

# **The Anatomy of Union Decline in Britain 1990 – 1998**

**Andy Charlwood**

**December 2003**

## **Abstract**

To what extent can the decline in British trade union density between 1990 and 1998 be attributed to declining opportunities to unionize compared to declining propensity to unionize among workers with the opportunity to do so and to compositional change? This question is answered using data from both workplaces (from 1990 and 1998 Workplace Employee Relations Surveys) and individuals (from the British Household Panel Survey). Results show that both falling opportunities and falling propensities to unionize accounted for membership decline during this period. Membership fell because unions lacked the power to maintain bargaining relationships with management, to organize new workplaces, or to uphold the 'social custom' of union membership among new workers who took union jobs. However, there was little evidence that declining union membership was the result of a change in employee attitudes towards unions.

JEL Classification: J5

Key Words: Labour Management Relations, Trade Unions, Collective Bargaining

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

## **Acknowledgements**

I am grateful to Jo Blanden, Alex Bryson, John Forth, Mike Fuller, Kevin Reilly and Jonathan Wadsworth for help and advice with some of the data and econometrics issues, and to Zhongmin Wu for research assistance in preparing the British Household Panel Survey for analysis. Thanks to Becky Givan, David Metcalf and participants in seminars at the University of Kent, University of Leeds, the Centre for Economic Performance (CEP) and the British Universities Industrial Relations Association 2003 conference for useful comments on earlier versions of the work. The Workplace Industrial/Employee Relations Survey Data was originated by the Department of Trade and Industry, the Economic and Social Research Council (ESRC), the Advisory and Conciliation Service and the Policy Studies Institute. The British Household Panel Survey was originated by the Institute for Economic and Social Research and the ESRC. Both data-sets were provided by and are available from the ESRC Data Archive at the University of Essex. This paper is part of the CEP's 'Future of Trade Unions in Modern Britain' programme, funded by the Leverhulme Trust. The financial support of The Trust is gratefully acknowledged. Any mistakes are my own.

Andy Charlwood is a Research Associate at the Centre for Economic Performance, London School of Economics. He is also a Lecturer in Industrial Relations and Human Resources, University of Leeds.

Contact details:

Maurice Keyworth Building  
Leeds University Business School  
Leeds University  
Leeds LS2 9JT  
[A.Charlwood@lubs.leeds.ac.uk](mailto:A.Charlwood@lubs.leeds.ac.uk)

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

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission in writing of the publisher nor be issued to the public or circulated in any form other than that in which it is published.

Requests for permission to reproduce any article or part of the Working Paper should be sent to the editor at the above address.

© Andy Charlwood, submitted 2003

ISBN 0 7530 1679 6

Individual copy price: £5

## 1. Introduction

Union decline was a marked feature of most advanced industrial economies during the 1990s. This decline was particularly pronounced in Great Britain. By unions' own records, membership declined from 9.9 millions to 7.8 millions during the period 1990 – 1998. The Labor Force Survey (LFS) suggests that union membership as a proportion of total employee employment fell from 38 per cent to 29 per cent. In contrast to the US, where private sector union decline far outstripped decline in the public sector, unionization fell by similar amounts in both the sectors. Since 1998, union density has stabilized at around 29 per cent of the workforce, but despite the introduction of a new union recognition law in 1999, there appears to be little prospect of an immediate revival.

The purpose of this paper is to account for union membership decline in Britain during the 1990s using micro-data from workplaces, from the Workplace Employee Relations Survey Series (WERS) and individuals, from the British Household Panel Survey (BHPS). As such it builds on the results of earlier articles published in the Review by Beaumont and Harris (1995) and Disney *et al.* (1995), which examined union decline in Britain in the 1980s. The paper offers four key advantages over previous analyses of British union decline. First, it makes use of data from both workers and workplaces. Second, the use of panel data allows the dynamics of decline to be captured. In particular, how much of the observed decline can be attributed to behavioral change among continuing workplaces and workers, and how much is due to differences between new workers and workplaces and the workers and workplaces that they replace? Third, it is able to model the impact of changing employee attitudes towards unions on union membership. Finally, it utilizes a theoretical framework that distinguishes between membership decline that is the result of declining opportunities to unionize (mainly as a result of the actions of employers), and membership decline that is the result of unionization among employees who have the opportunity to do so. Bain and Elsheikh (1976: 58 – 81) established the importance of this theoretical framework for understanding union membership change, but previous studies have lacked the data to operationalize it adequately. Consequently the influential judgment of Millward *et al.* (2000) that union membership decline was the result of a 'withering of enthusiasm' on the part of workers lacks a strong empirical foundation.

There has been fierce debate on both sides of the Atlantic between those who argue that the root causes of union decline can be attributed to changing employee attitudes and

those who argue that employer decisions that deny workers the opportunity to unionize are more important<sup>1</sup>. In Britain, Towers (1997) has argued that union decline has led to a 'representation gap' while Pencavel (2003) has argued that there is little evidence that such a gap exists. While recent research has pinpointed the precise processes behind of private sector union decline in the United States (Farber and Western, 2001), British evidence on the micro-processes involved remains partial. An adequate understanding of the mechanisms of union decline is important because the root causes of union membership decline have clear implications for union's future prospects. As unions have the potential to affect the distribution of income, productivity and economic efficiency, and the creation and distribution of 'social capital' the future prospects of trade unions are a question of wider interest.

## **2. Union Decline in Britain**

There is a degree of consensus about the broad causes of union decline in Britain since 1980. Legal and public policy changes combined with high levels of unemployment, both resulting from deliberate policy decisions by Thatcher's Conservative Government, provided employers with the opportunity to take the initiative in industrial relations. Increased product market competition gave them a strong incentive to grasp these opportunities (Brown *et al.*, 1997; Kelly, 1990; Pencavel, 2003). Towers (1989) has also argued that the changing composition of the workforce, for example the shift in employment from manufacturing to services and the growing labor market participation of women and part-time workers has been an important contributory factor. These arguments are compatible with one of the more authoritative recent accounts of private sector union decline in the United States, which argues that decline is the result of economic changes that increase employer incentives to exclude unions and raise the costs and lower the benefits of unions for employees (Farber and Western, 2001). Empirical studies have utilized the growing wealth of British micro-data to identify the specific mechanisms of decline in the 1980s and 1990s, but the picture that these studies present is incomplete.

---

<sup>1</sup> For example, in the US, Freeman and Kleiner, (1990) argued that management hostility to unionism was the more important factor while Farber and Kreugar (1993) argued that lack of demand on the part of workers was the primary reason for decline.

Analyses based on the WERS series have shown that union decline in the 1980s was primarily due to falling levels of workplace union recognition, which was itself the result of lower levels of union recognition in workplaces established after 1980 (Disney *et al.*, 1995), i.e. reduced opportunities to unionize. Declining density within continuing workplaces between 1980 and 1984 did play some role in aggregate decline (Andrews and Naylor, 1994), but examples of de-recognition and falling union density in continuing workplaces in the 1984 – 1990 period were comparatively rare (Beaumont and Harris, 1995). These WERS based studies are supplemented by two studies based on data from individuals. Arulampalam and Booth (2000) use panel data from a sample of young men to look at decline from 1981 – 1991. They found that union decline among this sub-group mirrored union decline across the population as a whole. Green (1992) examined two cross-sectional studies of individuals from 1983 and 1989. He found that around one third of decline in density could be attributed to change in the composition of the workforce, and two thirds to within group behavioral change. However a key weakness of both of these studies was the lack of a consistent measure of the opportunity to unionize.

This weakness also applies to the work of Machin (2002) and Bryson and Gomez (2002) who have examined British union membership decline using micro-data from cross-sections of individuals over longer time-periods; 1977 – 2001 and 1984 – 2002 respectively (Riddell and Riddell (2001) perform a comparable analysis for The US and Canada for the period 1984 – 1998). Furthermore, because these studies are based on cross-sectional data, they cannot measure the extent to which decline is the result of individuals leaving unions compared to a failure of new workers to become unionized. Bryson and Gomez (2002) partially overcome this limitation by using recall data to show that union membership decline ran parallel with an increase in never membership rather than a rise in former union members. The results of Disney *et al's.* (1998) study using longitudinal data covering the period 1970 – 1995 tell a similar story; union membership is highly persistent within individuals, but individual probabilities of unionization have fallen for successive birth cohorts. These studies all provide interesting accounts of how the union joining behavior of individuals has changed, and demonstrate clearly that behavioral change within groups played a much larger role in union decline than change in the composition of the workforce. However, understanding of 1990s union decline is hampered by the relatively long time-periods covered by these studies and the lack of union coverage measures.

Research that specifically addresses the causes of union decline in the 1990s suggests that the causes of decline were different from the causes of decline in the 1980 – 1990 period.

Machin (2000) confirmed that the lower incidence of union recognition in new workplaces identified by Disney *et al.* (1995) persisted into the 1990s. But Millward *et al.* (2000) found that union density fell in continuing workplaces with union recognition agreements as well as in new workplaces compared to old workplaces. Blanden and Machin (2003) found that unionization among young workers had fallen because the proportion working in union jobs had fallen and because fewer young workers in union jobs had joined a union. Results of the latter two studies suggest that the decline in aggregate union density was the result of both declining propensity to unionize and reduced opportunities to unionize. However, neither Blanden and Machin nor Millward *et al.* measured the relative importance of these factors in explaining the overall decline in density.

In the absence of detailed empirical evidence on the micro-level processes behind membership decline Millward *et al.* (2000: 136) argued that there was a ‘withering of enthusiasm’ for trade union membership on the part of the workforce. This judgment, which was also endorsed by Pencavel (2003: 40) was based on information provided by managers on the causes of union decline in workplaces with union recognition. Managerial responses implied that new ‘alternative work practices’ (AWPs) like gain sharing, employee involvement and team working<sup>2</sup> were responsible for reducing worker demand for unions and thereby reducing membership (Millward *et al.*, 2000: 105). However, there are several grounds to doubt the accuracy of this information. First, rigorous empirical tests of the proposition that the rise of AWPs contributed to union decline found no evidence to support it (Machin and Wood, 2003). Second, theory would also lead us to expect that managers would seek to weaken and undermine trade unionism if they had the opportunity to do so (Freeman and Kleiner, 1990). Third, case-study evidence suggests that many managers behaved in a way that theory would predict. The work of Brown *et al.* (1999) and Fairbrother (2000) suggests that union membership fell in response to managerial initiatives designed to reassert managerial prerogatives and marginalize trade unions. Although this work suffers from the usual limitation of case-study research, we cannot be certain how well the organizations studies represent the population from which they are drawn, both theory and the available evidence suggests that there was rather more to union decline than the exogenous shift in worker preferences that the evidence of management respondents to WERS98 and Millward *et al.*’s phrase ‘withering of enthusiasm’ implies.

---

<sup>2</sup> In Britain, these practices are usually referred to under the label ‘Human Resource Management’ (HRM), but given the ferocity of the British debates over which practices constitute HRM the term ‘Alternative Work

To sum up, there is a wealth of empirical studies of union decline in Britain during the 1980s (Andrews and Naylor, 1994; Arulampulam and Booth, 2000; Beaumont and Harris, 1995; Disney *et al.*, 1995; Green, 1992). By putting together the results we can build up a fairly clear picture of the precise mechanisms of union membership decline; falling union density was primarily due to falling opportunities for workers to unionize. There are also a number of studies that cover a longer time period (Bryson and Gomez, 2002; Disney *et al.*, 1998; Machin, 2002). Because of the long time-periods involved, it is difficult to discern if or how 1990s union decline is different to union decline in the 1980s. These studies also lack measures of the opportunity to unionize. There are fewer studies of union decline in the 1990s, and the studies that there are do not fit together to give a clear and unambiguous understanding of the mechanisms that drove declining union density (Machin, 2000; Millward *et al.*, 2000). In particular, the relative importance of lower levels of recognition in new workplaces compared to dwindling membership in continuing workplaces is inadequately understood. Judgments based on a basic analysis of the survey evidence suggest that union decline was driven by the changing preferences of employees, while the case evidence suggests a key role for management in restricting union availability.

### **3. Measuring Union Membership Change: Theoretical Considerations**

In a seminal contribution Bain and Elsheikh (1976) developed insights about the role of the business cycle in union growth and decline, originated by John R. Commons and the Wisconsin School, into a parsimonious theory that was able to predict union membership change in Britain, the USA, Australia and Sweden. The model has been subject to heavy criticism (which is in my view often misplaced) for failing to allow for the agency and strategic choices of union leaders and activists. (See Mason and Bain (1993) for a discussion.) It is also clear that even if the business cycle once explained the ebb and flow of union membership it does not do so anymore. Bain and Elsheikh's original model failed to predict the downturn in union membership in the 1980s. A refinement of the model by Disney and Carruth (1988) corrected this failing, but given Disney and Carruth's model specification, sustained falls in unemployment during the 1990s should have set the stage for union growth, yet decline continued (Metcalf, 2001). The enduring value of Bain and

---

Practice' is preferred here. The American evidence suggests that AWP's do lower demand for unionisation

Elsheikh's work comes from the insight that union membership change depends on two factors, the opportunity to unionize and the propensity to unionize<sup>3</sup> (Bain and Elsheikh, 1976: 58 – 81). Change in opportunities to unionize result from decisions made by unions about which workers to try to organize, the decisions of employers about whether to allow unions a bargaining presence in their workplaces and the power resources available to trade unions to persuade/coerce employers into granting recognition<sup>4</sup>. Change in propensity to unionize among workers who have unions available to join will depend on the preferences of workers and the ability of unions to uphold the 'social custom' of union membership (Booth, 1985; Visser, 2002). From this theoretical insight, union decline can be seen as the result of four specific micro-level processes: 1) compositional change; 2) declining union coverage; 3) reduced propensity to unionize among workers covered by trade unions (increased free-riding); and 4) reduced propensity to unionize among workers not covered by trade unions.

Compositional change refers to changes in the make-up of the workforce so that the employment share of unionized workers falls while the employment share of non-union workers increases, for example, the growing employment share of weakly unionized part-time female workers and the declining employment share of full-time male manual workers. The results of both Machin (2002) and Bryson and Gomez (2002) suggest that compared to within group behavioral change, compositional change played a relatively trivial role in explaining declining levels of workplace union recognition and membership during the period 1990 – 98. However, the analysis of Disney *et al.* (1998: 9 – 13) suggests that generational change has played an important role.

Operationalizing the concept of opportunity to unionize is straightforward with the BHPS, less so with WERS. The BHPS asks workers if 'there is a trade union or similar body such as a staff association, recognized by management for negotiating pay and conditions for people doing your sort of job in your sort of workplace?' Workers who answer positively to this question clearly have a union available. Previous analyses of WERS have used information from managers on workplace union recognition as the key indicator of union

---

(Fiorito, 1997 and 2001).

<sup>3</sup> The term propensity to unionise is often used to mean willingness to join or vote for a union. In this context it means 'likelihood of unionisation'.

<sup>4</sup> In North America, the NLRA certification procedure has meant that that the democratic preferences of workers can be an important determinant of employer decisions about whether or not to grant union recognition. Britain's 'voluntarist' legal framework meant that until 2000 there was no legal right to union recognition if the majority of the workforce wanted it, so union recognition usually depended upon the relative balance of power between employer and union (Wood and Godard, 1999; Disney *et al.*, 1995).



availability (Disney *et al.*, 1995 and Machin, 2000<sup>5</sup>). However the drawback of this measure is that not all workers in workplaces with union recognition will be covered by union bargaining and representation arrangements. Indeed, Fairbrother (2000) and Brown *et al.* (1997) present compelling case-study evidence that suggests that the coverage of collective bargaining in workplaces with union recognition was rolled back by management over the course of the 1990s. Therefore, instead of relying solely on union recognition, both union recognition and the extent of union bargaining coverage within the workplace are used to get a measure of the opportunity to unionize.

Free-riding is the action of not being a union member in an environment where co-workers have their pay and conditions determined by union bargaining arrangements. Olson (1965) argued that since any rational worker would free ride, unions must use coercion to maintain membership. A more plausible theory is that union membership is 'social custom'. In other words, the union membership decision does not take place in a social vacuum; it is influenced by the decisions and pressures of friends, family, co-workers, employers, governments and unions. Habit and a desire to conform to social norms will also be critical influences on the union membership decision (Booth, 1985; Klandermans, 1986; Visser, 2002: 408). The mirror opposites of those workers who chose to free ride are workers who choose to be union members even if they are not covered by union bargaining arrangements. Over the course of the 1980s and 1990s unions have taken a number of initiatives to make union membership more attractive to individual workers. However Kelly and Waddington (1995) and Waddington and Whitstone (1997) argue that this sort of initiative is unlikely to be successful in boosting union membership levels and reversing union decline. The BHPS shows that this type of individual membership arrangement became more common between 1991 and 1997, rising from 0.8 per cent to 1.6 per cent of employees. But, this growth was not fast enough or large enough to balance out other forms of decline.

One frequently cited reason for declining propensities for workers to unionize is changing worker attitudes and values. For example, Millward *et al* (2000: 235) talk about the rise of 'a spirit of acquisitive individualism'. Similarly, an individualist ethos is also held to be a reason for low private sector union density in the USA (Lipset and Katchanovski, 2001: 238). While it is well established empirically that collectivist attitudes and values and general attitudes towards unions (which are correlated with one another) predict union membership and willingness to unionize (Kochan, 1979; Lipset and Katchanovski, 2001; Charlwood,

---

<sup>5</sup> Machin (2000) also used linked data from employees. However, so far employee data has only been collected

2002; 2003a) there is no empirical evidence that demonstrates a link between changes in these attitudes and values and union decline through declining propensities to unionize. The BHPS allows this supposed relationship between changing values and attitudes towards unions and union decline to be tested because it asks workers the extent to which they agree or disagree with the statement ‘strong trade unions are needed to protect the working conditions and wages of employees’.

#### **4. Data**

Data comes from waves one and seven of the British Household Panel Survey (BHPS), the 1990 Workplace Industrial Relations Survey (WIRS90), the 1998 Workplace Employee Relations Survey (WERS98) and the 1998 Workplace Employee Relations Panel Survey (WERPS98). WIRS90 obtained information from 2061 workplaces with 25 or more employees through interviews with the senior manager who dealt with matters relating to employment relations, additional interviews were also conducted with a senior financial manager and a senior trade union representative in workplaces where a union representative was present. Management respondents provided a rich seam of information about the activities of the workplace in general, and the management of employment relations in particular. Workplaces that had participated in the 1990 survey were then re-contacted in 1997 – 1998 to establish if they still existed and if they still employed 25 or more employees. 1,215 workplaces met these criteria. For WERPS98, a subset of 846 continuing workplaces were re-surveyed with an identical questionnaire and some supplementary questions about any changes that may have taken place in the intervening period. WERS98 obtained information from the senior manager responsible for employment relations, a senior worker rep and a sample of employees in 2161 workplaces with 10 or more employees. To maintain comparability between WIRS90 and WERS98, this paper only considers WERS98 responses from the 1,929 workplaces with 25 or more employees.

The great strength of the WERS/WIRS series are the high response rates; at least 75 per cent for each survey. Further information on the data can be found in Millward *et al* (2000: 3 – 10). Both WIRS90 and WERS98 were based on stratified random samples, large workplaces were over sampled in both years and workplaces in particular industrial sectors

---

as part of the 1998 WERS survey, so these data cannot be used to study change over time.

were over sampled in 1998. This means that probability weights need to be applied to the data in order to obtain estimates that are representative of the population from which the samples were drawn. Because the dependent variable of interest here is aggregate union density (not mean workplace union density) the data were re-weighted to account for each workplace's overall employment share. The analyses reported below were carried out on the WIRS90 and WERS98 cross-sections. Information from the WERS98 panel was used to identify which WIRS90 workplaces were still in existence in 1998, and which had closed or fallen below 25 employees in size. Some supplementary analyses were carried out on the full panel to probe the nature of change within continuing workplace. To facilitate analysis, the 1990 sample was divided into workplaces which had closed or fell below 25 employees by 1998 (leavers) and continuing workplaces still in business and still employing more than 25 employees. The 1998 sample was split between workplaces that had opened or grown from below 25 employees since 1990 (joiners) and workplaces that had been in existence with 25 or more employees since 1990. The criteria that were used to divide the data in this way are set out in Forth (2000). Note that missing data on age of establishment and previous employment levels reduces the size of the 1998 sample. However Forth's research suggests that there were no significant differences between workplaces that supplied this information and workplaces that did not.

The BHPS is a longitudinal survey of individual adults (aged 16 and over) respondents who lived in stratified random sample of 5,538 households in 1991. The fieldwork is carried out by NOP in conjunction with the ESRC Longitudinal Studies Centre at the University of Essex. If individuals leave a household, they are followed to their new household and all adults resident in the new household join the sample. Children join the sample when they reach the age of 16. At wave one, interviews were achieved in 74 per cent of eligible households, and 92 per cent of eligible individuals were interviewed. 69.6 per cent of wave one respondents were still participating in the survey at wave seven. Wave one fieldwork was carried out from September to December 1991, with a small numbers of hard to reach individuals being interviewed in the early months of 1992. The majority of the field work for wave seven was carried out between September and December 1997, with interviews continuing until June 1998. The BHPS questions individuals on a broad range of subjects. Topics of particular interest for the purposes of this paper include; current employment status and job information, work histories, individual demographics and values and opinions. Questions are rotated, so not all questions are asked in every wave. Some union membership questions and a question on attitudes towards unions are only asked in the odd

waves (i.e. 1, 3, 5 etc.) For this reason, the analyses reported here focus on waves one and seven (1991 – 1997) rather than waves one and eight (1991 – 1998). The subsequent analyses are based on those individuals who responded at waves one and seven and are weighted in order to correct for differential selection probabilities, household and individual non-response and sample attrition. Further details of the survey and weighting methods can be found in Taylor *et al* (2001). The data were divided between continuing employees, respondents who were employees in 1991 but not 1997 (leavers) and respondents who were employees in 1997 but not in 1991 (joiners)<sup>6</sup>. A fourth category of ‘switchers’ – continuing employees who moved between the public and private sectors – was also created to allow for separate analysis of the public and private sectors.

Before the analysis can proceed it is first important to establish how well WERS and the BHPS measure decline in union membership density. Data for this task comes from the LFS, a large (around 138,000 respondents) household survey conducted by the Office for National Statistics for the purpose of providing the UK government with accurate labor market statistics<sup>7</sup>. The survey was conducted biannually from 1973 – 1982, annually from 1983 – 1991 and quarterly since 1992. The LFS has contained a question on trade union membership since 1989. Table 1 compares the proportion of employees unionized across these three surveys.

The results reported in Table 1 confirm that WERS and the BHPS do provide an accurate picture of the decline in union density during the period 1990 – 1998. However, closer inspection of the data reveals some important discrepancies that need to be borne in mind when interpreting the results. The BHPS fails to capture the fact that the private sector’s relative employment share grew, while the relative employment share of the public sector shrank (this difference is apparent from looking at Figure 1, which sets out the structures of the data-sets). If this compositional change turns out to be a factor in union decline, then the BHPS will underestimate its importance. Also in the BHPS, there are a larger number of 1991 employees who left employment by 1997 than there are 1997 employees who were not in employment in 1991. This is at odds with what was actually going on in the population over this period; overall employment in Britain grew by 1.5 per cent (Insalaco, 2002: 83), which means that joiners must have outnumbered leavers. Therefore the BHPS will overstate

---

<sup>6</sup> The pre and post employment activities of leavers and joiners are set out in Table A1.

<sup>7</sup> Both the LFS and the BHPS measures of union membership are based on employee reports of union membership status. It is possible that employees incorrectly report their membership status. However there is no British equivalent to the 1977 validation study of the US Current Population Survey, which allowed Farber and Western (2001) to correct for classification error in their study of US membership decline.

the importance of change in continuing employees compared to differences between leavers and joiners.

## 5. Methodology

The first step in the analysis is to estimate separate regression models of the determinants of union membership for 1990 and 1998 (using the WERS data) and 1991 and 1997 (using the BHPS data). For the WERS data, a weighted least squares estimator was used. This can be written as:

$$Union_{it} = \mathbf{b}(Rec_{it} | Con_{it} == 1) + \mathbf{b}(Bar_{it} | Con_{it} == 1) + \mathbf{b}(Comp_{it} | Con_{it} == 1) + \mathbf{b}(Rec_{it} | Con == 0) + \mathbf{b}(Bar_{it} | Con_{it} == 0) + \mathbf{b}(Comp_{it} | Con_{it} == 0) + \mathbf{e}_{it} \quad (1)$$

Where *Union* is union density in workplace *i* at time *t*. *Con* is a 0/1 dummy with the value of unity if workplace *i* was operating in both 1990 and 1998. Therefore the notation shows that separate coefficients were estimated on the parameters for continuing and non-continuing samples. *Rec* is a 0/1 dummy with the value of unity if workplace *i* recognized unions at time *t*. *Bar* indicates the proportion of the workforce in workplace *i* covered by collective bargaining at time *t*. *Comp* indicates the composition of the workforce and related factors like workplace size in workplace *i* at time *t*. *E* is an error term

For the BHPS, weighted linear probability models were estimated. This can be written as:

$$Union_{it} = \mathbf{b}(Ujob_{it} | Con_{it} == 1) + \mathbf{b}(Uatt_{it} | Con_{it} == 1) + \mathbf{b}(Comp_{it} | Con_{it} == 1) + \mathbf{b}(Ujob_{it} | Con == 0) + \mathbf{b}(Uatt_{it} | Con_{it} == 0) + \mathbf{b}(Comp_{it} | Con_{it} == 0) + \mathbf{e}_{it} \quad (2)$$

Where *Union* is a 0/1 dummy with the value of unity if individual *i* is a union member at time *t*. *Ujob* is a 0/1 dummy with the value of unity if individual *i* was in a job covered by union representational arrangements at time *t*. *Uatt* represents the individuals attitudes towards unions at time *t* and *Comp* are the individual and job related characteristics of individual *i* at time *t*. *Con* is a 0/1 dummy with the value of unity if individual *i* was an employee in both 1991 and 1997.

The choice of estimator reflected the form of the dependent variable in each data-set. See the appendix for further details of the econometric techniques. Chi<sup>2</sup> parameter tests on preliminary analyses revealed that the results were significantly different for the public and private sectors. Consequently separate models were estimated for each of these sectors<sup>8</sup>. Once satisfactory models had been estimated, multivariate shift-share analyses were conducted using the results<sup>9</sup>. This method has been used to analyze the broad causes of union decline by Bryson and Gomez (2002) and Green (1992). Machin (2002) and Riddell and Riddell (2001) use the comparable Oaxaca (1973) decomposition technique. The notation is as follows<sup>10</sup>:

$$U = (X^{98} - X^{90}) \beta^{90} + (\beta^{98} - \beta^{90})X^{90} + (X^{98} - X^{90})(\beta^{98} - \beta^{90}) \quad (3)$$

Where  $U$  is union density,  $\beta$  is the vector of the coefficients from the regression model and  $\bar{U}$  is the sample mean. The error terms are dropped from the equations because of the standard assumption that the means of the error terms equal zero. The first term  $((X^{98} - X^{90}) \beta^{90})$  is the effect of compositional change keeping propensity to unionize at 1990 levels. The second term  $((\beta^{98} - \beta^{90})X^{90})$  is the effect of changing propensity to unionize if composition is held at 1990 levels. Since in reality, neither propensity to unionize nor composition were held at 1990 levels, the results of the first two terms will not necessarily sum to the observed decline in union density. The third term  $((X^{98} - X^{90})(\beta^{98} - \beta^{90}))$  balances the equation so that the results are consistent with the observed drop in density in the samples (Green, 1992: 454). Note that not all workplaces and individuals answered all of the questions used in the multivariate analysis. Workplaces and individuals that did not provide answers to all of the questions could not be included in the analyses. For this reason, the figures for observed decline in union density in the sample reported in the results tables below are slightly different from those reported in Table 1.

---

<sup>8</sup> To facilitate this analysis for individuals in the BHPS, a third group of independent variables was added to Equation 2:

$$+ \mathbf{b}(Ujob_t | Switch_t == 1) + \mathbf{b}(Uat_t | Switch_t == 0) + \mathbf{b}(Comp_t | Switch_t == 1)$$

Where switch is a 0/1 dummy with the value of unity if individual  $i$  switched from a public sector job to a private sector job (or vice versa) between 1991 and 1997.

<sup>9</sup> The full regression results and the mean values of the variables can be found in Tables A2 and A3 in the appendix.

<sup>10</sup> This notation is for the WERS analysis. For the BHPS, the years (in superscript) are 1991 and 1997 rather than 1990 and 1998.

## 6. Results

### 6.1 Results from workplaces

To begin with the WERS/WIRS results, compositional change played a minor role in the decline in density (the key factor behind compositional change was the growing employment share of the private sector). The effects of compositional change were largely offset by within group behavioral change, predominantly among public sector professionals, who became more likely to unionize. At first glance, decline in opportunities to unionize appeared to account for just over half of the observed decline. The major factor here was declining union bargaining coverage in continuing workplaces, not lower levels of recognition and coverage in joiners compared to leavers. Analysis of the panel reveals the processes behind this drop in union bargaining coverage. The key factor was the total abandonment of collective bargaining in one in three private sector workplaces that had practiced collective bargaining in 1990. Yet just 2 per cent of these workplaces had formally de-recognized a trade union(s), so non-functioning recognition agreements and often some form of union representation structure remained in place in these workplaces<sup>11</sup>.

The precise processes involved in decline in collective bargaining coverage suggest that decline in coverage has not result in reduced *opportunities* to unionize. Rather, by putting a stop to the collective activity that is central to the bargaining process management acted to undermine the social custom of union membership, effectively removing the *incentive* to unionize. In the majority of cases unions retained an institutional presence in workplaces where bargaining had been abandoned, and both the survey and case evidence suggests that in the absence of formal de-recognition, the majority of workers who were previously covered by bargaining retained the opportunity to unionize (Brown *et al*, 1999). Furthermore, the decline associated with the removal of collective bargaining cannot really be called increased free-riding, because non-members are not getting the benefit of union negotiated pay-rises. These findings are compatible with the case evidence (Brown *et al*, 1999; Fairbrother, 2000), which suggests that in most workplaces it was the exercise of managerial power which led to the removal of bargaining. Any ‘withering of enthusiasm’ for unions on the part of the workforce was a response to the assertion of managerial prerogatives.

---

<sup>11</sup> This issue of de-collectivisation of pay determination in Britain is explored more fully in Charlwood (2003b).

The secondary factor, accounting for just over one third of the observed decline in density, was behavioral change among those with an unambiguous opportunity to unionize. This behavioral change was evident in joiners compared to leavers and in continuing workplaces. From this we can infer that there was a substantial growth in the number of free-riders between 1990 and 1998, and that this growth contributed significantly to union decline. The relative importance of decline in propensity to unionize and decline in opportunities to organize varied between sectors. In the private sector, just under two thirds of decline was accounted for by reduced opportunities (or perhaps more accurately, reduced incentives) to unionize compared to one third due to falling propensities to unionize. While in the public sector, around half of the decline was due to falling propensities to unionize and half due to compositional change. Declining opportunities to unionize played little role in accounting for decline. The effects of falling opportunities to unionize in continuing workplaces were offset by increasing opportunities to unionize in joiners compared to leavers.

## **6.2 Results from a panel of individuals**

Overall, the BHPS results tell a similar story to the WERS results. Composition appears to have played a minimal role, with compositional change unfavorable to unions among joiners compared to leavers balanced out by favorable compositional change among continuing employees. It should be noted that because the BHPS understates employment growth and fails to pick up the relative growth of the private sectors employment share, the role of compositional change may be understated. Increased free-riding among continuing employees accounted for around 30 per cent of the overall decline while around 20 per cent could be attributed to increased free-riding among new employees compared the workers that they replaced. The other half of the decline was explained by reduced opportunities to unionize among new employees compared to employees who left employment. These results suggest that the growth of free-riding was relatively more important than the results from workplaces suggest. There are two likely explanations for the discrepancy. First, many apparent free-riders may be in workplaces where collective bargaining has been abandoned, so they are not actually covered by union bargaining arrangements, although they may think that they are because some sort of union representational system still exists in their workplace. Second, the BHPS results may be affected by sample selection and attrition bias.

The role of changing attitudes towards trade unions in union decline was relatively trivial. As has already been noted, aggregate attitudes towards unions became generally more



favorable over the course of the 1990s. As a result of this change, workers with favorable attitudes towards unions became less likely to unionize. This suggests that it was union weakness and ineffectiveness rather than anti-union attitudes on the part of the workforce which explains increased free-riding. However, joiners had attitudes towards unions that were notably less favorable than leavers. The net effect of this difference on union decline was small; it accounted for just one tenth of one per cent of the overall decline in density. Although this figure may be understated (due to sample selection bias), it is apparent that changing attitudes towards unions do not satisfactorily explain union decline.

In the private sector, reduced opportunities to unionize among new workers compared to leavers accounted for around half of the decline in union density. Increased free-riding among both new and continuing employees explained around one quarter and compositional change among new employees compared to leavers accounted for the remainder. The key factors underlying this compositional change were the growing employment share of employees on temporary contracts, the growing employment share of workers who entered the labor market after 1980 and a smaller proportion of workers with favorable attitudes towards trade unions. In the public sector increased free-riding accounted for around four fifths of the decline. Joiners had much lower levels of union availability than leavers, but this was largely balanced out by increased opportunities to unionize among switchers and continuing employees and favorable compositional change.

The panel nature of the BHPS allows some light to be shed on the individual level processes underlying union decline and particularly the growth in free-riding. Table 4 shows the factors associated with a change in membership status among continuing employees. 90 per cent of the continuing employees who remained in union jobs but left union membership also changed jobs. Just 10 per cent remained in the same union job and left union membership. Taken together with the results from workplaces, these figures suggest that increased free-riding among continuing employees occurred predominantly among employees who switched jobs into three specific areas. First, new workplaces without the 'social custom' of union membership. Second, weakly organized continuing workplaces in the public sector where unions were unable to uphold the social custom of joining among new employees. Third, continuing workplaces in the private sector where management removed the incentives for unionization by abandoning collective bargaining.

## 7. Conclusion

This paper has analyzed the factors that accounted for declining aggregate trade union density in Great Britain between 1990 and 1998 using a theoretical framework that distinguished between decline that resulted from change in opportunities to unionize compared to decline that resulted from changing propensities to unionize. This framework was operationalized using micro-data from workplaces and a panel of individuals.

The most important factor in explaining union decline during the 1990s appeared to be falling opportunities to unionize. However, closer inspection of the results revealed a more complicated picture. In contrast to the 1980s, decline was driven by change in continuing workplaces which had had collective bargaining in 1990, but had abandoned it by 1998. A little less than one in three continuing workplaces fell into this category. Around half of the decline in aggregate union density could be accounted for by behavioural this change. In most of these workplaces, unions retained some sort of institutional presence, so the opportunity to unionise still existed. However workers in these workplaces who were not union members cannot be properly described as free-riders because they were no longer covered by union negotiated terms and conditions.

Also in contrast to the 1980s, increased free-riding played a significant factor role in union decline. Free-riding became more common in the public sector, and was more common in newly established workplaces that recognised unions for bargaining purposes than it had been in workplaces that had had union recognition and closed. Lower levels of union recognition in new workplaces (the key factor behind union decline in the 1980s according to Disney *et al*, 1995) explained just under a tenth of the decline in union density in the 1990s. Compositional change played only a minimal role.

The results from individuals help to flesh out the individual level processes behind the workplace level results. Only one in employee in ten who remained in the same union throughout the period left union membership. However, new employees in union jobs were less likely to join a union than the workers that they replaced. Workers who switched jobs into a job where they had the opportunity to unionize were less likely to take up that opportunity even if they had been union members in their previous jobs. However, employees' general attitudes towards unions over this period actually became more favourable, so it is unlikely that this change in behaviour can be explained by the rise of a new 'spirit of acquisitive individualism' or 'withering of enthusiasm' for union membership

on the part of employees. Instead it seems that there were a growing number of union workplaces, specifically; workplaces where collective bargaining was abandoned, public sector workplaces and new workplaces that recognised unions, where collective activity declined as management realised that union weakness meant that they no longer had to bargain with trade unions. The result of this change was that unions were unable to uphold the social custom of union membership among a small minority of their existing members, and among new employees entering the workplace.

Unions will struggle to reverse this membership decline because results imply that to do so, they will need to do two things. First, sign up free-riders by rebuilding the social custom of union membership at the workplace. Second, re-establish bargaining in workplaces where management abandoned collective bargaining as a method of pay determination. A key mechanism for achieving these objectives is successful collective action. However, the costs of successful collective action have risen, and the benefits have fallen as a result of intensifying product market competition and legislative restrictions on the exercise of union power that show no sign of being reversed. In this environment, re-establishing what Bain (1970) described as the ‘virtuous circle’ of successful collective action leading to rising membership leading to further union success will be an extremely difficult challenge for unions.

British unions are responding to this tougher environment by learning from the ‘social movement’ approach of North American trade unionism. However, this approach has not yet succeeded in reversing decline (although it may have stopped membership falling further – this is an issue for future research once the next Workplace Employee Relations Survey data becomes available). Evidence from other liberal market economies in North America and Australasia, where union movements are more advanced in their use of social movement tactics suggests that a social movement approach will not in itself bring about a revival in union fortunes (Kochan, 1979). Similarly the ‘social partnership’ approach advocated as a renewal strategy by an influential stand of opinion within the British trade union movement seems to hold little promise after so many employers have signaled to unions that they are no longer interested in maintaining any kind of bargaining relationship. Therefore I conclude by echoing the recent judgments of Pencavel (about Britain) and Farber and Western (about the United States). It is hard to envisage a reversal of union fortunes in Britain without substantial changes to the economic and public policy environment.

## **8. Appendix**

The full results of the regression analyses and the mean values of the independent variables used in the shift-share analyses can be found in tables A2 (for WERS/WIRS) and A3 (for the BHPS).

### **8.1 Estimation issues**

The key drawback of the linear probability model used for the analysis of the determinants of individual union membership in the BHPS is that it can produce estimated probabilities of union membership fall outside of the 0-1 range when this is not actually possible for values to fall outside this range in the real world (Kennedy, 1998: 233-4). An alternative would be to estimate a logit or probit model, which would have the advantage that estimated probabilities would fall within the 0 – 1 range. However the results of these models do not lend themselves to use in multi-variate shift share analysis, so the linear probability model is preferred (Green, 1992: 454).

The weighted least squares estimator used in the analysis of the WERS/WIRS data is also technically inappropriate because the dependent variable (union density) is not normally distributed. The key problem is that the data are left censored, i.e. there are a large number of observations (workplaces) where union density is 0. The interval regression technique provides an alternative estimator that can account for the left censored data (in the same manner as a tobit model, see Kennedy, 1998: 250-1) while allowing the data to be weighted, something which the software package used in the analysis (Stata 7) does not allow with a tobit model. The results of the interval regressions can be used in multi-variate shift share analysis. However the results of an interval regression based shift share analysis need to be interpreted as components of the decline in aggregate density in workplaces where density is greater than zero rather than the components of decline in aggregate density. For this reason I prefer to focus on the results based on the weighted least squares estimates. The two sets of results are broadly consistent with each other. The interval regression results are not reported here for reasons of space, but are available from the author on request.

**Table 1: Union decline in Britain 1990 – 1998**

	NUMBER OF UNION MEMBERS (CERTIFICATION OFFICER)	AGGREGATE UNION DENSITY (LFS)	AGGREGATE DENSITY (BHPS)	AGGREGATE UNION DENSITY (LFS WORKPLACES WITH >25 EMPLOYEES)	AGGREGATE UNION DENSITY (WIRS/WERS)
All					
<b>1990</b>	9,947,000	38.1%	-	47%	47%
<b>1991</b>	9,585,000	37.5%	37.7%	-	-
<b>1997</b>		30.2%	30.2%		
<b>1998</b>	7,807,000	-	-	37%	36%
<b>Decline</b>	-2,140,000	-7.3	-7.5	-10%	-11%
Private sector only					
<b>1990</b>	-	-	-	-	37.6
<b>1991</b>	-	-	26.7	-	
<b>1997</b>			20.3%	-	
<b>1998</b>	-	19%	-	26%	29.1%
Public sector only					
<b>1990</b>	-	-	-	-	72
<b>1991</b>	-		62.8%	-	-
<b>1997</b>			55.6%	-	-
<b>1998</b>	-	61	-	63	57

**Sources:** Bird *et al.* (1992), Cully and Woodland (1998), Hicks (2000), Millward *et al.* (2000) and the authors own calculations from the BHPS.

**Notes:** BHPS fieldwork was carried out in the final quarter of each year with a small minority of difficult to arrange interviews taking place in the first six months of the following year. WERS90 fieldwork carried out between January and September 1990. WERS 98 fieldwork carried out between November 1997 and July 1998. Fieldwork for the 1990 and 1991 LFSs took place in the spring quarter while fieldwork for the 1997 and 1998 LFSs fieldwork took place in the autumn quarter.

**Table 2: The components of decline in aggregate workplace union density (WERS)**

	STRUCTURAL CHANGE $(X^{98} - X^{90})\gamma^{90}$	BEHAVIOURAL CHANGE $(\gamma^{98} - \gamma^{90})X^{90}$	INTERACTION TERM $(X^{98} - X^{90})(\gamma^{98} - \gamma^{90})$	OBSERVED DECLINE IN AGGREGATE UNION DENSITY $(X^{98} - X^{90})\gamma^{90} + (\gamma^{98} - \gamma^{90})X^{90} + (X^{98} - X^{90})(\gamma^{98} - \gamma^{90})$
<b>ALL</b>				
<b>Continuing workplaces</b>				
Union availability	-7.53	-5.62	4.46	-8.89
Workforce composition	-1.17	3.91	0.07	2.81
<b>Leavers cf. joiners</b>				
Union availability	-1.4	-4.09	0.36	-5.13
Workforce composition	-0.99	1.85	0.67	1.54
<b>Total</b>	<b>-10.1</b>	<b>-5.8</b>	<b>4.9</b>	<b>-10.99</b>
<b>PRIVATE SECTOR</b>				
<b>Continuing workplaces</b>				
Union availability	-5.31	-3.99	4.16	-5.21
Workforce composition	-0.11	2.94	0.78	3.62
<b>Leavers cf. joiners</b>				
Union availability	-3.81	-3.32	0.97	-6.16
Workforce composition	-0.78	-0.52	0.73	-0.58
<b>Total</b>	<b>-10</b>	<b>-4.89</b>	<b>6.56</b>	<b>-8.32</b>
<b>PUBLIC SECTOR</b>				
<b>Continuing workplaces</b>				
Union availability	-7.5	-12.5	6.26	-13.73
Workforce composition	-1.86	6.88	-0.38	4.65
<b>Leavers cf. joiners</b>				
Union availability	8.28	-5.61	-8.15	-5.49
Workforce composition	-3.2	4.49	2.39	3.67
<b>Total</b>	<b>-4.28</b>	<b>-6.74</b>	<b>0.12</b>	<b>-10.9</b>

Calculated from the means and coefficients reported in Table A1.

Structural change can be interpreted as the impact of changes in the proportion of workers with the opportunity to unionise and the proportion of workers in each group on union decline if within group propensity to unionise is held constant at the 1990 level. Behavioural change can be interpreted as the impact of changes in within group propensity to unionise if composition is held constant at the 1990 level. The sum of behavioural change and structural change is greater than the observed decline in density. The interaction term has the effect of balancing the equation so that the total equals the observed decline in union density.

**Table 3: The components of decline in aggregate union density among individual employees (BHPS)**

	STRUCTURAL CHANGE $(X^{98} - X^{90})\beta^{90}$	BEHAVIOURAL CHANGE $(\beta^{98} - \beta^{90})X^{90}$	INTERACTION TERM $(X^{98} - X^{90})(\beta^{98} - \beta^{90})$	OBSERVED DECLINE IN AGGREGATE UNION DENSITY $(X^{98} - X^{90})\beta^{90} + (\beta^{98} - \beta^{90})X^{90} + (X^{98} - X^{90})(\beta^{98} - \beta^{90})$
<b>ALL</b>				
<b>Continuing workplaces</b>				
Union availability	1	-2.1	-0.1	-1.2
Workforce composition	2	0	0.1	2
<b>Leavers cf. joiners</b>				
Union availability	-4.3	-1.4	0.6	-5.1
Workforce composition	-2	0	0.8	-1.2
<b>Total</b>	<b>-3.3</b>	<b>-3.5</b>	<b>1.5</b>	<b>-5.3</b>
<b>PRIVATE SECTOR</b>				
<b>Continuing workplaces</b>				
Union availability	-0.1	-1.6	0.01	-1.7
Workforce composition	0.7	1	0.01	1.7
<b>Leavers cf. joiners</b>				
Union availability	-3.6	-0.9	0.3	-4.2
Workforce composition	-1.9	-0.5	1.1	1.3
<b>Switchers</b>				
Union availability	0.2	0.3	-0.1	0.4
Workforce composition	0	-0.5	0.5	0
<b>Total</b>	<b>-5</b>	<b>-2.2</b>	<b>1.9</b>	<b>-5.3</b>
<b>PUBLIC SECTOR</b>				
<b>Continuing workplaces</b>				
Union availability	1.4	-2.5	-0.1	-1.2
Workforce composition	2.4	3.2	0.2	5.9
<b>Leavers cf. joiners</b>				
Union availability	-6	-7.2	3.1	-10.1
Workforce composition	-1.1	2.5	-0.2	1.2
<b>Switchers</b>				
Union availability	0.8	0.1	0.2	1.1
Workforce composition	0.6	-3.2	-0.8	-3.4
<b>Total</b>	<b>-2</b>	<b>-7.1</b>	<b>2.4</b>	<b>-6.7</b>

Calculated from the means and coefficients reported in Table A2.

**Table 4: Factors associated with changes in union membership status among continuing employees**

	%
<i>Flows out of union membership</i>	
Change jobs to a non union job	63.7
Change jobs to a different union job	30.2
Same job but union status of job changes	2.4
Same job, same union status of job	3.7
<i>Flows into membership</i>	
Change jobs to a union job	83
Same job but union status of job changes	2
Same union (union) job, join union	15

**Source:** British Household Panel Survey, waves one and seven

**Weighted base:** 147 (outflows) 118 (inflows)



**Table A1: Activities of leavers and joiners**

	JOINERS ACTIVITY AT WAVE 1 (%)	LEAVERS ACTIVITY AT WAVE 7 (%)
Self-employed	19	18
Unemployed	24	11
Retired	2	38
Family care/ maternity leave	26	11
Full-time education/ training	26	17
Other	3	5

**Source:** British Household Panel Survey

**Weighted base:** 538 (joiners) and 787 (leavers).

**Table A2: The determinants of aggregate union density and mean values for the independent variables used in the models (WIRS/WERS)**

	All		Private Sector				Public Sector					
	Regression results 1990	Mean value 1990	Regression results 1998	Mean value 1998	Regression results 1990	Mean value 1990	Regression results 1998	Mean value 1998	Regression results 1990	Mean value 1990	Regression results 1998	Mean value 1998
<b>Continuing workplaces % part-time</b>	-0.041 (0.038)	14	-0.186 (0.034)***	17	-0.062 (0.03)**	11	-0.087 (0.035)**	15	-0.131 (0.075)*	21	-0.419 (0.087)***	23
<b>Occupation (ref. senior managers and professionals)</b>												
<b>% unskilled manual</b>	0.071 (0.053)	16	-0.012 (0.054)	11	0.103 (0.04)**	16	-0.039 (0.061)	11	0.056 (0.090)	17	0.161 (0.083)*	11
<b>% semi-skilled manual</b>	0.071 (0.059)	11	0.094 (0.051)*	12	0.128 (0.039)***	13	0.115 (0.058)**	16	0.031 (0.126)	8	0.097 (0.087)	2
<b>% skilled manual</b>	0.110 (0.056)	10	0.249 (0.083)***	9	0.160 (0.044)***	12	0.318 (0.099)***	12	0.184 (0.093)**	7	0.012 (0.108)	3
<b>% non-manual</b>	0.012 (0.063)*	30	-0.047 (0.050)	29	0.026 (0.045)	24	0.002 (0.058)	26	0.017 (0.090)	40	-0.042 (0.069)	37
<b>% covered by collective bargaining</b>	0.496 (0.046)***	42	0.068 (0.032)**	28	0.760 (0.027)***	28	0.164 (0.045)***	21	0.286 (0.08)***	67	-0.063 (0.043)	46

	<b>β 90</b>	<b>Mean 90</b>	<b>β 98</b>	<b>Mean 98</b>	<b>β 90</b>	<b>Mean 90</b>	<b>β 98</b>	<b>Mean 98</b>	<b>β 90</b>	<b>Mean 90</b>	<b>β 98</b>	<b>Mean 98</b>
<b>Workplace with union recognition</b>	18.906 (3.633)***	0.52	42.329 (2.645)***	0.47	2.212 (1.796)	0.4	37.125 (3.111)***	0.37	15.637* (8.487)	0.81	29.224 (6.978)***	0.72
<b>Production sector (ref. Services)</b>	4.577 (1.436)***	0.26	-2.326 (2.138)	0.28	1.606 (1.237)	0.36	-1.200 (2.208)	0.38	-1.402 (3.914)	0.06	-15.655 (6.789)**	0.03
<b>Workplace size (ref. 201 – 499 employees)</b>												
<b>25 – 49 employees</b>	1.636 (2.234)*	0.14	-2.943 (2.309)	0.12	-3.066 (1.570)	0.13	-5.111 (2.308)**	0.11	7.954 (4.905)	0.17	2.187 (6.045)	0.15
<b>50 – 199 employees</b>	0.606 (1.927)	0.29	-2.092 (1.999)	0.26	-0.738 (1.430)	0.3	-4.423 (2.082)**	0.26	5.596 (4.452)	0.27	5.116 (4.624)	0.23
<b>500+ employees</b>	-1.269 (2.027)	0.21	0.623 (2.815)	0.24	1.153 (1.629)	0.16	3.435 (2.988)	0.21	-0.470 (3.772)	0.29	-0.444 (5.251)	0.3
<b>Private sector (ref. Public sector)</b>	-13.773 (2.072)***	0.5	-15.327 (2.678)**	0.54								
<b>Leavers and joiners</b>												
<b>% part-time</b>	-0.069 (0.041)	3	-0.113 (0.044)***	7	-0.100 (0.043)**	4	-0.095 (0.041)**	7	-0.061 (0.116)	2	-0.194 (0.154)	7

	<b>β 90</b>	<b>Mean 90</b>	<b>β 98</b>	<b>Mean 98</b>	<b>β 90</b>	<b>Mean 90</b>	<b>β 98</b>	<b>Mean 98</b>	<b>β 90</b>	<b>Mean 90</b>	<b>β 98</b>	<b>Mean 98</b>
<b>% unskilled manual</b>	-0.064 (0.060)	4	0.070 (0.078)	3	0.029 (0.061)	6	-0.026 (0.058)	3	-0.409 (0.169)**	2	0.347 (0.149)**	2
<b>% semi-skilled manual</b>	-0.022 (0.060)	3	0.201 (0.074)**	3	0.073 (0.061)	4	0.144 (0.052)**	4	-0.222 (0.098)**	0.61	0.442 (0.179)**	0.9
<b>% skilled manual</b>	0.018 (0.074)	4	0.077 (0.083)	2	0.121 (0.084)	5	0.009 (0.062)	3	-0.271 (0.133)*	0.99	0.560 (0.138)***	1
<b>% non-manual</b>	-0.162 (0.072)**	6	0.078 (0.073)	11	-0.057 (0.076)	7	0.036 (0.053)	11	0.377 (0.13***)	4	0.135 (0.129)	11
<b>Production sector</b>	-2.287 (2.273)	0.08	-3.602 (3.573)	0.04	-2.102 (2.451)	0.13	-3.714 (3.112)	0.06	2.191 (4.846)	0.01	18.341 (14.012)	0.003
<b>25 – 49 employees</b>	1.165 (3.337)	0.07	-0.852 (3.829)	0.08	-0.517 (3.924)	0.09	-4.710 (3.807)	0.1	8.555 (6.916)	0.04	13.196 (8.652)	0.05
<b>50 – 199 employees</b>	-0.312 (3.245)	0.07	-3.057 (3.924)	0.08	-1.845 (3.923)	0.09	-4.292 (3.974)	0.09	0.059 (5.557)	0.03	-4.568 (7.595)	0.06
<b>500+ employees</b>	1.887 (3.691)	0.02	-6.685 (5.637)	0.03	1.544 (4.121)	0.03	6.133 (5.539)	0.01	-1.463 (10.331)	0.004	-16.245 (7.349)**	0.06
<b>% covered by collective bargaining</b>	0.723 (0.056)***	9	0.088 (0.047)*	8	0.760 (0.049)***	10	0.163 (0.058)***	5	0.620 (0.13)***	11	-0.078 (0.067)	14
<b>workplace with union recognition</b>	14.251 (10.501)	0.12	25.522 (8.572)***	0.11	8.480 (8.037)	0.13	35.365 (7.842)***	0.07	23.990 (18.937)	0.08	5.399 (15.162)	0.21
<b>workplace with no union recognition</b>	7.409 (7.947)	0.07	-12.775 (9.073)	0.13	7.470 (7.293)	0.12	0.899 (6.807)	0.18	-11.353 (11.936)	0.01	-12.161 (15.202)	0.01

<b>private sector</b>	-10.097 (2.795)***	0.15	-11.823 (4.825)**	0.18								
<b>Constant</b>	13.381 (5.148)***		24.451 (4.287)***		-2.398 (3.342)		3.996 (4.573)		31.404 (9.28)***		47.464 (9.180)***	
<b>N</b>	1631	1631	1403	1403	1139	1139	1009	1009	492	492	394	394
<b>R<sup>2</sup></b>	0.78		0.65		0.87		0.71		0.41		0.27	

\* = Statistically significant at the 10% level

\*\* = statistically significant at the 5% level

\*\*\* = statistically significant at the 1% level

Robust standard errors in parentheses

Mean values which were percentages were rounded to the nearest whole number, mean values which were probabilities were rounded to two decimal places. Regression coefficients and standard errors were rounded to three decimal places.

**Table A3: The determinants of union membership and mean values for the independent variables used in the models (BHPS)**

	All		Private sector		Public sector		Public sector		Public sector		Public sector	
	Regression results 1991	Mean value 1991	Regression results 1997	Mean value 1997	Regression results 1991	Mean value 1991	Regression results 1997	Mean value 1997	Regression results 1991	Mean value 1991	Regression results 1997	Mean value 1997
<b>Continuing Employees</b>												
<b>Unionised job</b>	0.575 (0.020)***	0.42	0.525 (0.020)***	0.43	0.573 (0.024)***	0.26	0.514 (0.025)***	0.26	0.576 (0.042)***	0.59	0.533 (0.048)***	0.61
<b>Workplace characteristics</b>												
<b>Public Sector</b>	0.075 (0.023)***	0.23	0.064 (0.023)***	0.27								
<b>Production sector</b>	-0.060 (0.019)***	0.24	-0.027 (0.018)	0.24	-0.060 (0.020)***	0.3	-0.023 (0.019)	0.32	-0.039 (0.097)	0.02	0.067 (0.104)	0.02
<b>Workplace employs more than 100</b>	0.046 (0.018)***	0.31	0.051 (0.017)***	0.36	0.055 (0.021)***	0.27	0.062 (0.021)***	0.31	0.021 (0.036)	0.29	0.033 (0.034)	0.32
<b>Job characteristics</b>												
<b>Part-time employee</b>	-0.070 (0.021)***	0.17	-0.052 (0.021)**	0.19	-0.014 (0.023)	0.12	0.012 (0.023)	0.13	-0.176 (0.043)***	0.19	-0.106 (0.041)**	0.21
<b>Permanent contract</b>	0.120 (0.030)***	0.7	0.132 (0.037)***	0.78	0.053 (0.034)	0.63	0.027 (0.048)	0.72	0.271 (0.067)***	0.59	0.159 (0.073)**	0.64

<b>Occupation (ref. managerial and professional)</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Non-manual</b>	-0.018 (0.021)	0.36	-0.041 (0.019)**	0.38	-0.025 (0.024)	0.29	-0.011 (0.022)	0.32	-0.010 (0.045)	0.37	-0.063 (0.040)	0.37
<b>Skilled</b>	0.040 (0.030)	0.1	0.031 (0.030)	0.09	0.043 (0.032)	0.13	0.053 (0.031)*	0.12	-0.014 (0.107)	0.03	-0.102 (0.115)	0.02
<b>Semi-skilled</b>	0.132 (0.031)***	0.08	0.015 (0.032)	0.08	0.123 (0.034)***	0.1	0.044 (0.035)	0.1	0.028 (0.144)	0.01	-0.207 (0.221)	0.01
<b>Unskilled</b>	-0.022 (0.035)	0.06	-0.035 (0.036)	0.06	-0.100 (0.043)**	0.04	-0.085 (0.044)*	0.04	0.123 (0.080)	0.06	0.048 (0.070)	0.05
<b>Individual characteristics</b>												
<b>Male</b>	0.038 (0.017)**	0.41	0.025 (0.018)	0.44	0.037 (0.020)*	0.42	0.043 (0.021)**	0.46	0.024 (0.039)	0.26	-0.020 (0.039)	0.27
<b>Highest educational qualification (ref. any school qualifications)</b>												
<b>None</b>	-0.036 (0.021)*	0.13	-0.008 (0.023)	0.12	-0.025 (0.022)	0.13	-0.001 (0.024)	0.13	-0.116 (0.069)*	0.08	-0.003 (0.064)	0.07
<b>Higher education</b>	0.028 (0.019)	0.23	0.020 (0.017)	0.35	-0.000 (0.023)	0.16	-0.000 (0.020)	0.26	0.074 (0.041)*	0.29	0.035 (0.040)	0.38

	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Ethnic Minority</b>	0.020 (0.043)	0.02	0.008 (0.047)	0.02								
<b>Approximate date of labour market entry (ref. before 1968)</b>												
<b>1968 – 1979</b>	-0.010 (0.018)	0.26	0.008 (0.018)	0.28	0.028 (0.021)	0.22	0.036 (0.020)*	0.24	-0.054 (0.037)	0.26	0.021 (0.038)	0.27
<b>Post 1980</b>	-0.070 (0.020)***	0.24	-0.068 (0.020)***	0.27	-0.076 (0.023)***	0.23	-0.061 (0.023)***	0.27	-0.002 (0.053)	0.13	0.063 (0.045)	0.14
<b>Attitudes towards unions</b>												
<b>Believes strong unions protect workers</b>	0.103 (0.020)***	0.37	0.166 (0.019)***	0.41	0.110 (0.023)***	0.30	0.145 (0.023)**	0.32	0.044 (0.049)	0.37	0.195 (0.045)***	0.42
<b>Does not believe that strong unions protect workers</b>	-0.018 (0.021)	0.24	-0.018 (0.020)	0.20	-0.003 (0.023)	0.23	-0.007 (0.021)	0.22	-0.078 (0.056)	0.18	-0.084 (0.059)	0.12



<b>Leavers/ Joiners</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Unionised job</b>	0.582 (0.055)***	0.13	0.491 (0.072)***	0.05	0.550 (0.059)***	0.1	0.498 (0.092)***	0.04	0.685 (0.125)***	0.18	0.324 (0.131)**	0.09
<b>Non-union job</b>	0.029 (0.044)	0.11	0.004 (0.055)	0.12	-0.024 (0.044)	0.15	-0.048 (0.071)	0.15	0.215 (0.129)*	0.04	0.002 (0.112)	0.05
<b>Workplace characteristics</b>												
<b>Public Sector</b>	0.092 (0.040)**	0.07	0.089 (0.048)*	0.04								
<b>Production sector</b>	0.008 (0.033)	0.08	-0.058 (0.037)	0.04	0.017 (0.033)	0.1	-0.042 (0.035)	0.06	-0.047 (0.182)	0.01	-0.484 (0.161)***	<0.01
<b>Workplace employs more than 100</b>	0.035 (0.032)	0.09	-0.019 (0.039)	0.05	0.033 (0.037)	0.09	-0.012 (0.037)	0.05	0.037 (0.061)	0.09	-0.103 (0.088)	0.04
<b>Job characteristics</b>												
<b>Part-time employee</b>	-0.086 (0.033)***	0.08	-0.051 (0.038)	0.07	-0.075 (0.036)**	0.08	0.041 (0.032)	0.07	-0.154 (0.075)**	0.07	-0.260 (0.085)***	0.07
<b>Permanent contract</b>	0.137 (0.037)***	0.22	0.104 (0.043)**	0.15	0.110 (0.040)***	0.23	0.105 (0.046)**	0.17	0.109 (0.085)	0.19	0.097 (0.088)	0.11

<b>Occupation (ref. managerial and professional)</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Non-manual</b>	-0.004 (0.040)	0.12	-0.012 (0.041)	0.09	0.044 (0.046)	0.12	0.022 (0.033)	0.1	-0.085 (0.071)	0.12	-0.033 (0.092)	0.08
<b>Skilled</b>	-0.009 (0.051)	0.03	0.005 (0.049)	0.02	0.056 (0.050)	0.04	0.019 (0.044)	0.02	-0.322 (0.167)*	0.01	0.265 (0.149)*	<0.01
<b>Semi-skilled</b>	0.103 (0.051)**	0.03	0.052 (0.077)	0.01	0.142 (0.055)**	0.04	0.056 (0.073)	0.02	0.027 (0.091)	0.01	0.464 (0.182)**	<0.01
<b>Unskilled</b>	-0.011 (0.053)	0.03	-0.012 (0.049)	0.02	0.017 (0.059)	0.03	0.014 (0.040)	0.02	-0.056 (0.105)	0.03	-0.112 (0.145)	0.01
<b>Individual characteristics</b>												
<b>Male</b>	0.013 (0.031)	0.12	0.028 (0.038)	0.09	0.024 (0.034)	0.13	0.080 (0.034)**	0.11	-0.007 (0.066)	0.1	-0.016 (0.089)	0.04
<b>Highest educational qualification (ref. any school qualifications)</b>												
<b>None</b>	-0.032 (0.032)	0.08	0.020 (0.033)	0.03	-0.049 (0.035)	0.08	-0.001 (0.033)	0.04	0.020 (0.079)	0.06	-0.014 (0.096)	0.01

	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Higher education</b>	0.009 (0.037)	0.05	0.035 (0.033)	0.08	-0.042 (0.042)	0.05	0.001 (0.031)	0.07	0.097 (0.072)	0.07	0.111 (0.107)	0.09
<b>Ethnic minority</b>	-0.070 (0.075)	0.01	0.070 (0.092)	0.01								
<b>Approximate date of labour market entry (ref. before 1968)</b>												
<b>1968 – 1979</b>	-0.109 (0.036)***	0.04	-0.006 (0.038)	0.05	-0.130 (0.041)***	0.05	-0.028 (0.035)	0.05	-0.039 (0.078)	0.03	0.140 (0.097)	0.04
<b>Post 1980</b>	-0.105 (0.035)***	0.05	-0.015 (0.036)	0.09	-0.108 (0.038)***	0.07	-0.030 (0.033)	0.1	-0.103 (0.091)	0.03	0.046 (0.092)	0.08
<b>Attitudes towards unions</b>												
<b>Believes strong unions protect workers</b>	0.155 (0.034)***	0.13	0.116 (0.037)***	0.1	0.120 (0.037)***	0.13	0.013 (0.035)	0.1	0.231 (0.079)***	0.13	0.327 (0.084)***	0.09
<b>Does not believe that strong unions protect workers</b>	-0.021 (0.037)	0.07	0.029 (0.039)	0.04	0.006 (0.040)	0.08	-0.052 (0.038)	0.05	-0.085 (0.088)	0.05	0.276 (0.138)**	0.02

	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Switchers (between public and private sectors)</b>								
<b>Unionised job</b>	0.626 (0.109)***	0.02	0.579 (0.101)***	0.03	0.412 (0.121)***	0.11	0.411 (0.133)***	0.14
<b>Non-union job</b>	-0.076 (0.096)	0.05	0.007 (0.080)	0.04	-0.040 (0.145)	0.01	0.034 (0.130)	0.03
<b>Workplace characteristics Public Sector</b>								
<b>Production sector</b>	0.024 (0.085)	0.02	-0.016 (0.084)	0.02	0.009 (0.098)	0.03	-0.026 (0.237)	0.01
<b>Workplace employs more than 100</b>	-0.066 (0.080)	0.02	0.032 (0.077)	0.03	0.124 (0.085)	0.07	0.057 (0.089)	0.08
<b>Job characteristics</b>								
<b>Part-time employee</b>	0.049 (0.058)	0.03	-0.096 (0.082)	0.02	-0.117 (0.089)	0.07	-0.175 (0.075)**	0.06

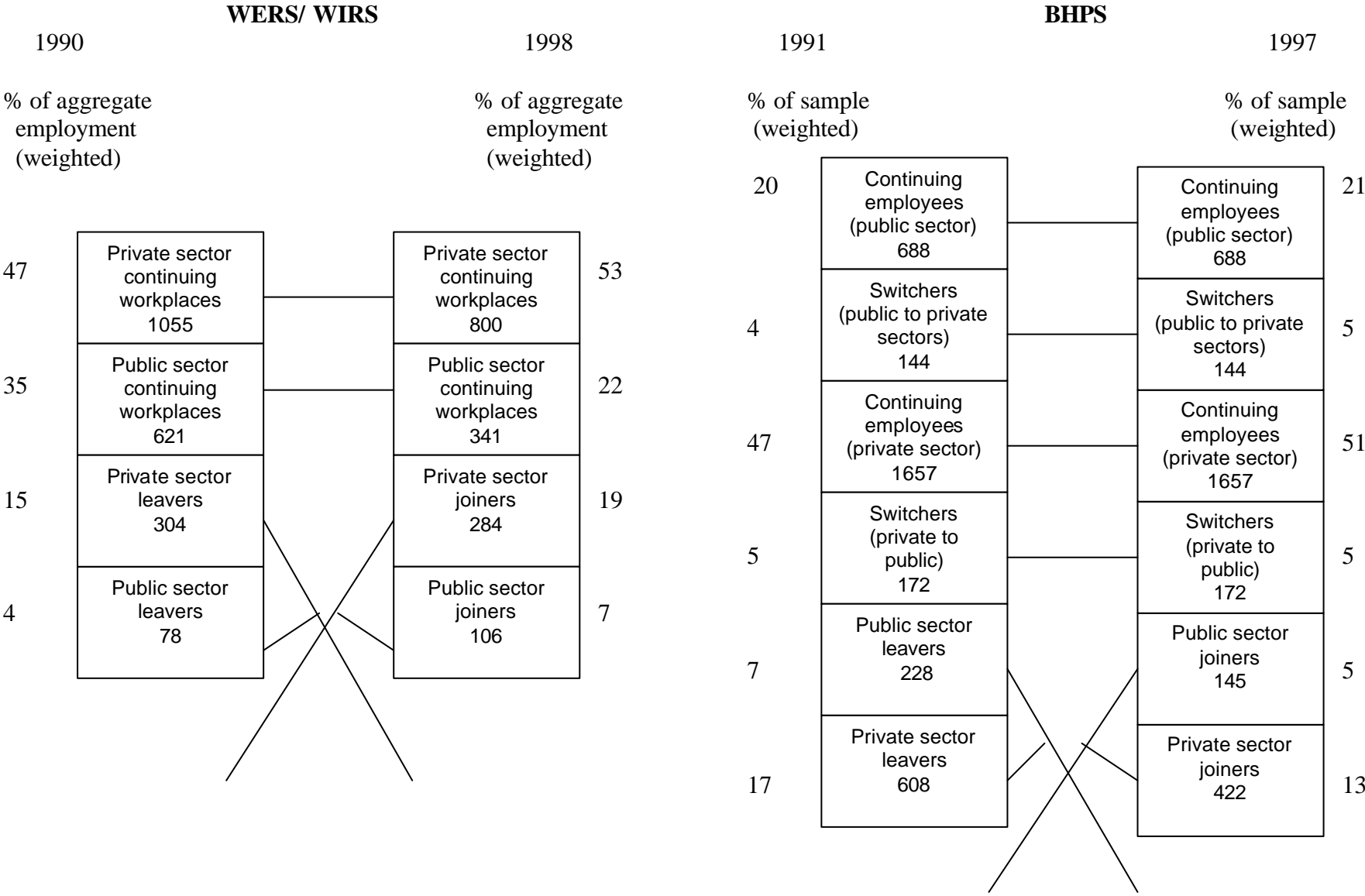
	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>Permanent contract</b>	0.121 (0.061)**	0.06	0.152 (0.077)**	0.06	0.249 (0.101)**	0.12	0.163 (0.084)*	0.15
<b>Occupation (ref. managerial and professional)</b>								
<b>Non-manual</b>	-0.024 (0.074)	0.04	-0.009 (0.095)	0.03	-0.057 (0.086)	0.06	-0.097 (0.105)	0.09
<b>Skilled</b>	-0.008 (0.156)	0.01	0.171 (0.096)	0.01	0.049 (0.128)	0.01	-0.120 (0.237)	0.01
<b>Semi-skilled</b>	0.046 (0.108)	0.01	0.139 (0.102)	0.01	0.086 (0.114)	0.01	-0.248 (0.237)	0.01
<b>Unskilled</b>	0.019 (0.087)	0.01	0.107 (0.141)	0.01	-0.137 (0.130)	0.03	0.040 (0.136)	0.03
<b>Individual characteristics</b>								
<b>Male</b>	0.038 (0.068)	0.02	0.016 (0.069)	0.04	0.151 (0.107)	0.07	0.131 (0.110)	0.05
<b>Highest educational qualification (ref. any school qualifications)</b>								

					<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>	<b>β 1991</b>	<b>Mean 1991</b>	<b>β 1997</b>	<b>Mean 1997</b>
<b>None</b>					0.036 (0.051)	0.01	-0.138 (0.110)	0.01	0.062 (0.099)	0.03	0.067 (0.109)	0.02
<b>Higher education</b>					0.006 (0.073)	0.02	0.031 (0.057)	0.03	0.178 (0.083)**	0.04	0.109 (0.087)	0.08
<b>Approximate date of labour market entry (ref. before 1968)</b>												
<b>1968 – 1979</b>					0.015 (0.056)	0.02	-0.033 (0.100)	0.02	-0.059 (0.094)	0.03	-0.130 (0.093)	0.05
<b>Post 1980</b>					-0.013 (0.059)	0.03	-0.185 (0.092)**	0.03	-0.115 (0.075)	0.05	-0.141 (0.102)	0.08
<b>Attitudes towards unions</b>												
<b>Believes strong unions protect workers</b>					0.088 (0.065)	0.04	0.127 (0.075)	0.04	0.115 (0.082)	0.07	0.096 (0.079)	0.1
<b>Does not believe that strong unions protect workers</b>					0.009 (0.067)	0.02	0.038 (0.090)	0.01	-0.040 (0.103)	0.04	-0.083 (0.129)	0.02
<b>Constant</b>	-0.095 (0.040)**		-0.120 (0.045)***		-0.057 (0.045)		-0.066 (0.054)		-0.081 (0.082)		-0.042 (0.087)	
<b>N</b>	3208	3208	3054	3054	2208	2208	2063	2063	1016	1016	1005	1005
<b>R<sup>2</sup></b>	0.52		0.47		0.55		0.49		0.32		0.34	

\* = Statistically significant at the 10% level  
\*\* = statistically significant at the 5% level  
\*\*\* = statistically significant at the 1% level  
Robust standard errors in parentheses

Mean values which were probabilities were rounded to two decimal places. Regression coefficients and standard errors were rounded to three decimal places. The ethnic minority dummy variable was not used in public sector and private sector models due to the low number of observations with this characteristic.

**Figure 1: Structure of the Data**





## References

- Andrews, M. and Naylor, R. (1994), 'Declining Union Density in the 1980s: What do Panel Data Tell Us?', British Journal of Industrial Relations, 32(3): 413 – 431.
- Arulampalam, W. and Booth, A. (2000), 'Union Status of Young Men in Britain: A Decade of Change', Journal of Applied Econometrics, 15, 289-310.
- Bain, G. and Elsheikh, F. (1976), *Union Growth and the Business Cycle*, Oxford: Blackwell.
- Bassett, P. and Cave, A. (1993), *All for One: the Future of the Unions*, London: Fabian Society.
- Beaumont, P. and Harris, R. (1995) 'Union De-recognition and Declining Union Density in Britain', Industrial and Labor Relations Review, 48(3): 389 – 402.
- Bird, D., Kirosingh, M. and Stevens, M. (1992), 'Membership of Trade Unions in 1990', Employment Gazette, April.
- Blanden, J. and Machin, S. (2003), 'Cross-Generational Correlations of Union Status for Young People in Britain', British Journal of Industrial Relations, 41(3).
- Booth, A. (1985), 'The Free Rider Problem and a Social Custom Theory of Trade Union Membership', Quarterly Journal of Economics, 100: 253 – 261.
- Brook, K. (2001), 'Trade Union Membership: an Analysis from the Autumn 2001 LFS', Labour Market Trends, July 2002: 343 – 354.
- Brown, W., Deakin, S. and Ryan, P. (1997), 'The Effects of British Industrial Relations Legislation 1979 – 97', National Institute Economic Review, 161: 69 – 83.
- Brown, W., Deakin, S., Hudson, M., Pratten, C. and Ryan, P. (1999), *The Individualisation of Employment Contracts in Britain*, DTI Employment Relations Research Series 5, London: Department of Trade and Industry.
- Bryson, A. and Gomez, R. (2002), 'Marching On Together? Recent Trends in Union Membership', in A. Park, J. Curtice, K. Thomson, L. Jarvis and C. Bromley (eds.), *British Social Attitudes: The 19<sup>th</sup> Report*, London: Sage.
- Charlwood, A. (2002), 'Why Do Non-Union Employees Want to Unionize?', British Journal of Industrial Relations, 40(3): 463 – 492.
- Charlwood, A. (2003a), 'Willingness to Unionize Amongst Non-Union Workers', in H. Gospel and S. Wood (eds), *Representing Workers: Union Recognition and Membership in Britain*, London: Routledge.
- Charlwood, A. (2003b), *The Individualisation of Pay-Setting in Britain 1990 – 1998: Scope, Determinants and Impact*. Paper presented at the Performance and Reward Conference, Manchester Metropolitan University, April 2003.

- Cully, M. and Woodland, S. (1998), 'Trade Union Membership and Recognition 1996 – 97', Labour Market Trends, July.
- Disney R. and Carruth, A. (1988), 'Where Have Two Million Trade Union Members Gone?', Economica, 55(1): 1 – 19.
- Disney, R., Gosling, A. and Machin, S. (1995), 'British Unions in Decline: An Examination of the 1980's Fall in Trade Union Recognition', Industrial and Labor Relations Review, 48(3): 403 – 419.
- Disney R., Macrae, J., Gosling, A. and Machin, S. (1998), *The Dynamics of Union Membership in Britain – A Study using the Family and Working Lives Survey* Employment Relations Research Paper no 3: London: Department of Trade and Industry.
- Fairbrother, P. (2000), *Trade Unions at the Crossroads*, London: Mansell.
- Farber, H. and Kreugar, A. (1993), 'Union Membership in the US: the Decline Continues', in B. Kaufman and M. Kleiner (eds), *Employee Representation: Alternatives and Future Directions*, Madison, Wisc.: IRRA.
- Farber, H. and Western, B. (2001), 'Accounting for the Decline of Unions in the Private Sector, 1973-1998', Journal of Labor Research, 22(3): 459 – 485.
- Farber, H. and Western, B. (2002), 'Ronald Reagan and the Politics of Declining Union Organization', British Journal of Industrial Relations, 40(3): 385 – 401.
- Fiorito, J. (1997), 'The Impact of Human Resource Policies on Union Organizing', Industrial Relations, 26: 113-126.
- Fiorito, J. (2001), 'Human Resource Management Practices and Worker Desires for Union Representation', Journal of Labor Research, 22: 335-354.
- Forth, J. (2000), 'Compositional versus Behavioural Change: Combined Analysis of the WERS98 Panel Survey, Closures and New Workplaces' paper presented to the 1<sup>st</sup> WERS98 User Group Meeting, <http://www.niesr.ac.uk/niesr/wers98>
- Freeman, R. and Kleiner, M. (1990), 'Employer Behaviour in the Face of Union Organising Drives', Industrial and Labor Relations Review, 43 (2): 351 – 365.
- Green, F. (1992), 'Recent Trends in British Trade Union Density: How Much of a Compositional Effect?', British Journal of Industrial Relations, 30(3): 445 – 458.
- Hicks, S. (2000), 'Trade Union Membership 1998 – 1999: An analysis from the Certification Officer and LFS', Labour Market Trends, July 2002: 329 – 340.
- Insalaco, R. (2002), *Annual Abstract of Statistics*, London: The Stationary Office.
- Kelly, J. (1990), 'British Trade Unionism 1979 – 89: Change, Continuity and Contradictions', Work, Employment and Society, 29 – 65.

- Kelly, J. and Waddington, J. (1995), 'New Prospects for British Labour', Organization, 2(3): 415 – 426.
- Kennedy, P. (1998), *A Guide to Econometrics*, Oxford: Blackwell.
- Klandermans, P. (1986), 'Psychology and Trade Union Participation; Joining, Acting, Quitting', Journal of Occupational Psychology, 59:189 – 204.
- Kleiner, M. (2001), 'Intensity of Management Resistance: Understanding the Decline of Unionization in the Private Sector', Journal of Labor Research, 22(3): 519 – 40.
- Kochan, T. (1979), 'How American Employees View Labour Unions', Monthly Labor Review, 104(4): 23 – 31.
- Lipset, S. M. and Katchanovski, I. (2001), 'The Future of Private Sector Union in the US', Journal of Labor Research, 22(2): 229 – 44.
- Machin, S. (2000), 'Union Decline in Britain', British Journal of Industrial Relations, 38(4): 631 – 645.
- Machin, S. (2002), 'Factors in Convergence and Divergence in Union Membership', Discussion Paper No. 554, Centre for Economic Performance, London School of Economics.
- Machin, S. and Wood, S. (2003), 'HRM Substitution: Changes over time in HRM Practices, Unions and New Workplaces', Mimeo
- Mason, R. and Bain, P. (1993), 'The Determinants of Trade Union Membership in Britain: A Survey of the Literature', Industrial and Labor Relations Review, 46(2): 232 – 351.
- Metcalf, D. (2001) 'British Unions: Dissolution or Resurgence Revisited' in R. Dickens, J. Wadsworth and P. Gregg (eds.), *The State of Working Britain: Update 2001*, London: Centre for Economic Performance.
- Millward, N., Bryson, A. and Forth, J. (2000), *All Change at Work: British Employment Relations 1980 – 1998* as portrayed by the *Workplace Industrial Relations Survey series*, London: Routledge.
- Oaxaca, R. (1973), 'Male – Female Wage Differentials in Urban Labor Markets', International Economic Review, 14: 693 – 709.
- Olson, M. (1965), *The Logic Of Collective Action: Public Goods and the Theory of Groups*, Cambridge, Mass: Harvard University Press.
- Pencavel, J. (2003), 'The Surprising Retreat of Union Britain', IZA Working Paper No. 818, forthcoming in David Card and Richard B. Freeman (eds.) *Seeking a Premier League Economy*, Chicago: University of Chicago Press.

- Riddell, C. and Riddell, W. C. (2001), 'Changing Patterns of Unionization: the North American Experience, 1984 – 1998', Discussion Paper, Department of Economics, University of British Columbia, <http://www.econ.ubc.ca/discpapers/dp0123.pdf>
- Taylor, M. Freed (ed), with Brice, J., Buck, N. and Prentice-Lane, E. (2001), *British Household Panel Survey User Manual Vol. A*, Colchester: University of Essex.
- Towers, B. (1997), *The Representation Gap*, Oxford: OUP.
- Towers, B. (1989), 'Running the Gauntlet: British Trade Unions Under Thatcherism, 1979 – 1988', Industrial and Labor Relations Review, 42(2): 163 – 188.
- Visser, J. (2002), 'Why Fewer Workers Join Unions in Europe: A Social Custom Explanation of Membership Trends', British Journal of Industrial Relations, 40(3): 403 – 430.
- Waddington, J. and Whitstone, C. (1997), 'Why Do People Join Unions in a Period of Membership Decline?', British Journal of Industrial Relations, 35: 514 – 546.
- Wood, S. and Godard, J. (1999) 'The Statutory Union Recognition Procedure in the Employment Relations Bill: A Comparative Analysis', British Journal of Industrial Relations, 37(2): 203–244.

**CENTRE FOR ECONOMIC PERFORMANCE**  
**Recent Discussion Papers**

600	Christopher A. Pissarides	Unemployment in Britain: A European Success Story
599	Stephen Bond Dietmar Harhoff John Van Reenen	Corporate R&D and Productivity in Germany and the United Kingdom
598	Michael Storper Anthony J. Venables	Buzz: Face-to-Face Contact and the Urban Economy
597	Stephen Gibbons Alan Manning	The Incidence of UK Housing Benefit: Evidence from the 1990s Reforms
596	Paul Gregg Maria Gutiérrez-Domènech Jane Waldfogel	The Employment of Married Mothers in Great Britain: 1974-2000
595	Stephen Bond Dietmar Harhoff John Van Reenen	Investment, R&D and Financial Constraints in Britain and Germany
594	Andrew B. Bernard Stephen Redding Peter K. Schott	Product Choice and Product Switching
593	Anthony J. Venables	Spatial Disparities in Developing Countries: Cities, Regions and International Trade
592	Sylvie Charlot Gilles Duranton	Communication Externalities in Cities
591	Paul Willman Alex Bryson Rafael Gomez	Why Do Voice Regimes Differ?
590	Marco Manacorda	Child Labor and the Labor Supply of Other Household Members: Evidence from 1920 America
589	Alex Bryson Rafael Gomez	Why Have Workers Stopped Joining Unions?

588	Henry G. Overman L. Alan Winters	Trade Shocks and Industrial Location: the Impact of EEC Accession on the UK
587	Pierre-Philippe Combes Henry G. Overman	The Spatial Distribution of Economic Activities in the European Union
586	Henry G. Overman	Can We Learn Anything from Economic Geography Proper?
585	A. B. Bernard J. Bradford Jensen P. K. Schott	Falling Trade Costs, Heterogeneous Firms and Industry Dynamics
584	A. B. Bernard J. Bradford Jensen P. K. Schott	Survival of the Best Fit: Exposure to Low-Wage Countries and the (Uneven) Growth of U.S. Manufacturing Plants
583	S. Wood S. Moore	Reviewing the Statutory Union Recognition (ERA 1999)
582	T. Kirchmaier	Corporate Restructuring and Firm Performance of British and German Non-Financial Firms
581	C. Dougherty	Why Is the Rate of Return to Schooling Higher for Women than for Men?
580	S. Burgess D. Mawson	Aggregate Growth and the Efficiency of Labour Reallocation
579	S. Nickell	Poverty and Worklessness in Britain
578	D. Marsden	Renegotiating Performance: the Role of Performance Pay in Renegotiating the Effort Bargain
577	S. Nickell	A Picture of European Unemployment: Success and Failure
576	A. de Coulon M. Piracha	Self-Selection and the Performance of Return Migrants: the Source Country Perspective

**To order a discussion paper, please contact the Publications Unit**  
**Tel 020 7955 7673 Fax 020 7955 7595 Email [info@cep.lse.ac.uk](mailto:info@cep.lse.ac.uk)**  
**Web site <http://cep.lse.ac.uk>**