.01	(88, 1337) = 11.49	(88, 1336) = 12.76	(88, 1337) = 11.19	(88, 1335) = 13.63
<i>Unweighted base</i>	21,254	20,961	20,590	20,997	21,111

Base: employees in workplaces with 10 or more employees with non-missing data.

Notes:

- (a) All models weighted with probability weights. Clustering and stratification accounted for.
- (b) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).
- (c) T-statistics are in parentheses.
- (d) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; union membership status; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.
- (e) Full models presented in Appendix Tables A3(a) and A3(b).

existence of each separate practice. We found that problem-solving groups and regular meetings between senior management and the whole workforce were positively and significantly associated with perceptions of managerial responsiveness across all five measures.²⁹ However, all direct voice mechanisms were not equally effective: team briefings were not significantly associated with our five measures.

Most representative voice variables were not significant, but there were exceptions, the most notable being the negative effect of on-site union representation in a workplace where the union was recognised for pay bargaining. This effect was present for four of our five measures, the exception being providing everyone with a chance to comment. This indicates that perceptions of managerial responsiveness were poorest where the union voice was strongest. This finding, which is consistent with other British research on employees' attitudes to their working environment (Bryson, 1999), might be the result of 'voice-induced complaining', which could be strongest where the voice mechanism is most powerful. Yet the presence of an on-site full-time union representative tended to be associated with positive perceptions of management responsiveness when compared to perceptions among those with on-site union representatives that were not full-time. Since full-time union representatives tend to operate where employers support the role performed by the union, this finding may reflect the influence of managerial attitudes towards unions.³⁰

Thirdly, the positive associations between perceptions of managerial responsiveness and the combination of representative and direct voice raises the question: since those with a voice combination tended to have a higher number of voice mechanisms than those with a single channel, how important is the number of voice channels in explaining employees' perceptions of management responsiveness? We found that perceptions of managerial responsiveness were better among employees in workplaces with more non-union channels and, in particular, with more direct methods of communication. So, more intensive use of direct voice channels resulted in

²⁹ These effects are evaluated against the reference category of not having the practice (for example, having a problem-solving group versus not having one) rather than against a baseline of having no voice. Essentially, the finding is telling us that it is better to have these forms of direct voice than not to have them. But, as noted above, Table 6 shows that the average effect of having direct voice only (averaging across the three types of direct voice and the number present in the workplace) is not significant relative to having no voice.

³⁰ The main managerial respondent in 80 per cent of workplaces with full-time union representatives said they were in favour of union membership, compared to 27 per cent in unionised workplaces without full-time union representatives.

better employee perceptions of management's ability to communicate and respond to their concerns. The number of union channels and the number of representative voice channels were generally not significant.³¹

Effects on 'average' and 'marginal' workers

Although there is no evidence to support the contention that union voice delivers better results for workers in general, it may nevertheless be more effective than non-union voice in delivering for 'average' workers as opposed to 'marginal' workers, as Freeman and Medoff suggest. To test this, we estimate the effect of union and non-union voice on groups of more and less 'marketable' workers, according to their tenure at the workplace, their age and educational qualifications. Here we focus on perceptions of fair treatment by management, but the broad thrust of the results holds for all five of our dependent variables.

Table 7 presents results on five separate groups of workers, according to the time they have been working at the workplace. If union voice is better than non-union voice in representing the preferences of less marketable workers, one would expect long-term stayers' perceptions of management to be better in the presence of union voice. In fact, there is little evidence of this. Relative to no voice, union-only voice is not positively associated with perceptions of fair treatment for any group of workers, and its coefficients are always more negative (less positive) than the coefficients for non-union only voice. Although the union-only voice coefficients become steadily more positive as we move from shorter to longer stayers, this is true for all voice types.³² On the other hand, dual-channel voice involving a combination of union and non-union voice does result in better perceptions of management among the longest stayers with ten or more years service, whereas the association is actually negative (at a 10 per cent confidence level) relative to the no voice scenario, among the shortest stayers with less than a year's tenure.

31 The direct voice count variable, running from 0 to 3, produced significant linear effects in most models. For example, with controls identical to those in Table 6, the voice effects for 'fair treatment' were as follows (t-statistics in parentheses):

- Number of direct voice mechanisms (ref None): one: 0.05 (1.37), two: 0.08 (2.14), three: 0.13 (3.03).
- Number of union voice channels (ref None): one: 0.01 (0.22), two: -0.07 (1.91), three: -0.03 (0.67)
- Presence of non-union representative voice (ref None): 0.01 (0.26).

32 This is an interesting result in its own right. As Appendix Tables 3(a) and (b) show, perceptions of management responsiveness deteriorate with increasing tenure. But Table 7 shows that longer-stayers are more responsive to voice.

Table 7: *Impact of voice on perceptions of managers' fair treatment of employees, by length of workplace tenure*

	<i>Under a year</i>	<i>1 year, under 2</i>	<i>2 years, under 5</i>	<i>5 years, under 10</i>	<i>10+ years</i>
Representative/direct voice arrangements:					
Representative voice only	-0.09 (0.66)	-0.08(0.47)	-0.01 (0.06)	-0.10 (0.86)	0.11 (0.99)
Representative and direct	-0.06 (0.47)	-0.03(0.22)	0.09 (0.87)	0.04 (0.41)	0.24 (2.25)
Direct voice only	-0.03 (0.29)	-0.02(0.13)	0.06 (0.67)	0.06 (.73)	0.15 (1.33)
(Ref No voice)	-	-	-	-	-
<i>F</i>	(84,1340) = 2.35	(84,1340) = 3.34	(84,1340) = 4.98	(84,1340) = 4.82	(83,1341) = 10.84
<i>Unweighted base</i>	3,407	2,593	4,896	4,660	5,583
Union/non-union voice arrangements:					
Union voice only	-0.19 (1.18)	-0.31 (1.43)	-0.06 (0.50)	0.07 (0.48)	0.13 (1.01)
Union and non-union	-0.22 (1.67)	-0.09 (0.63)	0.09 (0.86)	-0.02 (0.22)	0.23 (2.01)
Non-union voice only	-0.01 (0.08)	-0.00 (0.00)	0.07 (0.73)	0.05 (0.56)	0.17 (1.64)
(Ref No voice)	-	-	-	-	-
<i>F</i>	(84,1339) = 2.41	(84,1339) = 3.46	(84,1339) = 4.93	(84,1339) = 4.76	(83,1340) = 10.59
<i>Unweighted base</i>	3,401	2,590	4,888	4,658	5,574

Base: employees in workplaces with 10 or more employees with non-missing data.

Notes:

- All models weighted with probability weights. Clustering and stratification accounted for.
- 'Fair treatment' dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).
- T-statistics are in parentheses.
- Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; union membership status; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

The evidence is still weaker when distinguishing between more and less marketable workers according to their age (Table 8). Although there is evidence of union-only voice being particularly ineffective for the youngest workers, there is no evidence of its effectiveness for older workers, many of whom will be among the least marketable and least likely to leave for another job. Indeed, there are no significant differences between the effects of different types of voice for any of the three age groups.

A similar story emerges again when we cut the data into segments according to individuals' highest educational qualifications, a good proxy for marketability (Table 9). Although non-union only voice delivers for the most qualified, relative to having no voice, as might have been anticipated by Freeman and Medoff, its effect is not significantly different from union-only voice. Furthermore, union voice does not deliver for the least marketable. Relative to no voice, union-only voice and dual-channel voice were positive for the least and best qualified workers, but the differences were not statistically significant.

The ineffectiveness of union voice for 'average' workers as well as marginal workers could result from unions' inability to represent large numbers of workers even where they are recognised for pay bargaining. However, further analyses using union density as a proxy for union coverage of workers revealed no differences in union effectiveness by density.

These analyses indicate that, contrary to Freeman and Medoff's hypothesis, union voice does not disproportionately benefit the 'average' or less marketable workers. But neither does non-union voice.

Does non-union voice operate differently in union and non-union workplaces?

We ran separate models for employees in the unionised and non-unionised sectors to establish whether non-union voice has different effects on managerial responsiveness in the two sectors. This approach is also valuable since our non-union voice only and no voice scenarios are confined to the subset of workplaces with no unions recognised for pay bargaining. Similarly, although it was theoretically possible for workplaces without recognised unions to have union-only voice,³³ in practice observations with union-only voice all came from the unionised sector.

³³ This is because unions may be present in the workplace without being recognised by the employer for pay bargaining. For example, they may have a union representative dealing with grievance procedures, and no non-union representative or direct voice.

Table 8: *Impact of voice on perceptions of managers' fair treatment of employees, by age*

	Under 25 years	25-49 years	50+ years
<i>Representative/direct voice arrangements:</i>			
Representative voice only	-0.21 (1.19)	-0.04 (0.46)	0.09 (0.85)
Representative and direct voice	0.06 (0.44)	0.07 (0.88)	0.09 (1.04)
Direct voice only	-0.06 (0.42)	0.07 (0.84)	0.09 (1.00)
(Ref No voice)	-	-	-
F	(82,1339) = 3.54	(82,1342) = 12.30	(82,1342) = 6.33
<i>Unweighted base</i>	2,439	14,156	4,544
<i>Union/non-union voice arrangements:</i>			
Union and non-union	-0.29 (1.68)	-0.02 (0.24)	0.09 (0.68)
Union only	-0.13 (0.82)	0.04 (0.49)	0.06 (0.68)
Non-union voice only	-0.01 (0.05)	0.06 (0.84)	0.10 (1.18)
(Ref No voice)	-	-	-
F	(82,1338) = 3.51	(82,1341) = 12.05	(82,1341) = 6.35
<i>Unweighted base</i>	2,434	14,133	4,544

Base: employees in workplaces with 10 or more employees with non-missing data.

Notes:

- All models weighted with probability weights. Clustering and stratification accounted for.
- 'Fair treatment' dependent variable coded on a five-point scale (very poor; poor; neither good nor poor; good; very good).
- T-statistics are in parentheses.
- Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; union membership status; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Table 9: *Impact of voice on perceptions of managers' fair treatment of employees, by highest educational qualification*

	None	CSE	GCSE	A-level	Degree	Post-graduate
<i>Representative/direct voice arrangements:</i>						
Representative voice only	0.05 (0.51)	-0.09 (0.69)	-0.03 (0.24)	-0.06 (0.45)	-0.23 (1.39)	0.30 (1.16)
Representative and direct	0.14 (1.51)	0.04 (0.38)	0.04 (0.40)	-0.00 (0.01)	-0.04 (0.27)	0.27 (1.10)
Direct voice only	0.07 (0.78)	0.18 (1.58)	-0.06 (0.63)	-0.11 (1.00)	0.08 (0.67)	0.54 (2.18)
(Ref No voice)	-	-	-	-	-	-
F	(83,1341) =	(83,1341) =	(83,1341) =	(83,1341) =	(83,1341) =	(83,1323) =
	6.99	4.41	5.01	4.48	4.28	3.58
<i>Unweighted base</i>	4,598	2,339	5,609	3,480	3,811	1,302
<i>Union/non-union voice arrangements:</i>						
Union voice only	0.10 (0.86)	-0.03 (0.22)	-0.10 (0.77)	-0.19 (1.32)	-0.19 (1.15)	0.43 (1.42)
Union and non-union	0.12 (1.26)	-0.01 (0.08)	-0.06 (0.55)	-0.09 (0.79)	-0.10 (0.75)	0.32 (1.18)
Non-union voice only	0.09 (1.00)	0.13 (1.18)	-0.01 (0.10)	-0.05 (0.47)	0.04 (0.33)	0.44 (1.83)
(Ref No voice)	-	-	-	-	-	-
F	(83,1340) =	(83,1340) =	(83,1340) =	(83,1340) =	(83,1340) =	(83,1322) =
	6.86	4.29	4.98	4.51	4.08	3.68
<i>Unweighted base</i>	4,600	2,339	5,612	3,469	3,797	1,294

Base: employees in workplaces with ten or more employees with non-missing data.

No tes:

(a) All models weighted with probability weights. Clustering and stratification accounted for.

(b) 'Fair treatment' dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).

(c) T-statistics are in parentheses.

(d) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; union membership status; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Among employees in non-unionised workplaces (Table 10), the three-quarters with access to direct voice only, or a combination of direct and representative voice, were significantly more positive about managerial responsiveness than the small minority (one-in-twenty) with representative voice only. More surprisingly, the one-sixth with no voice had more positive perceptions of management's ability to inform, consult and respond to suggestions than those with representative voice only.

None of the representative and direct voice arrangements delivered fair treatment in non-unionised workplaces. On this crucial measure, it appears that employees in non-unionised workplaces had no effective voice.

Employees in non-unionised workplaces had particularly negative views about management where there was union voice present, as the bottom half of Table 10 indicates. On four of our five measures, perceptions of management were significantly poorer where there was dual-channel communication than where there was single-channel non-union voice. Even no voice performed better than dual-channel arrangements in terms of keeping employees up-to-date and offering them the chance to comment on proposed changes. This may be a 'weak' union effect, whereby unions heighten awareness of some of the shortcomings of management but, through lack of recognition, have insufficient power to influence management.

These findings call into question the effectiveness of all voice mechanisms in non-unionised workplaces since across all five measures, no voice arrangements produce a significant improvement in perceptions of management relative to having no voice. It is equally clear that in non-unionised workplaces representative voice in isolation, and the combination of union and non-union voice, result in poorer perceptions of management than direct voice alone and non-union representative and direct voice combined.

In Table 11 we turn our attention to employees' perceptions of management in unionised workplaces. In common with employees in non-unionised workplaces, those in unionised workplaces had better perceptions of management where there was a combination of representative and direct voice as opposed to representative voice alone. In particular, dual-channel arrangements involving union and non-union voice performed better than single-channel union-only voice. The effectiveness of dual-channel arrangements, as measured by employee perceptions of management, may go some way to explaining why these arrangements have become more prevalent in the unionised sector since the 1980s, as illustrated in Table 2.

The results differ from those presented for the non-unionised sector in two respects. First, dual-channel voice combining union and non-union arrangements are generally more beneficial than single-channel arrangements.

Table 10: *Voice arrangements and employees' perceptions of management's responsiveness and fairness in non-unionised workplaces*

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct	0.31 (2.79)	0.34 (3.21)	0.32 (2.88)	0.21 (2.00)	0.14 (1.26)
Direct only	0.25 (2.25)	0.24 (2.36)	0.27 (2.42)	0.19 (1.84)	0.10 (0.90)
No voice	0.21 (1.75)	0.22 (1.93)	0.23 (1.92)	0.14 (1.25)	0.08 (0.63)
(Ref Representative voice only)	—	—	—	—	—
<i>F</i>	(86,1202) = 15.22	(86,1202) = 8.58	(86,1201) = 7.88	(86,1202) = 5.78	(86,1200) = 9.58
<i>Unweighted base</i>	8,759	8,602	8,476	8,673	8,731
<i>Union/non-union voice arrangements:</i>					
Non-union only	0.22 (2.40)	0.28 (2.43)	0.21 (1.86)	0.22 (2.05)	0.08 (0.80)
No voice	0.18 (1.74)	0.25 (1.95)	0.17 (1.37)	0.17 (1.45)	0.05 (0.11)
(Ref Union and non-union)	—	—	—	—	—
<i>F</i>	(85,1202) = 14.99	(85,1202) = 8.62	(85,1201) = 7.77	(85,1202) = 5.51	(85,1200) = 9.35
<i>Unweighted base</i>	8,759	8,602	8,476	8,673	8,731

Base: employees in workplaces without unions recognised for pay bargaining, with 10 or more employees with non-missing data.

No tes:

- (a) All models weighted with probability weights. Clustering and stratification accounted for.
- (b) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).
- (c) T-statistics are in parentheses.
- (d) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; union membership status; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Table 11: *Voice and employees' perceptions of management's responsiveness and fairness in unionised workplaces*

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct (Ref Representative voice only)	0.12 (2.48)	0.18 (3.72)	0.10 (2.12)	0.09 (1.88)	0.09 (1.95)
<i>F</i>	(86,1316) = 9.07	(86,1316) = 8.12	(86,1315) = 9.94	(86,1316) = 8.89	(86,1314) = 9.36
<i>Unweighted base</i>	12,522	12,387	12,139	12,348	12,408
<i>Union/non-union voice arrangements:</i>					
Union and non-union (Ref Union only)	0.12 (2.09)	0.17 (2.72)	0.11 (1.78)	0.09 (1.65)	0.07 (1.17)
<i>F</i>	(86,1315) = 9.07	(86,1315) = 7.89	(86,1314) = 9.89	(86,1315) = 8.97	(86,1313) = 9.36
<i>Unweighted base</i>	12,495	12,359	12,114	12,324	12,380

Base: employees in unionised workplaces with 10 or more employees with non-missing data.

Notes:

- All models weighted with probability weights. Clustering and stratification accounted for.
- Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).
- T-statistics are in parentheses.
- Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; union membership status; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Secondly, voice arrangements exist in the unionised sector that significantly improve employees' perceptions of fair treatment by management: these are the arrangements combining representative and direct voice.³⁴

To establish whether different types of direct voice operated differently in unionised and non-unionised environments, we ran further models for the two sectors identifying each practice separately. This revealed that the only voice variable positively associated with perceptions of fairer treatment by management in non-unionised workplaces was problem-solving groups. These were also positively associated with perceptions of fairer treatment in unionised workplaces, but so too were regular meetings between senior management and the workforce. This finding suggests that aspects of direct voice may operate more effectively in a unionised environment than a non-unionised environment.

Are negative union effects accounted for by voice-induced complaining?

To establish whether 'voice-induced complaining' existed in our data we tested whether unionised workers expressed greater dissatisfaction with four aspects of their work available in WERS, in spite of enjoying better work conditions. Freeman and Medoff note that 'because most surveys obtain information on workplace conditions from workers rather than from objective sources... such contrasts of worker perceptions and reality are few' (1984: 140). However, we are fortunate in that we can measure 'reality' with data on working conditions from employers matched to our employee data.³⁵ As anticipated, union members had significantly higher scores on the non-pay terms and conditions indicator than non-members.

34 Although dual-channel union and non-union voice alone had positive coefficients relative to union-only voice, neither was significantly associated with improved perceptions of fair treatment. Further models disaggregating our composite voice variables indicated that two forms of representative voice were negatively associated with fair treatment: the presence of a functioning joint consultative committee, and the presence of an on-site union representative. However, the negative effects of consultative committees were ameliorated in cases where representatives to joint consultative committees were elected by employees or appointed through union channels, as opposed to volunteering or being appointed by management. This lends support to the hypothesis that political processes legitimising worker representation in the eyes of employees may enhance its effectiveness. The negative effects of on-site union representation were not apparent in the case of full-time representatives.

35 The variable we use counts the number of non-pay terms and conditions to which employees from the workplace's largest occupational group are entitled from the following list: employer pension scheme; company car or car allowance; private health insurance (which is relatively rare in Britain); four weeks or more paid annual leave; sick pay in excess of statutory requirements.

Table 12: Satisfaction with aspects of work among union members and non-members

	Influence	Pay	Achievement	Respect
<i>Union membership status:</i>				
Current member	-0.17 (4.96)	-0.09 (2.32)	-0.13 (3.41)	-0.18 (4.90)
Ex-member (Ref Never member)	-0.06 (1.49)	-0.15 (3.62)	-0.05 (1.37)	-0.06 (1.65)
	-	-	-	-
<i>F</i>	(21,1663) = 7.43	(21,1663) = 18.40	(21,1663) = 15.83	(21,1663) = 14.67
<i>Unweighted base</i>	11,495	11,596	11,557	11,542
<i>Union/workplace recognition status:</i>				
Union member, recognition	-0.17 (4.30)	-0.00 (0.07)	-0.15 (3.71)	-0.18 (4.38)
Non-union member, recognition	-0.03 (0.94)	0.06 (1.32)	-0.07 (1.91)	-0.03 (0.72)
Union member, no recognition (Ref Non-member, no recognition)	-0.13 (2.08)	-0.10 (1.39)	-0.06 (0.79)	-0.06 (0.85)
	-	-	-	-
<i>F</i>	(22,1662) = 6.96	(22,1662) = 16.55	(22,1662) = 15.16	(22,1662) = 14.42
<i>Unweighted base</i>	11,495	11,596	11,557	11,542

Base: non-managerial employees from largest occupational group in workplaces with 10 or more employees. Employees with missing data excluded.
Notes:

(a) All models weighted with probability weights. Clustering and stratification accounted for.

(b) Each dependent variable coded on a five point scale (very dissatisfied; dissatisfied; neither satisfied nor dissatisfied; satisfied; very satisfied).

(c) T-statistics are in parentheses.

(d) Control variables derived from individual data: occupation; gross wage. Control variables derived from managerial respondents: number of non-pay terms and conditions.

Employees were asked how satisfied they were with the following aspects of their work:

- the amount of influence you have over your job;
- the amount of pay you receive;
- the sense of achievement you get from your work;
- the respect you get from supervisors/line managers.

We modelled responses that ranged along a five-point scale from ‘very satisfied’ to ‘very dissatisfied’. Having controlled for occupation, gross wage, and the number of non-pay terms and conditions to which employees were entitled, there was strong evidence of voice-induced complaining among non-managerial employees from the largest occupational group in each workplace (Table 12).

Union members were significantly less satisfied with all four aspects of their work than employees who had never been members. In three of the four models, current members had lower satisfaction rates than ex-members did. The bottom half of the table distinguishes between members and non-members working in workplaces with and without employer recognition of the union for pay bargaining purposes. This allows us separately to identify ‘membership’ effects arising from individual union membership, and ‘recognition’ effects arising from the unionisation of the workplace. There is evidence of both effects, but the ‘membership’ effect is strong, and the ‘recognition’ effect weak. The ‘recognition’ effect is evident in the lower satisfaction scores among those in unionised workplaces compared to those in non-unionised workplaces, controlling for membership status.³⁶ The ‘membership’ effect is evident among workers in unionised workplaces in the significantly lower satisfaction scores among members compared to non-members in three of the four models. Among workers in non-unionised workplaces, the ‘membership’ effect is confined to dissatisfaction with influence over one’s job.

Since ‘voice-induced complaining’ among union members is a feature of our data, it is important to take it into account before concluding that the negative impact of union voice on perceptions of management in our whole sample models is due to union representation *per se*.

³⁶ However, the effect is only statistically significant at the 10 per cent confidence level in two cases. Among non-members, those in workplaces with recognised unions had lower satisfaction with achievement at work compared with those in non-unionised workplaces. Among members, those in unionised workplaces were significantly less satisfied with respect from managers and supervisors than members in non-unionised workplaces.

Table 13: Perceptions of management's responsiveness and fairness, by union membership status

	Up to date			Chance			Respond			Dealing			Fairly		
	M	EX	NM	M	EX	NM	M	EX	NM	M	EX	NM	M	EX	NM
<i>Representative/direct voice arrangements:</i>															
Representative and direct	0.14 (2.37)	0.14 (1.85)	0.21 (2.72)	0.20 (3.36)	0.25 (3.26)	0.24 (3.42)	0.09 (1.45)	0.19 (2.37)	0.22 (2.94)	0.09 (1.56)	0.09 (1.07)	0.19 (2.53)	0.09 (1.70)	0.08 (0.81)	0.14 (1.75)
Direct only	0.45 (4.03)	0.03 (0.34)	0.15 (1.73)	0.36 (3.24)	0.15 (1.66)	0.14 (1.89)	0.36 (3.18)	0.16 (1.59)	0.14 (1.69)	0.37 (3.30)	0.06 (0.64)	0.13 (1.58)	0.26 (2.38)	0.03 (0.29)	0.09 (1.08)
No voice	0.18 (0.51)	0.06 (0.68)	0.07 (2.03)	0.43 (1.22)	0.14 (0.81)	0.08 (1.90)	0.31 (0.64)	0.13 (1.11)	0.07 (0.71)	0.63 (2.83)	0.04 (0.38)	0.02 (0.22)	0.26 (1.00)	0.05 (-0.36)	0.06 (0.57)
(Ref Representative voice only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	7.48	4.52	5.59	7.98	4.42	6.37	9.13	3.93	5.44	6.22	3.14	5.01	7.15	4.43	7.34
Unweighted base	8310	3858	9113	8253	3796	8940	8122	3738	8755	8235	3806	8980	8240	3841	9058
<i>Union/non-union voice arrangements:</i>															
Union and non-union	0.14 (2.01)	0.16 (1.31)	0.01 (0.10)	0.20 (2.53)	0.25 (1.94)	0.05 (0.53)	0.11 (1.50)	0.17 (1.11)	0.04 (0.43)	0.09 (1.27)	0.10 (0.75)	0.09 (1.08)	0.07 (1.07)	0.12 (0.86)	0.04 (0.39)
Non-union only	0.35 (3.57)	0.13 (1.04)	0.05 (0.51)	0.30 (3.01)	0.24 (1.78)	0.09 (1.07)	0.21 (2.08)	0.15 (0.98)	0.08 (0.81)	0.19 (1.97)	0.10 (0.75)	0.13 (1.51)	0.13 (1.41)	0.15 (0.99)	0.08 (0.77)
No voice	0.20 (0.70)	0.12 (0.82)	0.05 (-0.41)	0.43 (2.02)	0.19 (1.25)	0.00 (-0.02)	0.33 (1.93)	0.12 (0.72)	0.01 (-0.11)	0.63 (2.80)	0.08 (0.49)	0.00 (-0.05)	0.24 (0.93)	0.04 (0.24)	0.03 (0.23)
(Ref Union only)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	7.41	4.37	5.33	7.89	4.20	6.03	9.08	3.82	5.32	6.22	3.11	4.82	7.13	4.40	7.19
Unweighted base	8294	3862	9098	8237	3798	8926	8106	3741	8743	8219	3811	8967	8223	3845	9043

Base: employees in workplaces with 10 or more employees with non-missing data.

Notes:

(a) All models weighted with probability weights. Clustering and stratification accounted for.

(b) M = union members; EX = ex-union members; NM = never union member.

(c) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).

(d) T-statistics are in parentheses.

(e) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Table 13 presents separate models for current union members, ex-members and employees who have never been union members. The top half of the table shows that members' perceptions of management are significantly more positive with direct voice-only than representative voice only across all five measures. Although ex-members and never members are also more positive where direct voice-only is present, the effects are much weaker. On the crucial issue of fair treatment, union members are more positive about management where there is direct voice-only than if there is representative voice present (whether in isolation or in combination with direct voice). In contrast, ex-members' and never members' perceptions of fair treatment are unaffected by the availability of voice mechanisms.

The bottom half of the table indicates that the association between poor perceptions of management and union-only voice is almost wholly confined to union members. Union-voice – whether single channel, or in combination with non-union voice – is only ever significantly associated with poorer perceptions of management responsiveness among members.³⁷ What's more, in the case of union members, single-channel union voice or representative voice was associated with even poorer perceptions of management than in instances in which there was no voice at all. This suggests that the negative association between poor perceptions of management and union voice is largely accounted for by voice-induced complaining, or the higher level of 'critical awareness' referred to by Freeman and Medoff, rather than ineffectiveness on the part of union voice *per se*.

The most striking finding, however, is the ineffectiveness of all voice mechanisms, compared to a situation in which employees have no voice. Only in the case of never members was voice associated with better perceptions of management. Never members were more positive about management's ability to keep them up-to-date, give them the chance to comment on proposals, respond to suggestions, and deal with problems where there was a combination of representative and direct voice, as opposed to no voice. None of the voice mechanisms outperformed 'no voice' when it came to improving perceptions of management's fair treatment of employees, regardless of membership status.

What is actually happening on the ground becomes clearer when we distinguish between union membership effects controlling for 'workplace effects' associated with the unionisation of the workplace. We do this by running models on four separate sub-samples: members in workplaces where unions are recognised for pay bargaining; non-members in workplaces recog-

³⁷ There is one exception, which is ex-members' perception of the chance they are given to comment on proposed changes. Here, both non-union only voice and dual-channel arrangements perform better than union-only voice.

Table 14(a): Perceptions of management's responsiveness and fairness among union members in non-unionised workplaces

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct	0.12 (0.49)	0.03 (0.16)	0.15 (0.74)	0.22 (1.07)	-0.00 (0.02)
Direct only	0.64 (3.44)	0.56 (2.98)	0.65 (3.42)	0.77 (3.97)	0.52 (2.69)
No voice (Ref Representative voice only)	0.24 (0.76)	0.65 (2.57)	0.74 (3.26)	0.98 (3.96)	0.29 (1.01)
<i>F Unweighted base</i>	(84,1173) = 7.02 717	(84,1173) = 7.22 714	(84,1172) = 7.36 703	(84,1173) = 9.15 715	(84,1171) = 6.24 710
<i>Union/non-union voice arrangements:</i>					
Non-union only	0.03 (0.20)	0.10 (0.53)	0.13 (0.13)	0.06 (0.37)	0.23 (1.30)
No voice (Ref Union and non-union)	-0.03 (0.09)	0.52 (1.86)	0.53 (2.14)	0.63 (2.56)	0.31 (1.13)
<i>F Unweighted base</i>	(83,1173) = 7.57 717	(83,1173) = 5.89 714	(83,1172) = 7.28 703	(83,1173) = 8.49 715	(83,1171) = 6.28 710

Base: union members in workplaces without unions recognised for pay bargaining, with 10 or more employees with non-missing data.

No tes:

(a) All models weighted with probability weights. Clustering and stratification accounted for.

(b) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).

(c) T-statistics are in parentheses.

(d) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Table 14(b) *Perceptions of management's responsiveness and fairness among union non-members in non-unionised workplaces*

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct	0.30 (2.50)	0.35 (3.15)	0.32 (2.63)	0.19 (1.66)	0.14 (1.10)
Direct only	0.22 (1.81)	0.22 (2.10)	0.24 (2.01)	0.15 (1.30)	0.08 (0.65)
No voice (Ref Representative voice only)	0.18 (1.39)	0.20 (1.65)	0.19 (1.48)	0.07 (0.62)	0.05 (0.40)
<i>F</i>	(84, 1181) = 12.50 8,042	(84, 1181) = 8.63 7,888	(84, 1180) = 6.21 7,773	(84, 1181) = 5.06 7,958	(84, 1179) = 7.71 8,021
<i>Union/non-union voice arrangements:</i>					
Non-union only	0.20 (1.86)	0.23 (1.64)	0.20 (1.49)	0.22 (1.71)	0.02 (0.18)
No voice (Ref Union and non-union)	0.15 (1.28)	0.19 (1.22)	0.14 (0.99)	0.14 (1.03)	-0.02 (0.16)
<i>F</i>	(83, 1181) = 11.80 8,042	(83, 1181) = 8.61 7,888	(83, 1180) = 6.23 7,773	(83, 1181) = 4.88 7,958	(83, 1179) = 7.52 8,021

Base: employees who are not union members in workplaces without unions recognised for pay bargaining, with 10 or more employees with non-missing data.

Notes:

- (a) All models weighted with probability weights. Clustering and stratification accounted for.
- (b) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).
- (c) T-statistics are in parentheses.
- (d) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Table 15(a): Perceptions of management's responsiveness and fairness among union members in unionised workplaces

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct (Ref Representative voice only)	0.13 (2.14)	0.20 (3.25)	0.08 (1.29)	0.07 (1.26)	0.08 (1.51)
F Unweighted base	(84,1299) = 7.61 7,593	(84,1299) = 7.26 7,539	(84,1298) = 8.34 7,419	(84,1299) = 5.62 7,520	(84,1297) = 6.45 7,530
<i>Union/non-union voice arrangements:</i>					
Union and non-union (Ref Union only)	0.15 (2.13)	0.22 (2.69)	0.13 (1.78)	0.11 (1.46)	0.08 (1.04)
F Unweighted base	(84,1298) = 7.54 7,577	(84,1298) = 7.21 7,523	(84,1297) = 8.36 7,403	(84,1298) = 5.65 7,504	(84,1296) = 6.48 7,513

Base: union members in unionised workplaces with 10 or more employees with non-missing data.

Notes:

(a) All models weighted with probability weights. Clustering and stratification accounted for.

(b) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).

(c) T-statistics are in parentheses.

(d) Individual control variables not shown in table: gender, age; highest educational qualification; if any vocational qualifications; ethnicity; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if IIP accredited; if has a written equal opportunities policy; standard region.

Table 15(b): Perceptions of management's responsiveness and fairness among union non-members in unionised workplaces

	Up to date	Chance	Respond	Dealing	Fairly
<i>Representative/direct voice arrangements:</i>					
Representative and direct (Ref Representative voice only)	0.12 (1.71)	0.16 (2.64)	0.14 (1.98)	0.12 (1.92)	0.09 (1.25)
F	(84,1318) = 4.73	(84,1318) = 3.90	(84,1317) = 3.56	(84,1318) = 3.83	(84,1316) = 5.04
Unweighted base	4,929	4,848	4,720	4,828	4,878
<i>Union/non-union voice arrangements:</i>					
Union and non-union (Ref Union only)	0.11 (1.16)	0.13 (1.56)	0.10 (1.12)	0.11 (1.31)	0.05 (0.56)
F	(84,1317) = 4.70	(84,1317) = 3.81	(84,1316) = 3.47	(84,1317) = 3.79	(84,1315) = 5.07
Unweighted base	4,918	4,836	4,711	4,820	4,867

Base: union non-members in unionised workplaces with 10 or more employees with non-missing data.

No tes:

- (a) All models weighted with probability weights. Clustering and stratification accounted for.
- (b) Each dependent variable coded on a five point scale (very poor; poor; neither good nor poor; good; very good).
- (c) T-statistics are in parentheses.
- (d) Individual control variables not shown in table: gender; age; highest educational qualification; if any vocational qualifications; ethnicity; standard occupational classification; workplace tenure; whether permanent contract; hours worked; gross wage. Workplace-level controls not shown in tables: number of employees; percentage of managers who are female; percentage of workers who are female; percentage of workers who are part-timers; percentage of workforce from non-white ethnic backgrounds; percentage of workforce who are managers; if public sector; if single workplace organisation, the sole UK workplace of a foreign organisation, or a multiple-site organisation in the UK; standard industrial classification; nature of activity at workplace; if workplace has formal strategic plan; if iIP accredited; if has a written equal opportunities policy; standard region.

nising unions; members in workplaces which do not recognise unions; and non-members in workplaces which do not recognise unions.

Within workplaces where unions were not recognised by management for pay bargaining purposes, representative voice alone (invariably non-union representative voice) did not deliver for union members and non-members alike (Table 14(a) for union members and 14(b) for non-members). Among the small group of union members, there was a strong preference for direct voice over representative voice. Further analysis revealed that this was due to an antipathy towards non-union representative voice, rather than to union voice which was weak due to its lack of real bargaining power through recognition for pay bargaining. Non-members, on the other hand, responded most positively to a combination of representative and direct voice. They also responded more positively than union members to single-channel non-union voice.

Turning to employees in workplaces recognising unions for pay bargaining, union members perceived management as more responsive where dual-channel communications were in place, as opposed to union-only representation (Table 15(a)). However, dual-channel arrangements made no difference to perceptions of the way in which management dealt with workers' problems or the fairness with which they treated employees. Whether voice involved union-only channels or dual-channel arrangements made no difference to non-members' perceptions of managerial responsiveness in unionised workplaces (Table 15(b)), perhaps because they did not participate in union affairs. What did matter was whether there were direct methods of communication with management. Where they existed, non-members perceived improvements in the opportunities management gave them to comment on proposed change (as did members). But, unlike union members, the existence of direct voice also improved non-union members' perceptions of the way in which management responded to suggestions and dealt with people's work problems. This suggests that within unionised workplaces direct voice was complementing union representative voice by offering voice channels to employees who did not have access to union channels.

CONCLUSIONS

Our analyses suggest that, if unions were ever able positively to influence management's behaviour in the eyes of workers, they are no longer doing so. Rather, our findings are consistent with the view that unions highlight the shortcomings of management, a process leading to more voluble complaining. We find that 'voice-induced complaining' among union members

underpins the seeming ineffectiveness of union voice relative to non-union voice. Nevertheless, although British unions benefit employees in delivering a sizeable wage mark-up, they appear unable to effect better workplace management.

Whilst there is virtually no support for Freeman and Medoff's proposition that union voice is more effective than non-union voice in delivering for workers, proponents of direct communication between employees and management as an integral part of human resource management can take little comfort from the findings. In general, perceptions of management were no better among employees with voice – whether it be union or non-union, representative or direct – than they were among employees with no voice. This was nowhere more apparent than in our analyses of what might be viewed as the decisive test of effective voice, namely employees' perceptions of 'fair treatment' by management.

Where management made more intensive use of direct communication channels, employees' perceptions of management were better. This was the case across all five of our measures, including 'fair treatment'. Furthermore, the use of particular types of direct voice – notably regular meetings between senior management and the workforce and problem-solving groups – tended to increase significantly perceptions of managerial responsiveness, while team briefings did not. These findings held across many model specifications and different sub-samples, suggesting that these effects are universal rather than contingent upon specific circumstances. However, there were indications that direct voice was particularly effective in a union setting, a finding that might explain the growth of dual-channel arrangements in Britain over the last twenty years. The combination of representative and direct voice significantly improved perceptions of management across all five of our measures, including 'fair treatment', suggesting some complementarity between representative and direct voice in unionised workplaces. The effects were strongest among union non-members, perhaps suggesting that direct voice was complementing union representative voice by offering voice channels to employees who had no access to union channels. There was no evidence that unions were in any way impairing non-union voice effectiveness. On the contrary, a wider range of direct voice mechanisms had positive effects in unionised workplaces than was the case in non-unionised workplaces.

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Appendix

Table A1: *Voice variables used in analysis*

	Column percentages		
	<i>All</i>	<i>Union</i>	<i>Non-union</i>
<i>Union vs non-union voice:</i>			
Union-only	5	8	0
Dual-channel arrangements	54	92	4
Non-union only	34	0	79
No voice	7	0	17
<i>Representative vs direct voice:</i>			
Representative voice only	11	14	6
Representative and direct voice	61	86	27
Direct voice only	21	0	50
No voice	7	0	17
<i>Union voice:</i>			
UCHAN, any union voice channels	59	100	4
UCHANNEL, number of union channels			
0	41	59	
1	10	26	
2	34	96	
3	15	0	16
3	1	0	
UNIONREC, if union recognised for pay bargaining	58	1	0
UREP2, on-site representative of recognised union	48	84	0
FTUREP, full-time on-site representative of recognised union	10	18	0
EXTUREP, off-site representative of recognised union (where no on-site rep)	3	6	0
JCTUAPP, union appointee to joint consultative committee	16	26	2
FJCTUAP, union appointee to functioning joint consultative committee	14	23	1
UREPNREC, on-site union representative where no recognised union	1	0	3

Non-union voice:

NONUCHAN, number of direct non-union voice channels			
0	18	14	23
1	35	32	38
2	36	42	28
3	11	12	11
NONUCHA2, number of direct and indirect non-union voice channels			
0	12	8	17
1	26	22	31
2	29	31	27
3	23	29	15
4	9	9	9
5	1	1	1
NONUCHA3, if any direct or indirect non-union voice channels	88	92	83
DIRVOI, if any direct voice channels	82	86	77
REGMEET, if regular meetings between senior management and workforce	35	32	39
QCIRCLES, if any problem-solving groups	51	59	39
TBRIEF1, team briefings, broad definition	88	92	82
TBRIEF3, team briefings, 2-way communication, work-group defined, monthly	54	58	48
NONURVOI, if any non-union representative voice	46	55	33
NONUELEC, if any non-union elected employee representative on-site	7	5	10
<i>Other representative voice variables:</i>			
REPVOI, any representative voice	72	1	33
JCC, if joint consultative committee	45	56	30
FUNCJCC, if joint consultative committee that meets at least once per month	38	49	24
JCCELEC, if employee representative to JCC elected by employees	21	25	14
FJCCELEC, if employee representative to FUNCJCC elected by employees	18	23	12
EUROWCUK, if European Works Council which operates in UK	9	10	7
<i>Other communication variables:</i>			
MANCHAIN, if systematic use of management chain	70	79	57
NEWSLET, if regular newsletters	64	78	46
SUGGEST2, if suggestion schemes	41	48	32
OTHCONS, other consultation methods	20	24	15

Base: all employees with non-missing data in workplaces with 10 or more employees. Column 2 confined to employees in workplaces with unions recognised for pay bargaining. Column 3 confined to employees in workplaces with no unions recognised for pay bargaining.

Table A2: Control variables used in analysis

	Column percentages		
	All	Union	Non-union
<i>Individual-level data:</i>			
<i>Demographic:</i>			
FEM, if female	49	48	52
ETHNIC, if non-white ethnic minority	4	4	4
AGE, in years:			
Under 20	5	3	8
20–24	8	5	11
25–29	12	11	14
30–39	27	29	25
40–49	25	27	21
50–59	19	20	17
60+	4	4	5
<i>HEDQUAL, Highest educational qualification:</i>			
No qualifications	26	27	25
CSE or equivalent	12	12	13
GCSE or equivalent	26	26	27
A level or equivalent	15	14	15
Degree or equivalent	16	15	16
Post-graduate	5	6	5
VOCQUAL, if any vocational qualifications	37	38	36
<i>MEMBTU, union membership status:</i>			
Current member	39	61	9
Ex-member	18	15	23
Never member	43	24	68
<i>MEMREC, membership by workplace recognition:</i>			
Recognition, union member	35	61	0
Recognition, non-member	23	39	0
No recognition, member	4	0	9
No recognition, non-member	38	0	91
<i>Job-related characteristics:</i>			
<i>OCCGRP2, occupation:</i>			
Managers and senior administrators	9	8	10
Professional	11	12	10
Associate professional and technical	8	9	7
Clerical and secretarial	18	18	17
Craft and skilled service	10	11	9
Personal and protective service	12	12	12
Sales	9	6	14
Operative and assembly	13	15	11
Other occupations	10	10	11

TENURE, workplace tenure, in years:

Less than one	17	13	23
One, less than two	13	10	16
Two, less than five	23	22	24
Five, less than ten	22	23	20
Ten or more	26	32	17

HOURS, usual weekly hours:

Less than ten	5	4	6
Ten, less than twenty-nine	22	20	24
Thirty, less than thirty-nine	31	37	24
Forty, less than forty-eight	27	26	29
Forty-eight or more	15	14	18
PERM, if permanent contract	92	92	92

GROSSWAGE, gross weekly wage:

Less than £50	8	5	11
£51–80	7	5	10
£81–140	13	11	15
£141–180	9	8	11
£181–220	11	12	11
£221–260	10	11	10
£261–310	10	11	8
£311–360	8	9	6
£361–430	10	12	6
£431–540	7	8	6
£541–680	4	3	4
£681 or more	3	3	4

Workplace-level data:

Workforce composition:

PCMANFEM, percentage of workplace managers who are women	31	29	34
PCFEM, percentage of workforce who are women	49	48	51
PCMAN, percentage of workforce who are managers	8	7	10
PCPT, percentage of workforce who are part-timers	26	24	29
PCETHNIC, percentage of workforce from non-white ethnic minorities	4	4	4

NEMP SIZE, number of employees at workplace:

10–24	13	7	21
25–49	14	9	21
50–99	15	11	20
100–199	15	15	13
200–499	20	24	15
500 or more	24	34	9

NDENSITY, percentage of workforce who are members of union	35	57	5
<i>Sector, ownership and location:</i>			
PUBLIC, if public sector	31	48	8
<i>ASINGLE, if multi-site organisation:</i>			
One of a number of UK sites	76	86	62
Single independent workplace	22	13	35
Sole UK site for foreign-based organisation	2	1	3
<i>ASIC, standard industrial classification (single digit):</i>			
Manufacturing	23	26	20
Electricity, gas and water	1	1	0
Construction	3	3	4
Wholesale and retail distribution	15	9	22
Hotels and restaurants	4	1	9
Transport and communication	6	8	4
Financial services	4	5	3
Other business services	8	3	16
Public administration	9	15	1
Education	10	12	8
Health	13	16	10
Other community services	3	3	4
<i>SSR, Standard statistical region:</i>			
East Anglia	5	5	6
East Midlands	9	9	8
London	10	9	11
North	7	9	4
North West	10	11	9
Scotland	10	13	7
Rest of South East	18	13	26
South West	8	9	8
Wales	4	5	3
West Midlands	10	11	9
Yorkshire and Humberside	8	7	9
<i>Workplace activity:</i>			
KACTIVI, activity at the workplace:			
Produce goods or services for customers	53	55	50
Supplier of goods or services to other companies	22	15	33
Supplier of goods or services to other parts of organisation to which we belong	7	11	3
Do not produce goods or services for sale in open market	14	17	10
Administrative office only	4	3	5

Management practices:

BSTRATEG, if workplace is covered by a formal strategic plan	85	92	75
BAWARD, if workplace or organisation to which it belongs has been accredited as an Investor in People	35	39	29
WRITPOL, if workplace has a formal written policy on equal opportunities or managing diversity	81	91	66

Base: all employees with non-missing data in workplaces with 10 or more employees. Column 2 confined to employees in workplaces with unions recognised for pay bargaining. Column 3 confined to employees in workplaces with no unions recognised for pay bargaining.

Table A3(a): Representative and direct voice arrangements and employee perceptions of management

	<i>Up to date</i>	<i>Chance</i>	<i>Respond</i>	<i>Dealing</i>	<i>Fairly</i>
<i>Voice: (ref = representative voice only)</i>					
Representative and direct	0.160 (3.48)**	0.221 (4.82)**	0.140 (3.18)**	0.115 (2.67)**	0.097 (2.22)*
Direct only	0.132 (2.26)*	0.161 (2.85)**	0.121 (2.09)*	0.111 (1.96)*	0.079 (1.41)
No voice	0.062 (0.80)	0.103 (1.32)	0.042 (0.54)	0.022 (0.32)	0.028 (0.39)
Female	0.043 (1.61)	0.065 (2.27)*	0.113 (4.11)**	0.021 (0.78)	-0.014 (0.56)
<i>Age: (ref = 30–39 years)</i>					
Under 20	0.133 (2.36)*	0.097 (1.84)	0.031 (0.52)	0.093 (1.52)	0.005 (0.08)
20–24 years	0.148 (3.37)**	0.140 (3.17)**	0.132 (2.86)**	0.176 (3.70)**	0.101 (2.20)*
25–29 years	0.016 (0.44)	-0.005 (0.14)	0.046 (1.16)	0.065 (1.67)	0.027 (0.80)
40–49 years	0.035 (1.39)	-0.010 (0.37)	0.006 (0.23)	-0.015 (0.56)	0.000 (0.02)
50–59 years	0.119 (3.28)**	0.057 (1.45)	0.054 (1.42)	0.070 (1.72)	0.122 (3.05)**
60+ years	0.329 (5.68)**	0.296 (5.57)**	0.240 (4.25)**	0.271 (4.81)**	0.387 (6.53)**
<i>Highest educational qualification (ref = GCSE or equivalent)</i>					
No educational qualifications	0.107 (3.57)**	0.111 (3.42)**	0.104 (2.91)**	0.153 (4.44)**	0.145 (4.58)**
CSE or equivalent	0.133 (3.83)**	0.144 (4.21)**	0.133 (3.49)**	0.125 (3.46)**	0.108 (3.17)**
A level or equivalent	-0.050 (1.73)	-0.057 (1.76)	-0.054 (1.61)	-0.042 (1.30)	-0.043 (1.42)
Degree of equivalent	-0.058 (1.65)	-0.018 (0.47)	-0.061 (1.60)	-0.076 (1.98)*	-0.049 (1.22)
Post-graduate	-0.094 (1.91)	-0.053 (1.05)	-0.118 (2.26)*	-0.123 (2.41)*	-0.140 (2.75)**
If possesses vocational qualification	-0.037 (1.73)	-0.070 (3.24)**	-0.020 (0.95)	-0.030 (1.40)	-0.062 (2.89)**
Member of non-white ethnic minority	0.108 (1.69)	0.057 (0.97)	0.040 (0.70)	-0.007 (0.11)	-0.059 (0.94)
<i>Union membership (ref = current member)</i>					
Ex-member	0.019 (0.58)	0.026 (0.77)	0.047 (1.30)	0.045 (1.42)	0.072 (2.33)*
Never member	0.088 (2.84)**	0.088 (2.53)*	0.126 (3.23)**	0.154 (5.11)**	0.183 (6.06)**

Occupational classification (ref = clerical and secretarial)

Managers and senior administrators	0.300 (5.72)**	0.324 (6.73)**	0.296 (6.41)**	0.294 (6.15)**	0.311 (5.51)**
Professional	0.036 (0.69)	0.074 (1.52)	0.068 (1.34)	0.036 (0.76)	-0.018 (0.38)
Associate professional and technical	0.047 (1.02)	0.070 (1.50)	0.104 (2.03)*	0.022 (0.43)	-0.018 (0.35)
Craft and skilled service	-0.102 (2.14)*	-0.070 (1.39)	-0.176 (3.45)**	-0.165 (3.23)**	-0.233 (4.70)**
Personal and protective service	0.049 (0.98)	0.038 (0.78)	0.057 (1.05)	0.081 (1.69)	-0.004 (0.09)
Sales	0.096 (1.61)	0.056 (0.96)	0.077 (1.32)	0.054 (0.94)	-0.052 (0.97)
Operative and assembly	-0.083 (1.60)	-0.089 (1.68)	-0.165 (3.02)**	-0.145 (3.06)**	-0.206 (4.47)**
Other occupation	-0.018 (0.34)	-0.043 (0.78)	-0.089 (1.35)	-0.085 (1.58)	-0.167 (3.04)**

Workplace tenure (ref = 10 + years)

Less than 1 year	0.406 (11.02)**	0.437 (11.48)**	0.440 (10.78)**	0.427 (11.12)**	0.479 (12.40)**
1, < 2 years	0.194 (4.91)**	0.223 (5.71)**	0.220 (5.83)**	0.224 (5.72)**	0.244 (6.34)**
2, < 5 years	0.044 (1.36)	0.065 (1.98)*	0.074 (2.32)*	0.082 (2.40)*	0.131 (4.20)**
5, <10 years	0.000 (0.02)	0.021 (0.68)	0.017 (0.55)	0.011 (0.36)	0.043 (1.41)
If permanent employment contract	-0.030 (0.77)	0.003 (0.08)	-0.042 (1.01)	-0.012 (0.27)	-0.007 (0.18)

Usual weekly hours (ref = less than 10)

10, < 29 hours	-0.056 (0.77)	-0.017 (0.24)	0.020 (0.21)	0.060 (0.80)	-0.035 (0.46)
30, < 39 hours	-0.074 (0.91)	-0.011 (0.13)	0.002 (0.02)	0.044 (0.54)	-0.142 (1.72)
40, < 48 hours	-0.048 (0.60)	-0.002 (0.03)	0.066 (0.60)	0.066 (0.78)	-0.124 (1.47)
48 hours or more	-0.077 (0.91)	-0.016 (0.18)	0.007 (0.06)	-0.003 (0.04)	-0.188 (2.08)*

Gross weekly wage (ref = £141-180)

£50 or less	0.157 (1.87)	0.126 (0.284)	0.198 (0.299)	0.207 (2.31)*	0.199 (2.63)**
£51-80	0.118 (1.88)	0.114 (1.94)	0.112 (1.74)	0.079 (1.25)	-0.001 (0.02)
£81-140	0.069 (1.59)	0.054 (1.30)	0.065 (1.44)	0.063 (1.24)	0.044 (0.92)
£181-220	0.050 (1.14)	0.061 (1.42)	0.059 (1.39)	0.041 (0.95)	0.020 (0.47)

£221–260	0.030 (0.63)	0.049 (0.96)	0.007 (0.15)	–0.016 (0.34)	–0.011 (0.24)
£261–310	0.095 (2.03)*	0.107 (2.29)*	0.063 (1.31)	0.050 (1.06)	0.085 (1.84)
£311–360	0.078 (1.32)	0.084 (1.49)	0.057 (1.00)	0.106 (2.02)*	0.146 (2.79)**
£361–430	0.109 (1.93)	0.083 (1.50)	0.112 (1.89)	0.089 (1.48)	0.161 (3.34)**
£431–540	0.166 (2.85)**	0.126 (2.11)*	0.147 (2.23)*	0.130 (1.99)*	0.209 (3.68)**
£541–680	0.207 (2.68)**	(1.55)	(2.09)*	0.194 (2.65)**	0.298 (4.51)**
£681 or more	0.371 (4.81)**	0.329 (4.12)**	0.319 (3.85)**	0.268 (3.07)**	0.509 (6.53)**

Number of employees at workplace (ref = 100–199)

10–24	0.156 (2.60)**	0.301 (5.01)**	0.250 (4.32)**	0.227 (3.93)**	0.217 (4.06)**
25–49	0.050 (0.99)	0.085 (1.66)	0.091 (1.81)	0.078 (1.73)	0.087 (1.97)*
50–99	0.089 (1.94)	0.092 (2.02)*	0.093 (2.07)*	0.115 (2.77)**	0.085 (2.09)*
200–499	–0.015 (0.36)	0.000 (0.00)	0.006 (0.15)	0.030 (0.82)	0.016 (0.44)
500 or more	0.015 (0.39)	0.017 (0.40)	0.024 (0.56)	0.019 (0.48)	0.017 (0.49)
Percentage of managers who are female	0.002 (2.60)**	0.002 (2.88)**	0.001 (2.32)*	0.001 (1.23)	0.001 (1.96)
Percentage of employees who are female	0.001 (0.93)	0.000 (0.55)	0.001 (0.89)	0.001 (1.39)	0.000 (0.16)
Percentage of employees who are part-time	0.002 (2.40)*	0.002 (1.81)	0.002 (2.25)*	0.002 (1.74)	0.002 (2.73)**
Percentage of employees who are non-white	0.000 (1.39)	0.000 (2.07)*	0.000 (1.38)	0.000 (1.00)	0.000 (0.18)
Percentage of employees who are managers	0.001 (0.42)	0.002 (1.06)	0.001 (0.61)	–0.001 (0.74)	–0.001 (0.60)
If public sector	–0.066 (1.35)	–0.006 (0.13)	–0.041 (0.82)	–0.008 (0.17)	–0.018 (0.39)

Single or multi-site organisation (ref = one of a number of UK sites)

Single independent workplace	–0.060 (1.47)	–0.064 (1.52)	0.015 (0.35)	0.005 (0.15)	0.030 (0.80)
Sole UK site for foreign organisation	0.115 (1.33)	0.219 (2.53)*	0.271 (2.94)**	0.143 (1.71)	0.196 (2.35)*

Industry (ref = manufacturing)

Electricity, gas and water	0.051 (0.82)	0.017 (0.24)	0.062 (0.84)	0.114 (2.02)*	0.071 (1.13)
Construction	0.012 (0.18)	–0.002 (0.03)	0.068 (0.99)	0.130 (1.98)*	0.123 (1.85)

Wholesale and retail distribution	-0.155 (2.30)*	-0.159 (2.36)*	-0.182 (2.48)*	-0.090 (1.39)	-0.077 (1.24)
Hotels and restaurants	0.043 (0.49)	-0.019 (0.24)	0.003 (0.04)	0.067 (0.77)	0.067 (0.91)
Transport and communication	-0.051 (0.11)	-0.155 (0.94)	-0.038 (2.61)**	-0.051 (0.72)	(0.97)
Financial services	0.176 (2.92)**	0.159 (2.43)*	0.122 (1.84)	0.084 (1.45)	0.048 (0.80)
Other business services	-0.011 (0.19)	0.007 (0.11)	-0.046 (0.74)	0.032 (0.59)	0.030 (0.58)
Public administration	0.113 (1.43)	0.116 (1.56)	-0.022 (0.29)	0.074 (1.10)	0.077 (1.21)
Education	0.189 (2.39)*	0.232 (3.02)**	0.097 (1.20)	0.156 (2.13)*	0.160 (2.30)*
Health	0.026 (0.33)	0.073 (0.91)	-0.084 (1.04)	-0.026 (0.35)	-0.022 (0.32)
Other community services	-0.009 (0.10)	-0.054 (0.60)	-0.099 (1.14)	-0.008 (0.10)	0.024 (0.32)

Activity at the workplace (ref = produces goods or services for customers)

Supplier to other companies	-0.073 (1.74)	-0.046 (1.05)	0.019 (0.43)	-0.036 (0.93)	-0.056 (1.54)
Supplier to other parts of organisation	-0.025 (0.44)	-0.062 (1.21)	-0.009 (0.13)	-0.033 (0.68)	-0.036 (0.74)
Does not produce for open market	0.066 (1.58)	0.041 (0.94)	0.088 (1.89)	0.029 (0.68)	0.064 (1.68)
Administrative office only	-0.022 (0.37)	-0.021 (0.30)	0.042 (0.71)	0.036 (0.66)	0.022 (0.40)
If workplace has formal strategic plan	0.073 (1.70)	0.049 (1.13)	0.064 (1.55)	0.038 (1.03)	0.065 (1.67)
If Investor in People accredited	0.099 (3.37)**	0.090 (2.87)**	0.086 (2.66)**	0.062 (2.20)*	0.082 (3.15)*
If written policy on equal opportunities	0.124 (2.72)**	0.091 (1.94)	0.040 (0.86)	0.038 (0.97)	0.015 (0.35)

Region (ref = rest of South East)

East Anglia	0.014 (0.24)	0.009 (0.052)	0.002 (0.03)	0.023 (0.030)	0.015 (0.25)
East Midlands	0.117 (2.31)*	0.074 (1.49)	0.140 (2.47)*	0.150 (3.09)**	0.149 (3.30)**
London	0.091 (1.67)	0.051 (0.88)	0.014 (0.24)	0.038 (0.64)	0.050 (1.01)
North	0.112 (2.03)*	0.118 (2.09)*	0.104 (1.73)	0.108 (2.15)*	0.128 (2.29)*
North West	0.085 (1.53)	0.085 (1.46)	0.075 (1.53)	0.066 (1.40)	0.091 (1.90)
Scotland	0.058 (1.09)	0.036 (0.72)	-0.009 (0.17)	0.000 (0.01)	0.069 (1.51)
South West	0.153 (2.52)*	0.113 (2.13)*	0.102 (1.88)	0.163 (3.34)**	0.205 (3.84)**

Wales	0.058 (0.73)	0.026 (0.34)	0.019 (0.26)	0.125 (1.67)	0.097 (1.4)
West Midlands	0.023 (0.40)	-0.006 (0.10)	-0.046 (0.64)	0.003 (0.06)	0.054 (1.07)
Yorkshire and Humberside	0.096 (1.65)	(0.13) (0.97)	-0.011 (0.20)	(0.33) (0.60)	0.000 (0.00)
Observations	21281	20989	20615	21021	21139

Notes:

Absolute value of t-statistics in parentheses

* significant at 5per cent; ** significant at 1per cent

Table A3(b): Union and non-union voice arrangements and employee perceptions of management

	Up to date	Chance	Respond	Dealing	Fairly
<i>Voice: (ref =union voice only)</i>					
Union and non-union	0.082 (1.48)	0.139 (2.40)*	0.069 (1.20)	0.060 (1.12)	0.051 (0.93)
Non-union only	0.145 (2.38)*	0.189 (2.99)**	0.114 (1.75)	0.117 (1.92)	0.096 (1.57)
No voice	0.057 (0.71)	0.104 (1.24)	0.025 (0.29)	0.020 (0.27)	0.032 (0.42)
Female	0.042 (1.57)	0.064 (2.24)*	0.112 (4.06)**	0.021 (0.75)	-0.015 (0.58)
<i>Age: (ref = 30-39 years)</i>					
Under 20	0.135 (2.40)*	0.100 (1.89)	0.033 (0.56)	0.095 (1.56)	0.007 (0.11)
20-24 years	0.150 (3.42)**	0.142 (3.20)**	0.134 (2.89)**	0.178 (3.73)**	0.102 (2.23)*
25-29 years	0.019 (0.51)	-0.002 (0.05)	0.048 (1.20)	0.067 (1.72)	0.029 (0.85)
40-49 years	0.034 (1.34)	-0.011 (0.41)	0.005 (0.19)	-0.015 (0.57)	-0.002 (0.06)
50-59 years	0.117 (3.25)**	0.056 (1.41)	0.054 (1.40)	0.070 (1.71)	0.120 (3.02)**
60+ years	0.330 (5.71)**	0.298 (5.63)**	0.243 (4.30)**	0.273 (4.86)**	0.389 (6.59)**
<i>Highest educational qualification (ref = GCSE or equivalent)</i>					
No educational qualifications	0.110 (3.67)**	0.114 (3.50)**	0.106 (2.97)**	0.155 (4.53)**	0.147 (4.65)**
CSE or equivalent	0.135 (3.90)**	0.147 (4.30)**	0.135 (3.54)**	0.128 (3.52)**	0.110 (3.21)**
A level or equivalent	-0.050 (1.75)	-0.058 (1.79)	-0.055 (1.63)	-0.043 (1.30)	-0.044 (1.45)
Degree or equivalent	-0.060 (1.71)	-0.020 (0.53)	-0.063 (1.66)	-0.078 (2.02)*	-0.051 (1.27)
Post-graduate	-0.099 (2.02)*	-0.057 (1.13)	-0.124 (2.36)*	-0.128 (2.49)*	-0.142 (2.80)**
If possesses vocational qualification	-0.037 (1.77)	-0.020 (3.23)**	-0.030 (0.95)	-0.062 (1.41)	-0.062 (2.91)**
Member of non-white ethnic minority	0.110 (1.69)	0.059 (0.99)	0.041 (0.70)	-0.006 (0.09)	-0.058 (0.93)
<i>Union membership (ref = current member)</i>					
Ex-member	-0.001 (0.04)	0.003 (0.09)	0.033 (0.89)	0.030 (0.93)	0.059 (1.88)
Never member	0.064 (2.06)*	0.062 (1.74)	0.109 (2.82)**	0.136 (4.52)**	0.165 (5.42)**

Occupational classification (ref = clerical and secretarial)

Managers and senior administrators	0.300 (5.75)**	0.325 (6.75)**	0.297 (6.44)**	0.294 (6.15)**	0.311 (5.50)**
Professional	0.035 (0.66)	0.071 (1.46)	0.068 (1.35)	0.035 (0.73)	-0.021 (0.46)
Associate professional and technical	0.041 (0.87)	0.062 (1.33)	0.100 (1.96)*	0.019 (0.36)	-0.022 (0.42)
Craft and skilled service	-0.106 (2.21)*	-0.074 (1.46)	-0.179 (3.51)**	-0.167 (3.28)**	-0.234 (4.71)**
Personal and protective service	0.047 (0.94)	0.035 (0.73)	0.055 (1.01)	0.079 (1.66)	-0.006 (0.12)
Sales	0.090 (1.51)	0.049 (0.84)	0.074 (1.25)	0.050 (0.88)	-0.056 (1.05)
Operative and assembly	-0.089 (1.73)	-0.095 (1.81)	-0.170 (3.12)**	-0.151 (3.19)**	-0.210 (4.57)**
Other occupation	-0.020 (0.39)	-0.047 (0.87)	-0.090 (1.37)	-0.087 (1.63)	-0.168 (3.05)**

Workplace tenure (ref = 10 + years)

Less than 1 year	0.405 (10.99)**	0.436 (11.44)**	0.440 (10.78)**	0.428 (11.12)**	0.478 (12.37)**
1, < 2 years	0.196 (4.95)**	0.225 (5.76)**	0.222 (5.88)**	0.226 (5.77)**	0.244 (6.35)**
2, < 5 years	0.046 (1.44)	0.069 (2.10)*	0.076 (2.38)*	0.085 (2.46)*	0.133 (4.23)**
5, <10 years	-0.001 (0.05)	0.021 (0.66)	0.017 (0.55)	0.011 (0.36)	0.042 (1.40)
If permanent employment contract	-0.035 (0.88)	-0.003 (0.07)	-0.045 (1.08)	-0.016 (0.37)	-0.009 (0.23)

Usual weekly hours (ref = less than 10)

10, < 29 hours	-0.058 (0.79)	-0.019 (0.26)	0.019 (0.20)	0.059 (0.79)	-0.036 (0.48)
30, < 39 hours	-0.077 (0.95)	-0.014 (0.17)	0.000 (0.00)	0.041 (0.51)	-0.145 (1.76)
40, < 48 hours	-0.056 (0.69)	-0.010 (0.12)	0.060 (0.55)	0.059 (0.70)	-0.130 (1.54)
48 hours or more	-0.088 (1.03)	-0.026 (0.29)	-0.002 (0.01)	-0.012 (0.13)	-0.196 (2.17)*

Gross weekly wage (ref = £141-180)

£50 or less	0.160 (1.90)	0.131 (0.293)	0.201 (0.307)	0.209 (0.200)	0.201 (2.64)**
£51-80	0.121 (1.92)	0.119 (2.01)*	0.116 (1.80)	0.081 (1.27)	0.000 (0.01)
£81-140	0.073 (1.69)	0.060 (1.43)	0.069 (1.55)	0.066 (1.30)	0.047 (0.99)
£181-220	0.052 (1.20)	0.063 (1.47)	0.062 (1.44)	0.043 (0.98)	0.021 (0.50)

£221–260	0.037 (0.77)	0.057 (1.11)	0.013 (0.27)	–0.011 (0.23)	–0.007 (0.15)
£261–310	0.101 (2.15)*	0.112 (2.41)*	0.068 (1.41)	0.054 (1.13)	0.087 (1.89)
£311–360	0.084 (1.43)	0.090 (1.61)	0.062 (1.10)	0.110 (2.11)*	0.149 (2.86)**
£361–430	0.119 (2.10)*	0.093 (1.68)	0.120 (2.01)*	0.096 (1.58)	0.166 (3.45)**
£431–540	0.173 (2.98)**	0.133 (2.24)*	0.152 (2.31)*	0.136 (2.08)*	0.214 (3.77)**
£541–680	0.215 (2.80)**	0.160 (3.96)**	0.211 (4.05)**	0.232 (2.73)**	0.303 (4.57)**
£681 or more	0.381 (4.97)**	0.337 (4.24)**	0.328 (3.99)**	0.276 (3.17)**	0.516 (6.65)**

Number of employees at workplace (ref = 100–199)

10–24	0.139 (2.35)*	0.279 (4.79)**	0.238 (4.14)**	0.218 (3.84)**	0.206 (3.87)**
25–49	0.032 (0.63)	0.062 (1.19)	0.078 (1.55)	0.068 (1.48)	0.076 (1.70)
50–99	0.079 (1.71)	0.078 (1.70)	0.086 (1.89)	0.109 (2.60)**	0.079 (1.95)
200–499	–0.027 (0.64)	–0.016 (0.39)	–0.004 (0.09)	0.023 (0.61)	0.008 (0.22)
500 or more	0.021 (0.54)	0.023 (0.51)	0.029 (0.66)	0.023 (0.60)	0.022 (0.64)
Percentage of managers who are female	0.002 (2.46)*	0.002 (2.74)**	0.001 (2.27)*	0.001 (1.17)	0.001 (1.86)
Percentage of employees who are female	0.001 (1.00)	0.001 (0.69)	0.001 (0.93)	0.001 (1.44)	0.000 (0.24)
Percentage of employees who are part-time	0.002 (2.40)*	0.002 (1.82)	0.002 (2.26)*	0.002 (1.76)	0.002 (2.73)**
Percentage of employees who are non-white	0.000 (1.37)	0.000 (1.95)	0.000 (1.39)	0.000 (1.08)	0.000 (0.36)
Percentage of employees who are managers	0.000 (0.26)	0.001 (0.95)	0.001 (0.49)	–0.001 (0.91)	–0.001 (0.73)
If public sector	–0.053 (1.06)	0.006 (0.12)	–0.034 (0.66)	0.001 (0.02)	–0.010 (0.21)

Single or multi-site organisation (ref = one of a number of UK sites)

Single independent workplace	–0.066 (1.62)	–0.072 (1.70)	0.010 (0.24)	0.000 (0.01)	0.026 (0.69)
Sole UK site for foreign organisation	0.102 (1.16)	0.200 (2.30)*	0.263 (2.79)**	0.134 (1.55)	0.187 (2.21)*

Industry (ref = manufacturing)

Electricity, gas and water	0.064 (1.04)	0.030 (0.43)	0.072 (0.99)	0.124 (2.21)*	0.083 (1.33)
Construction	0.005 (0.08)	–0.010 (0.15)	0.064 (0.92)	0.126 (1.91)	0.119 (1.79)

Wholesale and retail distribution	-0.176 (2.55)*	-0.183 (2.61)**	-0.197 (2.63)**	-0.106 (1.59)	-0.090 (1.43)
Hotels and restaurants	0.016 (0.18)	-0.049 (0.61)	-0.015 (0.17)	0.047 (0.54)	0.049 (0.64)
Transport and communication	-0.008 (0.14)	-0.068 (1.25)	-0.167 (2.77)**	-0.048 (0.91)	-0.058 (1.10)
Financial services	0.181 (3.01)**	0.164 (2.50)*	0.127 (1.92)	0.088 (1.54)	0.051 (0.88)
Other business services	-0.041 (0.65)	-0.027 (0.41)	-0.066 (1.02)	0.011 (0.20)	0.009 (0.17)
Public administration	0.110 (1.40)	0.109 (1.46)	-0.023 (0.31)	0.072 (1.06)	0.079 (1.23)
Education	0.193 (2.45)*	0.239 (3.05)**	0.103 (1.25)	0.158 (2.16)*	0.165 (2.36)*
Health	0.013 (0.16)	0.054 (0.65)	-0.093 (1.13)	-0.035 (0.47)	-0.029 (0.40)
Other community services	-0.012 (0.14)	-0.064 (0.69)	-0.098 (1.12)	-0.012 (0.15)	0.025 (0.33)

Activity at the workplace (ref = produces goods or services for customers)

Supplier to other companies	-0.075 (1.79)	-0.048 (1.10)	0.018 (0.40)	-0.037 (0.96)	-0.057 (1.57)
Supplier to other parts of organisation	-0.022 (0.39)	-0.059 (1.14)	-0.007 (0.10)	-0.031 (0.63)	-0.036 (0.74)
Does not produce for open market	0.062 (1.48)	0.038 (0.87)	0.085 (1.84)	0.026 (0.61)	0.059 (1.55)
Administrative office only	-0.023 (0.38)	-0.020 (0.29)	0.043 (0.72)	0.036 (0.67)	0.021 (0.39)
If workplace has formal strategic plan	0.082 (1.86)	0.062 (1.37)	0.072 (1.70)	0.044 (1.14)	0.072 (1.83)
If Investor in People accredited	0.106 (3.56)**	0.099 (3.05)**	0.092 (2.80)*	0.068 (2.35)*	0.088 (3.32)**
If written policy on equal opportunities	0.125 (2.72)**	0.091 (1.92)	0.040 (0.86)	0.039 (0.98)	0.015 (0.35)

Region (ref = rest of South East)

East Anglia	0.027 (0.46)	0.022 (0.32)	0.013 (0.19)	0.032 (0.46)	0.023 (0.002)
East Midlands	0.130 (2.55)*	0.088 (1.75)	0.150 (2.65)**	0.160 (3.28)**	0.159 (3.50)**
London	0.088 (1.62)	0.046 (0.79)	0.011 (0.19)	0.036 (0.61)	0.049 (0.99)
North	0.120 (2.12)*	0.127 (2.16)*	0.109 (1.81)	0.114 (2.26)*	0.134 (2.41)*
North West	0.091 (1.62)	0.088 (1.49)	0.078 (1.60)	0.071 (1.49)	0.096 (1.98)*
Scotland	0.063 (1.18)	0.040 (0.78)	-0.005 (0.10)	0.005 (0.11)	0.074 (1.62)
South West	0.162 (2.69)**	0.120 (2.30)*	0.108 (2.02)*	0.170 (3.51)**	0.211 (3.98)**

Wales	0.065 (0.82)	0.031 (0.41)	0.026 (0.34)	0.132 (1.77)	0.103 (1.57)
West Midlands	0.037 (0.63)	0.006 (0.09)	-0.035 (0.48)	0.014 (0.23)	0.066 (1.27)
Yorkshire and Humberside	0.096 (1.65)	0.049 (0.89)	-0.012 (0.22)	0.030 (0.59)	(0.40) (0.04)
Observations	21254	20961	20590	20997	21111

Notes:

Absolute value of t-statistics in parentheses

* significant at 5per cent; ** significant at 1per cent