

## **CEP Discussion Paper No 768**

## December 2006

# **Accounting for Collective Action: Resource Acquisition and Mobilization in British Unions**

## Paul Willman and Alex Bryson





#### **Abstract**

The paper uses two data sources to map trends in resource availability for trade unions in Britain. Union resources exist on the one hand in the form of subscription income and accumulated assets shown in union accounts and, on the other, establishment level resources provided by employers and union members. The paper documents a substantial decline in both forms of resource across the period 1990 -2004 and attempts to explain both the reasons for this decline and its consequences for employee representation in Britain.

Keywords: Union membership JEL Classifications: J3, J31, J50, J51

This paper was produced as part of the Centre's Labour Markets Programme. The Centre for Economic Performance is financed by the Economic and Social Research Council.

#### Acknowledgements

We thank the Regent Street Polytechnic Trust and the Leverhulme Trust for financial assistance. We acknowledge the Department of Trade and Industry, the Economic and Social Research Council, the Advisory, Conciliation and Arbitration Service and the Policy Studies Institute as the originators of the Workplace Employee Relations Survey data, and the Data Archive at the University of Essex as the distributor of the data.

Paul Willman is Professor of Management, London School of Economics and Alex Bryson is the Manpower Research Fellow with the Centre for Economic Performance, LSE and a Principal Research Fellow, Policy Studies Institute, London.

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.

© P. Willman and A. Bryson, submitted 2006

ISBN 075301985X

This paper contributes to the debate about the future of unions by examining the resources available to trade unions to reverse the declines in membership and collective bargaining coverage experienced in recent years. We use British data to examine change in unions' resource base and assess the implications of these changes for the future conduct and performance of unions.

We use the statutory Certification Office returns for union finances, and the Workplace Employment Relations Survey (WERS) dataset for establishment level changes. There have been prior analyses in the UK of the former up to 1990 (Willman et al, 1993). In addition, the WERS dataset has been extensively analyzed up to 1998 (Millward et al, 2000). This paper adds to the literature by updating these analyses and by bringing both time series together for the first time to estimate overall union resource levels.

The structure of the paper is as follows. Section 2 reviews relevant literature. Section 3 examines the nature of the resources available to unions and describes the data sets we use. Sections 4 and 5 present and analyze the data. Section 4 looks at the resources in trade union accounts and Section 5 looks at those available in workplaces. Section 6 concludes with an overall assessment.

#### 1. Literature

Trade unions are continuous associations and their ability to sustain themselves depends both on the establishment of effective permanent organization and use of resources (Webb and Webb, 1907). They are both representative and administrative organizations and the relationship between administrative and representative logics appears strongly to influence effectiveness measures (Child et al, 1973; Fiorito et al, 1995). The tension between administrative and representative rationales is a central theme in many discussions of union democracy. However the balance between formal organization and the involvement of activist representatives is also central to the economics of union organization (Crouch, 1982).

Most unions are both subscription and volunteer organizations. They secure resources for collective action first by charging membership fees and second by encouraging members to become activists performing union duties without direct payment by the union. The balance between the two is an empirical question for any union, and it may vary over time. Offe and Wiesenthal distinguish between 'willingness to pay' and 'willingness to act' (1980, pp. 80-84). The union influences the former by setting the subscription level. 'Willingness to act' also depends on the opportunities offered by the union or by an employer to a prospective activist. Just as the union may affect the individual's decision to join by defining the balance between subscriptions and benefits, so it may affect the incentives to activists by offering activism opportunities and securing employer support (Turner et al, 2000). A corollary of this dual nature of union organization is that analysis of union financial systems reveals only part of the resources available for collective action (Willman et al, 1993).

Trade unions may be seen as using available resources to solve first and second order collective action problems (Elster, 1989). The first order problem is how to get employees to join the union. Unions may do this by affecting the payoff matrix faced by individual members. The members' payoff matrix depends on the balance between individual subscriptions and the individual, semi-collective and collective benefits on offer (Pencavel, 1971). This exchange must also make economic sense for the union. Thus, in order to provide such benefits the union must also solve the second order collective action problem of the costs of provision of collective organization. If all of the benefits to members (or penalties for non-membership) are provided by salaried union employees, the costs of organization become prohibitive. If all such costs fall on all members, the first and second order collective

action problems collapse onto each other. Activism is the normal second order solution. Hirschman (1970; p. 82) has argued that activism is based on the existence of a set of individuals for whom the benefits of involvement are the sum of, rather than the difference between, effort and outcome (i.e. enjoyment of activism enters the individual utility function), but the issue still arises that the union must provide incentives and opportunities both in the form of involvement opportunities and employer support. Loss of either results in a fall in activist supply (Turner et al, 2000).

The effective mobilization of collective action requires solution of the two collective action problems, reconciling the competing demands of the administrative and representative logics, rather than optimization of one. Over time, the balance between the two resource acquisition strategies may change, with implications for the effectiveness of union organization. In the empirical sections to follow, we examine this dynamic relationship.

#### 2. Data

The resources available to unions may be described in broad terms as on- and off- balance sheet. The on-balance sheet resources are those that appear in trade union financial reports and returns. In most cases they consist of subscription income, investment and other income, and assets including equity and bond holdings and property. Much union expenditure is on staff, who in turn constitute a major resource. The off-balance sheet resources are predominantly uncosted (by unions) inputs from employers and members. The employer inputs are facilities provision in the broadest sense including time off, relevant training, access to office and electronic support and expenses payments to union representatives. The member inputs embrace all unpaid (by the union) inputs of time and effort on union activity. It is worth noting that in volume terms the greater part of this off balance sheet resource is likely to come from a relatively small minority of members and that member inputs will depend to some degree on employer inputs. These resources quite closely correspond to outcomes from members' willingness to pay and willingness to act respectively.

British unions are required to make annual financial returns in standardized form to a government body, the Certification Office. The requirement has existed in approximately its current form since 1906. The data have been analyzed extensively for the period 1945-1990 (Roberts, 1954; Latta, 1970; Willman et al, 1993). National unions are required to submit details of income, expenditure and assets including all held in local branches in standardized form accompanied by an audited set of accounts<sup>1</sup>. There are penalties for non-compliance and a full return is normal. The data enter the public domain. It is thus possible to build up a full aggregate picture of on balance sheet resources.

There is no continuous series for off balance sheet resource but a picture of union resources at five points in time can be built up from the WERS establishment level surveys. After weighting, these are nationally representative surveys for workplaces with 25 or more employees containing rich data on workplace practices and any union activity taken from the manager responsible for human resources at the workplace.

Using the above broad approach and data sources it is possible to build up a picture of current resource deployment and changes in resources over time. The balance between on- and off-balance sheet resources is of particular interest. It may be possible to generate substantial organizing resource by considering policies towards off-balance sheet resource.

<sup>1</sup> The full requirements are specified in the Annual Reports of the Certification Office.

2

#### 3. On-Balance Sheet Resources

We consider the aggregate picture followed by differences between unions.

#### (i) Aggregate Picture

In the Britain, there is a long history of decline in the number of unions (Buchanan 1981), which predates by decades the decline in membership beginning in 1979. There is a shorter history of decline – at least since the mid 1950's – in financial resources such as reserves and solvency, also predating membership loss. In fact, the rapid expansion of union membership in the 1970's was associated with substantial reductions in union reserves (Willman et al, 1993, p. 13).

Table 1 presents Certification Office data on membership, the number of unions and financial measures in the aggregate for the UK for the more recent period 1990-2004. UK trade union membership is highly concentrated but there remain large numbers of relatively small unions. The largest unions in 2004 are the progeny by merger of the largest in 1980. New unions have formed but in this period none has grown to be large (i.e. over 100,000 members). Since many mergers have resulted in conglomerate unions with overlapping job territories (Willman, 1996; Bryson et al, 2004), it is possible that the fall in the number of unions has reduced congestion without reducing competition; i.e. although the number of choices a prospective member has of unions to join (or employers of unions to recognize) has declined, choice, and therefore competition for members, persists within a shrinking resource base.

Reduction in numbers has certainly not been associated with improvement in financial resources. Solvency, i.e. the margin of total income over total expenditure, averaged 1.03 across the period; the average for the period 1950-70 was 1. 4 and that for the membershiploss decade of the 1980's was 1.09. Similarly, reserves, expressed as multiples of annual expenditure, are at historic lows averaging 1.12 across this period compared with an average of 3.55 in the years from 1950-70 and 1.28 for the 1980s. The substantial volume of net exit from the union sector and the merger activity of the 1990's is not associated with improvements in resource availability and indeed the union movement which is seeking to revitalize itself in the early part of the 21<sup>st</sup> century following substantial membership loss in the late 20<sup>th</sup> century is financially weaker on these measures than it has been for at least 50 years.

Table 2 looks at a number of per capita (i.e. per member) measures across the period 1990-2004. Data for subscription income, expenditure, and net funds per capita are shown as an index based to 1990. All show a nominal increase across the period. Available data show that per capita subscriptions have been for some time a low but fairly stable percentage of average per capita earnings; since 1950 this has been between 0.3 and 0.4% (Willman et al, 1993, p.13.). There are also data for the post-war period to show consistent increases in real expenditure independent of membership changes (Willman et al, 1993, p.11).

The key points from the Table are as follows. First, subscriptions per capita have grown faster than average earnings across the period, albeit from a low base. However, increases in expenditure per capita are greater than both price and earnings increases, and this despite the reduction in the number of unions through merger activity. The FTSE figure in the final column is for illustration since in the absence of a breakdown of aggregate union assets by asset category its relevance may be questioned. However, it is worth noting that aggregate equity returns in the 1990's were greater than growth in union funds and that union assets per capita were insulated from the equity market crash of 2001.

#### (ii) Analysis by Union

Table 3 deals in a very summary way with variance measures for the largest Trade Union Congress (TUC)<sup>2</sup> affiliates (over 100,000 members) in 2004. These measures show first, that the largest affiliates have a structural deficit of membership income over total expenditure of over 11%. Highest levels of membership income are approximately £2 (\$ per week and the lowest less than £1 (\$ Solvency is maintained but by using investment and other income to balance the books. This position is slightly worse than that for large unions as a whole, since two unions outside the TUC - the Royal College of Nursing (nurses) and the British Medical Association (doctors) - included in the statistics, are financially rather different, being professional bodies as well as unions and having diversified revenues from other activities. Overall, reserves for this TUC set are less than one year's total expenditure. This picture is slightly better than that for 2003 but in its main features it characterizes all years in this century.

The table also indicates substantial variance in income and expenditure per member. In each case the maximum is more than twice the minimum. The most extreme variances are however on assets. The importance of these variances must be emphasized: whereas the solvency figures by union tend to vary on an annual basis, the income, expenditure and asset differences are enduring and indicate that among the top TUC affiliates by membership there are differences in income source, pricing and service levels reflecting enduring differences in business models.

There are no signs within this group of economies of scale; expenditure per member is not correlated with size. There is some evidence of competition; there are three competing teaching unions that all have below average income per member, even though their members are likely to be more highly paid than those of the large manual unions. Similarly, the three large general unions, TGWU, GMB and AMICUS - despite having highly diversified industrial coverage have overlapping job territories — have very different per capita expenditures. AMICUS has lower income, lower expenditure and a much higher margin of income over expenditure than the other two. One reason for this is that it has fewer paid officials per member.

An appropriate concept here is 'gearing' as applied to the study of professional service firms. Here, gearing refers to the ratio of officials to lay representatives (i.e. activists) to members. Unions that can service their members with a lower ratio of officials to members are likely to have higher numbers of activists. Put another way, activist reliance lowers on balance sheet cost but requires higher levels of off-balance sheet resource. We come back to this in conclusion after looking at off balance sheet resource.

#### 4. Off-balance Sheet Resources

This section uses WERS data to examine the resources available for union organisation within establishments. We take a longer view examining changes since the first survey in 1980, but putting most emphasis on changes in the period 1990-2004. The section looks first at employers then at lay representation.

We look at two forms of off balance sheet resource. The first is generated through relationships with employers and often underpinned by collective agreement. We refer to this as employer support, leaving aside for these purposes whether such resources were offered or

-

<sup>&</sup>lt;sup>2</sup> The TUC is the umbrella organization to which the majority of independent trade unions in Britain belong.

extracted by union pressure. The second, related form consists of workplace representation provided by activists who are not employees of the union.<sup>3</sup>

#### (i) Employer Support

#### Union recognition

Throughout the WERS series managers who say there are union members at the workplace have been asked whether any unions are recognised for negotiating pay and conditions of employment for any section of the workforce. This information is collected for each union. If negotiations take place at a higher level in an organisation, but apply to employees in the sampled establishment, the union is regarded as being recognised.

Union recognition for pay bargaining is the basis for union influence in the workplace. Although rights to represent members in grievance procedures and other matters are important, they rarely exist without the right to negotiate over pay (Millward, 1994, pp. 30-33). Recognition agreements and facilities may be considered as a resource, or at least the basis for organising resources.

Having remained more or less stable in the first half of the 1980s the percentage of workplaces recognising unions for pay bargaining fell from 66% to 53% between 1984 and 1990 (Table 4). This decline affected private services and manufacturing and the public sector. The decline continued during the 1990s; it stood at 42% in 1998. However, the decline in the 1990s was confined to the private sector and was largely accounted for by the lower rate of union recognition among new workplaces compared with workplaces that closed or shrank below the WERS 25+ employee threshold for survey inclusion. Millward et al (2000, p. 107) conclude: 'Employers in new and growing workplaces appear to have little sympathy with joint regulation with trade unions'.

In 2004 the recognition rate for the whole economy stood at 39%, a change that is not statistically significant compared with 1998.<sup>5</sup> Since 1998, the rate of recognition has been stable in the public sector, declined a little in private services and actually rose in private manufacturing. This rise in private manufacturing – which is statistically significant at a 90% confidence level - reverses two decades of decline. Although there has been a statutory recognition procedure in place since 1998, the legislation has played little direct role in these trends, but it may have played a more symbolic role in 'legitimising' employer support for unions (Moore, Wood and Ewing, 2003).

Multivariate analyses permit a closer look at factors associated with union recognition over time for workplaces with 25 or more employees (Appendix Table 1). The first column, which pools all the data for the period 1984-2004, shows a decline in union recognition since 1984 (the base year), indicated by negative and significant coefficients for surveys in 1990, 1998 and 2004. However, there is no significant difference in the coefficients for 1998 and 2004 indicating that, having controlled for compositional differences in workplaces, there was no significant decline in the rate of recognition between 1998 and 2004. Workplaces set up since 1980 are less likely to recognise unions than those set up before 1980, with the effect

-

<sup>&</sup>lt;sup>3</sup> The time-series survey data relate to workplaces with 25 or more employees. However, where figures are confined to 2004 they relate to workplaces with 10 employees or more.

<sup>&</sup>lt;sup>4</sup> Throughout union recognition refers to workplaces where the union is recognized by the employer for pay bargaining and there are members on site. The recognition rate is a little higher when including workplaces with unions recognized but without members on site but these data are only available for 2004 (Kersley et al, 2006).

<sup>&</sup>lt;sup>5</sup> Among workplaces with 10+ employees the recognition rate was 33% in 1998 and 27% in 2004, a statistically significant decline. The decline in union recognition since 1998 is therefore largely confined to workplaces with 10-24 employees, leading Kersley et al. (2005, p. 13) to conclude that the continual decline in union recognition rates in the 25+ workplace population 'appears to have been arrested'.

in 2004 similar to 1998. Factors increasing the probability of union recognition include being in the public sector or the Energy and Water sector, increased workplace size, and being part of a larger organization. There is no increased probability of union recognition in private manufacturing relative to the 'Other Services' base category in the 2004 model. Nor do the coefficients for the manufacturing sectors rise between 1998 and 2004. This suggests that the descriptive finding in Table 4 of a rise in recognition in manufacturing since 1998 is accounted for by other factors associated with private manufacturing. Workplaces in Distribution, Hotels and Catering are significantly less likely to have union recognition than other 'like' workplaces, a finding that persists over time.

One possible explanation for the decline in union recognition is compositional change in the population of workplaces. We can quantify this. With the composition of workplaces held at 1984, the rate of union recognition would have fallen to 58%, that is, a fall of 9 percentage points as opposed to the 28 percentage point drop actually experienced. This implies that one-third (32 percent) of the decline in union recognition in the whole economy can be accounted for by compositional change. The remainder might reasonably be attributed to changing employer tastes for union recognition.

However, there is an alternative hypothesis, which is that it is employees who have lost their taste for union membership. The percentage of workplaces with 25 or more employees with union members but without union recognition was 11%, a figure that has remained constant since 1990. However, the percentage of 25+ employee workplaces with no union members at all has risen from 36% in 1990 to 50% in 2004. We return to this issue below.

#### The closed shop and strong management support for membership

In the WERS surveys for 1980-1998, if managers said that some employees had to be members of a union to get or keep their jobs, a post-entry closed shop was said to exist. If new recruits had to be union members before they started work, then a pre-entry closed shop was said to exist. The closed shop started to decline at the beginning of the 1980s. Between 1980 and 1990, the proportion of unionised workplaces with a closed shop fell from 36 to 8% (Table 5). The closed shop was effectively outlawed at the beginning of the 1990s so it is not surprising that, by 1998, a mere 1% of workplaces recognising unions were maintaining a closed shop. The pre-entry closed shop had virtually disappeared: they were reported in less than 1% of unionised workplaces in 1998.

Employer endorsement of union membership may not differ substantially in practice from closed shop arrangements (Wright, 1996). Between 1984 and 1990, there was a small rise in the percentage of unionized workplaces with 25 or more employees where management endorsed membership (from 30 to 34%). However, management endorsement declined dramatically from 34 to 21% between 1990 and 1998. The decline was most marked in the private sector so that, by 1998, public sector establishments made up 86% of all those with management endorsement of union membership. Declining employer support for union membership among continuing establishments, and low levels of endorsement among new and growing workplaces, both contributed to dwindling managerial support for unions where they continued to operate during the 1990s.

This decline in the closed shop and employer support for membership were 'the main reasons for the fall in mean union density in unionized workplaces between 1984 and 1990' (Millward, et al, 2000, p. 150). However, they only accounted for a quarter of the decline in the 1990s, leading Millward, et al, (2000, p. 151) to conclude: 'Unions had not only lost the

<sup>&</sup>lt;sup>6</sup> Appendix Table 2 gives details.

support of managers...it was clear that, in the 1990s, they had also lost the support of many employees'.

The 2004 survey asks a different question of managers, namely "Do managers actively encourage union membership or union recruitment at this workplace?". Two-fifths (41%) of managers in workplaces recognizing unions answered 'yes' to this question. Support was strongest in the public sector, with 48% indicating strong support. Perhaps surprisingly, the rate of strong recommendation was 2.5 times higher in private services than in private manufacturing, a differential that was not apparent on the 'old' measure in 1998.

In addition the 1998 and 2004 surveys asked whether management's attitude towards union membership among employees was best described as in favour, not in favour or neutral. This question has the advantage of being asked of all respondents, whereas the endorsement question is confined to those with union members on-site. Management attitudes towards unionisation are less favourable in unorganised workplaces, but Figure 1 shows substantial neutrality – which might be indifference – to unionisation even within the union sector. Only 3% of managers in 2004 agreed with the statement: "managers actively discourage union membership or union recruitment at this workplace". 1% said a request for union recognition from workers at the establishment had 'not been granted' since 1998.

What is particularly intriguing about Figure 1 is the increase since 1998 in the percentage of private sector workplaces recognizing unions who said they were 'in favour' of union membership. Further investigation reveals this increase was confined to the private service sector. Here the percentage of workplaces recognizing unions where management was 'in favour' of membership rose from 47% in 1998 to 57% in 2004, which is statistically significant at a 90% confidence level. In private manufacturing the figures were 39% and 37% respectively. Despite this, the total percentage of private sector workplaces 'in favour' of union membership declined a little due to the increasing percentage of private sector workplaces that did not recognize unions in the 10+ workplace population. These non-unionized workplaces are much less likely to favour union membership.

#### Check-off

Managers can support union efforts to maintain their membership base by having a system for deducting union subscriptions from pay, commonly known as 'check- off'. This is advantageous to unions since it is a form of inertia selling that tends to reduce membership turnover (Willman et al 1993). This practice became increasingly common in the 1980s among workplaces recognising unions. In 1980, three-quarters (73%) had such an arrangement. This rose to 80% in 1984 and 86% in 1990. The trend was reversed in the 1990s so that, by 1998, 75% of workplaces with recognised unions had check-off. However, the decline in check-off in the 1990s was not a universal phenomenon. Although it was apparent in private services and the public sector, check-off actually became more common in private manufacturing. Whereas 77% of manufacturing workplaces with recognised unions had check-off in 1990, this rose to 93% in 1998.

In 1993, check-off arrangements became subject to individual authorisation by union members every three years.<sup>8</sup> Although this legislative change may have contributed to the decline between 1990 and 1998, analysis of the WERS 1990-98 panel suggests that

\_

<sup>&</sup>lt;sup>7</sup> This finding suggests that the rise in the percentage of private service sector unionized workplaces recommending union membership which is reported above may not simply be a function of the change in question wording. One possible explanation for this trend is that recognition has risen in private manufacturing but fallen in private services. It is possible that only those employers truly predisposed towards unionization are prepared to recognize unions in private services.

<sup>&</sup>lt;sup>8</sup> Under legislation contained in the 1993 Trade Union Reform and Employment Rights Act. This provision was subsequently repealed in 1998.

behavioural change within continuing workplaces did not contribute to the decline significantly, confirming expectations that the legislation would only have a modest impact on established check-off practices (Atkinson and Hillage, 1994). New workplaces with recognised unions were much less likely to have check-off arrangements.

The percentage of unionized workplaces with 25 or more employees with 'check-off' has remained constant since 1998 at 76%t of unionised workplaces in 2004. Sectoral trends differ. Between 1998 and 2004 check-off was roughly stable in private manufacturing (92 to 88%) and the public sector (77 to 73%) but rose in private services (64% to 77%).

#### (ii) Workplace Lay Representation

Between 1984 and 1990 the percentage of unionised workplaces with on-site representatives fell from 83% to 72% (Table 6). But there was no further fall in the 1990s. Since 1998 the percentage of recognised workplaces with on-site lay representatives has fallen by 10 percentage points concentrated in private manufacturing and the public sector. The decline is regardless of the number of recognised unions on-site, though in 2004 as in previous years, the probability of having an on-site representative rose with the number of on-site unions recognised.

The link between managerial support for unions and the presence of on-site representation is evident in the greater incidence of on-site representatives in the presence of a closed shop or check off or strong management recommendations of union membership. Even so, on-site representation is less common even in these circumstances than it was in 1998, raising questions about unions' capacity to deliver on-site representation even when employers are favourable to unions.

Full-time lay union representatives are an indication that management regards the role of the union as of central importance. As Table 4 shows, full-time representatives remain rare among workplaces with recognised unions. The change from 4 to 7% is not statistically significant and the results may best be interpreted as showing that full-time lay representatives became no rarer in unionised workplaces 1998-2004.

To establish which factors were independently associated with having an on-site lay union representative we ran multivariate analyses for the unionized sector (reported in full in Appendix Table 3). The first column, which pools all the data for the period 1984-2004, shows a decline in lay representation since 1984 (the base year), as indicated by negative and significant coefficients for surveys in 1990, 1998 and 2004. The coefficient for 2004 is statistically significantly lower than the 1998 coefficient at a 99% confidence level and is lower than the 1990 coefficient at a 90% confidence level. The 2004 coefficient implies that the probability of lay representation in unionised workplaces has fallen by 17% since 1984, controlling for other factors, in line with the descriptive analysis in Table 6 which shows a 25% decline. The multivariate analysis shows that unionised workplaces set up since 1980 are less likely to have on-site representatives than those set up before 1980, an effect that strengthens over time (as indicated by the increasing negative coefficients in the separate year regressions in columns 2-5).

The probability that a unionised workplace will have an on-site representative increases with workplace size, a relationship that has strengthened over time. The public sector is more likely to have on-site union representatives than the unionised private sector. In the pooled regression manufacturing sectors are more likely to have on-site representation than the 'Other Services' base category, but this is not apparent in the separate year regressions. The negative association with Construction is no longer apparent in 2004 while,

for the first time, Distribution, Hotels and Catering is positively associated with on-site representation in 2004 relative to 'Other Services'.<sup>9</sup>

Although Table 6 shows that only around 60% of unionised workplaces had an on-site lay representative in 2004, the mean number of lay representatives in unionised workplaces was 2, down from around 2.5 in 1990 (Table 7). The decline since 1998 is apparent in private manufacturing and the public sector, but not in private services. Throughout the period 1990-2004 the number has remained highest in private manufacturing, followed by the public sector, with private services last.

The lower half of Table 7 shows the mean number of union lay representatives among unionised workplaces with at least one lay representative on site. The decline in the mean number of representatives is less apparent here, with the number of representatives actually rising in private services. Together with Table 6's evidence on the incidence of any on-site lay representation, this suggests that the biggest difficulty facing unions is moving from none to at least one on-site lay representative, rather than increasing the number of lay representatives in recognised workplaces where there is already at least one representative in place.

#### (iii) A Summary Measure of Off-balance Sheet Support for Unions

To quantify the extent to which employer off-balance sheet support for unions may have declined since the early 1980s we constructed a variable (OFFBAL) running from 0 to 3, where the workplace scores '1' each time it has one of the following: check-off, management recommendation of membership or a closed shop, and an on-site union representative. The distribution of this variable is presented in Table 8. There is an increase in the percentage of unionised workplaces scoring zero or 1 on the scale – from one-fifth to over one-third of unionized workplaces over the period. At the same time the percentage of unionised workplaces scoring the maximum 3 has halved. The mean scores in the bottom row show a minor recovery since 1998. This is because, while check-off was constant over 1998-2004 and on-site lay representation fell, management support for membership rose. However, as reported earlier, the question relating to managerial support changed, which may account at least in part for this upswing.

The full models estimating factors associated with OFFBAL are presented in Appendix Table 4. They show a decline in managerial support since 1984 (the base year), as indicated by negative coefficients for surveys in 1990, 1998 and 2004. However, the 1998 and 2004 coefficients are not significantly different, indicating that controlling for other factors, off-balance sheet support for unions is no different in 2004 from 1998. Set up date itself is not significant, other than in the 1984 model. Off-balance sheet support rises with establishment size and in the public sector. The positive associations between off-balance sheet support, multi-site organizations, and lower proportions of both female workers and non-manual workers are no longer significant by 2004. The only industrial sector effect that is apparent in 2004 and relative to the base category of 'Other Services' is the positive association between off-balance sheet support and Distribution, Hotels and Catering.

Table 9 shows the effect of compositional change within the unionised sector 1984-2004. Column 1 shows the mean scores for OFFBAL for each year. We see that the mean declines by .41 points over the two decades (or 19% of the initial score, that is (1.78/2.19)-1). Nearly all of this (95%) is accounted for by within-group change, with only 5% due to

representation explained by the characteristics in the model is fairly low, ranging between one-sixth in 1984 and one-quarter in 2004.

9

<sup>&</sup>lt;sup>9</sup> Compositional change in the nature of unionised workplaces accounts for only around 5% of the decline in onsite lay representation over time. However, this figure is difficult to interpret since the variance in on-site lay

compositional change in the unionized sector. It seems that compositional change among workplaces matters much more in explaining whether or not employers recognise unions at all than it does in explaining variance in the amount of support employers give to already recognised unions.

#### 5. Summary and Conclusions

The resources available for union organisation exist on the one hand in the form of revenue and assets within the union and, on the other, in the resources provided by members as activists and employers as bargaining partners. The former have been in decline against several available measures for many years and the situation did not obviously get much worse in the 1990's. However, judged from the aggregate data alone, questions arise about expenditure control and asset management.

Subscription income moved slightly ahead of earnings, which might reflect several things. We suspect indexation of subscriptions is important as is better collection rates and a stabilisation of membership turnover. Expenditure ran ahead of prices, which is understandable in a service-based organisation, and ahead of earnings, which is not. Other things equal, the merger activity of the decade might be expected to generate scale economies (i.e. a reduction in per capita costs). It did not. It may be that, given the downward trend on 'off balance sheet' resource, unions are paying for a higher percentage of total organising activity than in the past. This is a serious issue, not just for unions but for many charitable organisations, that volunteer work is factored into viability but not accounted for.

We argue that a major pressure on union balance sheets is in fact a reduction in 'hidden' organising resource within establishments. We summarize the basis for this in Figure 2. The Figure shows across all of our data points two proxies each for on- and off-balance sheet resource. On balance sheet resource measured by solvency and reserves declines less substantially than the two off balance sheet indices, OFFBAL and membership. Solvency and reserves give a broad picture of the resources available to the formal union; the two off balance sheet members give a rough measure of current and potential supply of activism. The balance, we would argue, has shifted towards on balance sheet.

This may not be surprising. We have shown that British unions do not show economies of scale and that there is an endemic shortfall of subscription income over expenditure. We have also shown that there is little evidence of large scale withdrawal of employer recognition or facilities. Under these circumstances, membership loss may generate rises in on balance sheet resource per capita, but also rises in expenditure per capita as unpaid union activity declines.

However it is also evident from Figure 2 that off-balance sheet resource per capita is probably higher in 2004 than 1984. If this is the case then we must look for further explanations of the rising cost of dealing with union members. There may be several reasons; one may be that the decentralization of bargaining in the public sector where the majority of union members are has generated higher workloads in service provision (Bach and Given, 2004). This requires further research.

Finally, when one looks at the disaggregated on balance sheet picture, one sees massive performance variances in income, expenditure and assets- both levels and growth rates. This variance may result from patterns of variance in the decline of off balance sheet resources- i.e. those unions whose balance sheets have fared worse may have had to compensate for more off balance sheet loss. Unfortunately, we cannot put these data sets together in the aggregate. However it may also be that, despite their obvious roots in the specific circumstances of individual unions, these differences may reflect differences in

effectiveness of financial management systems. The corollary is that there may be models of good practice which could be adopted more effectively to deploy the resources that do remain available to the union movement.

#### References

- Atkinson, J. and Hillage, J. (1994) 'Employer Policies and Attitudes towards Check-Off', Manpower Commentary Series, p. 271.
- Bach, S. and Givan, R. K. (2004) 'Public Service Unionism in a Restructured Public Sector: Challenges and Prospects?', in John Kelly and Paul Willman, eds. *Union Organization and Activity*, London: Routledge, pp. 89-110.
- Buchanan, R. (1981) 'Union Concentration and the Largest Unions', <u>British Journal of Industrial Relations</u>, 19 (2), pp. 232-237.
- Bryson, A., Gomez, R. and Willman, P. (2004) 'The End of the Affair; the Decline in Employers' Propensity to Unionize', in John Kelly and Paul Willman, eds. *Union Organization and Activity*, London: Routledge, pp. 129-150.
- Certification Office (2006) *Annual Report of the Certification Office 2004-5*, London: Certification Office.
- Child, J., Loveridge, R. and Warner, M. (1973) 'Towards an Organisational Study of Trade Unions', <u>Sociology</u>, Vol 71, 1, pp. 71-91.
- Crouch, C. (1982) Trade Unions: The Logic of Collective Action, London: Pan.
- Elster, J. (1989) The Cement of Society, Cambridge: Cambridge University Press.
- Fiorito, J., Jarley, P. and Delaney, J. T. (1995) 'National Union Effectiveness in Organizing: Measures and Influences', <u>Industrial and Labour Relations Review</u>, 48, pp. 613-635.
- Hirschman, A. (1970) Exit, Voice and Loyalty, Cambridge: Harvard University Press.
- Kersley, B., Alpin, C., Forth, J., Bryson, A., Bewley, H., Dix, G. and Oxenbridge, S. (2005) Inside the Workplace: First Findings from the 2004 Workplace Employment Relations Survey (WERS 2004), DTI, ACAS, ESRC, PSI, London.
- Kersley, B., Alpin, C., Forth, J., Bryson, A., Bewley, H., Dix, G. and Oxenbridge, S. (2006) Inside the Workplace: Findings from the 2004 Workplace Employment Relations Survey, London: Routledge.
- Millward, N. (1994) The New Industrial Relations? London: Policy Studies Institute.
- Millward, N., Bryson, A. and Forth, J. (2000) All Change at Work, London: Routledge.
- Offe, C. and Wiesenthal, H. (1980) 'Two Logics of Collective Action: Notes on Social Class and Organizational Form', *Political Power and Social Theory*, 1, pp. 67-115.
- Pencavel, J. (1971) 'The Demand for Union Services: An Exercise', <u>Industrial and Labor Relations Review</u>, 24, 2, pp. 180-190.
- Turner, T., Flood, P. and Willman P. (2000), 'A Segmented Model of Union Participation', Industrial Relations, Vol. 36, 1, pp. 108-115.

- Webb, S. and Webb, B. (1907) *The History of Trade Unionism*, London: Longman, Green and Co.
- Willman, P. Morris, T. J. and Aston, B. (1993) *Union Business: Trade Union Organisation and Financial Reform in the Thatcher Years*, Cambridge: Cambridge University Press.
- Willman, P. (1996) 'Merger Propensity and Merger Outcomes among UK Unions, 1986-1995', <u>Industrial Relations Journal</u>, Vol.27:4, 1996, pp. 331-338.
- Wright, M. (1996) 'The Collapse of Compulsory Unionism? Collective Organisation in Highly Unionized British Companies, 1979-1991', <u>British Journal of Industrial Relations</u>, Vol. 34, 4, pp. 497-513.

Table 1
Union Structure and Financial Performance: All Unions 1990-2004

<b>Year Mer</b> (199	mbership 90 = 100)	<b>No of Unions</b> (1990 = 100)	Solvency (income/ expenditure)	Reserves (Total Funds/ expenditure)
1990	100	100	1.01	1.15
1991	96.7	95.7	1.04	1.11
1992	91.0	93.5	1.04	1.15
1993	88.3	88.9	1.02	1.14
1994ª	83.9	82.7	1.02	0.98
1995	81.9	79.3	1.02	1.08
1996	80.9	75.9	1.05	1.13
1997	79.5	72.1	1.06	1.14
1998	80.0	69.3	1.05	1.15
1999- 2000 <sup>b</sup>	80.5	68.4	1.04	1.16
2000- 2001	79.3	63.8	1.04	1.18
2001- 2002	79.0	61.6	1.02	1.12
2002- 2003	78.9	61.0	1.01	1.08
2003- 2004	77.1	60.4	0.99	1,06

Source: Certification Office returns.

#### Notes:

a. Affected by an 18 month return from UNISON following formation through merger.

b. Move from calendar to fiscal year.

Table 2

Per Capita Financial Performance: All Unions 1990-2004 (Indices 1990=100)

V	Income From Members	Average earnings	Expend -iture	CPI	Funds (Y.E.)	FTSE Index
<b>Year</b> 1990	100	100	100	100	100	100
1991	112.8	107.7	111.4	104.5	107.6	116.3
1992	125	114.2	119.0	107.2	119.8	132.8
1993	122	117.7	122.9	109.2	122.6	159.5
1994ª	155.5	122.1	152.9	112.4	131.4	143
1995	144.8	125.8	143.8	116.01	135.5	172.1
1996	149.7	130.4	144.7	118.9	143.2	192.1
1997	156.7	135.9	154.6	123.2	153.9	239.6
1998	158.9	142.9	158.4	126.6	159.5	274.4
1999- 2000 <sup>b</sup>	159.3	149.8	161.6	128.8	164	292.4
2000- 2001	172	156.5	171.6	132.6	177.1	290.3
2001- 2002	180.4	163.4	185.1	133.5	181.5	243.4
2002- 2003	184.6	169.3	192.6	137.4	182.3	162.9
2003- 2004	193.7	175.0	205.2	138.5	190.5	208.3

Source: Certification Office returns.

#### Notes:

a. Affected by an 18 month return from UNISON following formation through merger.

b. Move from calendar to fiscal year.

Table 3
TUC Affiliates Over 100,000 members, 2003-4

£ per annum

	Subs Income per member	•	Funds per member	Acid Test*	Solvency**
Max	104.54	115.25	272.0	2.36	1.12
Min	50.80	49.50	26.90	0.46	0.74
Ave	76.07	86.15	76.25	0.88	1.01
Min	50.80	49.50	26.90	0.46	0.74

Source: Certification Office returns.

Notes: \* Year End Funds/Total Expenditure

\*\* Total Income/ Total Expenditure

Table 4
% of workplaces with 25+ employees recognising unions, 1984-2004

	1984	1990	1998	2004
Manufacturing	56	44	28	37
Services	44	36	23	20
Public Sector	99	87	87	88
All	66	53	42	39

Source: Workplace Employment Relations Survey series, authors' calculations

Table 5
Incidence of the closed shop and management endorsement of union membership in unionised workplaces, by broad sector, 1980 to 2004

	1980ª	1984	1990 <sup>b</sup>	1998	2004 <sup>c</sup>
All establishments					
Closed shop	36	28	8	2	
Strong recommendation		30	34	21	 41
Private manufacturing					
Closed shop	46	33	15	7	
Strong recommendation		22	29	7	14
Private services					
Closed shop	38	27	7	1	
Strong recommendation		22	25	7	37
Public sector					
Closed shop	29	26	5	1	
Strong recommendation		37	42	31	48

Source: authors' own calculations. Figures for 1998 may differ a little from Millward et al, 2000, p. 147 due to a reworking of the weights for 1998.

Bases: all establishments with 25 or more employees recognising trades unions, excluding those with missing data.

#### Notes:

(a) Information on whether management strongly recommended union membership was not collected in 1980. (b) Missing data only affected a small number of cases in all years except 1990 when, due to a design fault in the questionnaire, 102 unweighted cases were inadvertently skipped around the question. In 1990 a further 34 cases did not answer the question. (c) The question wording was changed fundamentally in 2004. Managers were no longer asked about the presence of a closed shop while the definition of a 'strong recommendation' of membership is based on the new question: "Do managers actively encourage union membership or union recruitment at this workplace?"

Table 6
Presence of union lay representatives in unionised workplaces, 1980 to 2004

	1000 <sup>2h</sup>	100 th	1000	1000	00015
	1980 <sup>ab</sup>	1984 <sup>b</sup>	1990	1998	2004 <sup>c</sup>
All unionised workplaces					
Any on-site union representatives	79	83	72	72	62
Full-time union representatives	3	3	2	4	7
Broad sector					
Private manufacturing	86	98	90	92	70
Private services	69	69	59	58	56
Public sector	82	85	73	76	63
Over a male in					
Ownership	70	00	66	60	67
Single independent establishment	73	82	66	62 74	67 64
Branch of larger organisation	80	83	72	74	61
Workplace size					
25-49 employees	68	77	60	61	41
50-99 employees	83	84	72	71	75
100-199 employees	88	89	89	85	79
200-499 employees	97	95	93	91	90
500-999 employees	97	99	95 96	94	94
1000+ employees	98	98	98	9 <del>4</del> 95	94
1000+ employees	90	90	90	95	3 <del>4</del>
Number of recognised unions					
1			63	65	60
2			73	78	57
3 or more			80	78	74
3 of more			00	70	7 7
Check-off					
Yes	84	85	74	80	66
No	66	74	61	50	49
110	00	• •	0 1	00	10
Management support					
Closed shop	84	86	75	(94)	
Strong management recommendation of		88	83	73	66
union membership				-	-
No support		78	67	71	59

Source: Millward et al, 2000. Bases: all establishments with 25 or more employees recognising trades unions, excluding those with missing data.

#### Notes:

(a) Information on whether management strongly recommended union membership was not collected in 1980. (b) In 1980 and 1984 information on manual and non-manual unions was collected in separate sections of the questionnaire. Combining these data may result in 'double counting' some unions. Since we can not estimate the extent of this problem we have not presented figures for these two years. (c) The question wording for 'strong recommendation' was changed fundamentally in 2004. Managers were no longer asked about the presence of a closed shop while the definition of a 'strong recommendation' of membership is based on the new question: "Do managers actively encourage union membership or union recruitment at this workplace?"

Table 7

Mean number of on-site union lay representatives in unionized workplaces, 1990-2004

	1990	1998	2004
All recognised workplaces	2.5	2.6	2.0
Private manufacturing	3.9	5.5	3.0
Private services	1.2	1.5	1.5
Public sector	2.8	2.6	2.0
All recognised workplaces			
with at least one on-site rep	3.5	3.6	3.2
Private manufacturing	4.3	6.0	4.3
Private services	2.1	2.5	2.8
Public sector	3.9	3.4	3.3

Note: population is workplaces with 25+ employees.

Table 8: The Distribution of Off-balance Sheet Support for Unions, 1984-2004

Score	1984	1990	1998	2004
0	4	3	10	8
1	16	21	22	28
2	35	46	58	41
3	45	30	11	23
Mean	2.19	1.98	1.69	1.78

Note:

Figures are column percentages of all unionized workplaces, with means presented in the last row.

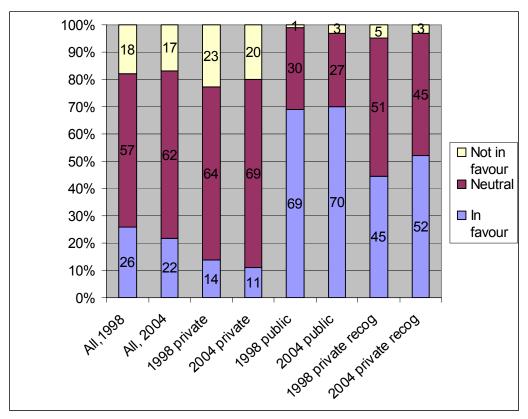
Table 9
Effect of Compositional Change on Off-balance Sheet Support for Unions, Whole Unionized Sector, 1984-2004

Year	Actual OFFBAL mean score	Change in Score compared with 1984	Score with composition al change only	Impact of composition al change	Impact of within-group change
1984	2.19	-	-	-	-
1990	1.98	21	2.20	+.01	22
1998	1.69	50	2.14	05	45
2004	1.78	41	2.17	02	39

20

Figure 1

Management Attitudes to Union Membership at their Workplace 1998-2004

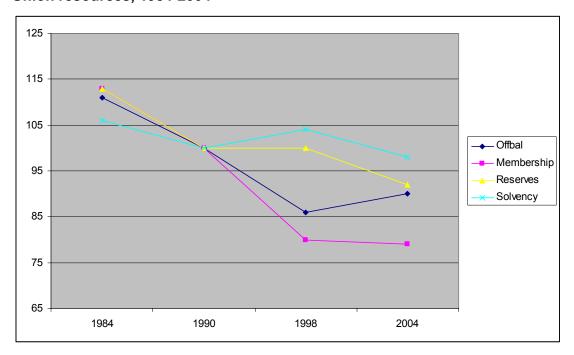


Source: WERS98 and WERS04, workplaces with 10+ employees.

#### Notes:

Managerial respondents were asked: 'How would you describe management's general attitude towards trade union membership among employees at this establishment? Is management... in favour of trade union membership, not in favour of it, or neutral about it?'

Figure 2 Union resources, 1984-2004



Using indices where 1990=100.

#### Appendix Table 1

#### **Union Recognition**

	(1) Pooled	(2) 1984	(3) 1990	(4) 1998	(5) 2004
Industry (ref=other	services)				
Energy/water	0.196	-0.001	0.349	0.474	0.495
	(4.25)**	(0.01)	(4.00)**	(8.19)**	(6.20)**
Minerals, chemicals etc.	0.090	-0.026	0.151	-0.022	0.269
	(1.58)	(0.28)	(1.45)	(0.28)	(1.82)
Metal goods, engineering	-0.035	-0.004	-0.068	-0.069	0.012
gg	(0.93)	(0.05)	(0.85)	(1.10)	(0.15)
Other manufacturing	0.069	0.064	0.012	0.093	0.118
<u> </u>	(1.87)	(0.82)	(0.15)	(1.38)	(1.42)
Construction	0.009	-0.058	0.039	0.074	-0.018
	(0.19)	(0.66)	(0.40)	(0.73)	(0.24)
Distribution, hotels, catering, etc.	-0.126	-0.071	-0.147	-0.157	-0.141
010.	(4.71)**	(1.14)	(2.45)*	(3.14)**	(3.19)**
Transport and communication	0.095	0.068	0.100	0.068	0.138
	(2.93)**	(1.16)	(1.57)	(1.08)	(2.14)*
Banking, finance etc.	0.023	0.069	0.030	0.025	-0.009
	(0.75)	(1.01)	(0.44)	(0.50)	(0.14)
public	0.452	0.464	0.383	0.474	0.525
	(19.09)**	(9.53)**	(7.17)**	(10.06)**	(12.14)**
Establishment size			1 \ /	/	1 \ /
50-99	0.026	0.042	0.046	0.031	-0.024
	(1.55)	(1.22)	(1.23)	(1.00)	(0.78)
100-199	0.119	0.123	0.082	0.168	0.096
	(6.51)**	(3.69)**	(2.25)*	(4.96)**	(2.42)*
200-499	0.210	0.132	0.220	0.277	0.219
	(11.07)**	(3.91)**	(5.58)**	(7.89)**	(5.41)**
500-999	0.212	0.182	0.210	0.315	0.172
	(9.61)**	(5.33)**	(4.74)**	(6.78)**	(3.44)**
1000+	0.257	0.237	0.223	0.316	0.257
	(12.50)**	(7.42)**	(5.59)**	(6.27)**	(6.38)**
Foreign owned	-0.094	-0.001	-0.054	-0.182	-0.068
	(3.32)**	(0.02)	(0.81)	(4.39)**	(1.58)
Single site organisation	-0.221	-0.192	-0.246	-0.189	-0.251
	(11.22)**	(4.03)**	(6.17)**	(5.41)**	(7.71)**
Set up post-1980	-0.098	0.008	-0.149	-0.085	-0.074
	(5.63)**	(0.13)	(4.20)**	(2.94)**	(2.53)*
% female	-0.031	-0.089	-0.024	-0.005	-0.013
	(0.81)	(1.14)	(0.32)	(0.07)	(0.17)
% part-time	-0.024	-0.029	-0.154	0.073	-0.031
	(0.58)	(0.28)	(1.65)	(0.85)	(0.50)
% non-manual	-0.069	-0.157	-0.097	-0.036	-0.013
	(3.09)**	(3.08)**	(1.82)	(0.96)	(0.35)
Year surveyed (ref					
WERS1990	-0.084				
·	(3.97)**				
WERS1998	-0.133				
	(6.28)**				
WERS2004	-0.145				
<del></del>	(6.61)**				
Constant	0.567	0.617	0.565	0.360	0.371
	(15.34)**	(8.69)**	(6.93)**	(6.10)**	(5.03)**
Observations	6906	6906	6906	6906	6906
R-squared	0.39	0.32	0.32	0.41	0.44

Appendix Table 2
Effect of Compositional Change on Union Recognition, Whole Economy, 1984-2004

Year	Actual union	Rate compared	Rate with	Impact of	Impact of
	recognition rate	with 1984	compositional	compositional	within-group
			change only	change	change
1984	67	-	67	0	0
1990	51	-16	62	-5	-11
1998	41	-26	59	-8	-18
2004	39	-28	58	-9	-19

Appendix Table 3
On-Site Union Lay Representation, 1984-2004

	Pooled	1984	1990	1998	2004
Industry (ref=other se	ervices)				
Energy/water	-0.004	-0.048	0.012	0.062	0.212
	(0.05)	(0.48)	(0.08)	(0.52)	(1.42)
Minerals, chemicals etc.	0.133	0.110	0.229	0.153	0.080
	(1.91)	(1.64)	(2.51)*	(1.91)	(0.32)
Metal goods, engineering	0.131	0.113	0.148	0.151	0.066
	(2.56)*	(1.72)	(1.35)	(1.40)	(0.53)
Other	0.136	0.120	0.102	0.141	0.091
manufacturing					
	(2.50)*	(1.79)	(0.99)	(1.33)	(0.52)
Construction	-0.334	-0.519	-0.334	-0.385	-0.025
	(5.04)**	(5.11)**	(2.52)*	(4.02)**	(0.15)
Distribution, hotels, catering, etc.	0.049	-0.028	0.115	-0.159	0.290
	(0.92)	(0.33)	(1.14)	(1.56)	(2.27)*
Transport and communication	0.033	-0.002	-0.094	0.038	0.169
	(0.78)	(0.03)	(1.14)	(0.47)	(1.46)
Banking, finance etc.	-0.057	-0.261	0.161	-0.026	-0.036
	(1.13)	(3.07)**	(1.53)	(0.30)	(0.32)
public	0.148	0.079	0.249	0.141	0.141
P *******	(4.08)**	(1.45)	(3.33)**	(2.14)*	(1.97)*
Establishment size (re			(0.00)	(2.11)	(1.01)
50-99	0.091	0.039	0.077	0.068	0.297
	(3.29)**	(1.03)	(1.31)	(1.20)	(4.47)**
100-199	0.201	0.097	0.226	0.226	0.346
100-133	(7.75)**	(3.02)**	(4.36)**	(4.14)**	(4.99)**
200-499	0.234	0.089	0.279	0.254	0.439
200-433	(9.23)**	(2.82)**	(5.43)**	(4.93)**	(7.02)**
500-999	0.255	0.117	0.316	0.270	0.473
300-333	(9.90)**	(3.83)**	(5.86)**	(5.12)**	(7.56)**
1000+	0.271	0.120	0.309	0.269	0.516
1000+	(11.36)**	(4.54)**	(6.24)**	(5.58)**	(8.80)**
Foreign owned	-0.023	-0.026	0.077	-0.075	-0.090
roreigh owned	(0.45)	(0.44)	(0.76)	(0.98)	(0.77)
Single site	0.43)	-0.024	0.080	-0.087	0.012
organisation					
	(0.28)	(0.49)	(1.09)	(1.22)	(0.11)
Set up post-1980	-0.078	0.071	-0.010	-0.097	-0.191
	(2.57)*	(1.38)	(0.17)	(1.70)	(3.63)**
% female	-0.204	-0.147	-0.108	-0.377	-0.126
	(3.38)**	(1.76)	(0.88)	(2.88)**	(0.80)
% part-time	-0.132	-0.153	-0.513	0.152	-0.192
	(1.71)	(1.20)	(3.31)**	(0.94)	(1.10)
% non-manual	0.032	0.082	-0.164	0.079	0.044
	(0.78)	(1.15)	(1.86)	(0.97)	(0.46)
Year surveyed (ref=1984)					
WERS1990	-0.098				
	(3.48)**				
WERS1998	-0.065				
	(2.31)*				
WERS2004	-0.168				
	(4.81)**				
Constant	0.762	0.834	0.698	0.718	0.463
	(13.76)**	(10.14)**	(6.40)**	(7.45)**	(3.66)**
Observations	4401	1444	1086	1059	812
R-squared	0.19	0.18	0.22	0.19	0.25

Appendix Table 4
Off-Balance Sheet Support for Unions

	Pooled	1984	1990	1998	2004
Industry (ref=other	services)	•			•
Energy/water	0.198	0.225	-0.226	0.203	0.355
	(2.12)*	(1.95)	(1.04)	(1.09)	(1.84)
Minerals,	0.162	0.206	0.207	0.319	-0.189
chemicals etc.	0.102	0.200	0.201	0.010	0.100
Onemiouio etc.	(1.04)	(1.10)	(1.03)	(2.00)*	(0.41)
Metal goods,	0.023	-0.111	-0.264	0.318	0.069
engineering	0.023	-0.111	-0.204	0.510	0.009
engineering	(0.22)	(0.66)	(1.18)	(1.98)*	(0.36)
Other	0.218	0.100	-0.066	0.351	0.365
	0.210	0.100	-0.000	0.331	0.303
manufacturing	(2.18)*	(0.63)	(0.20)	(0.26)*	(4.07)
0		(0.63)	(0.32)	(2.36)*	(1.27)
Construction	-0.537	-0.948	-0.564	-0.691	0.187
<b>5</b> 1	(3.99)**	(4.13)**	(2.19)*	(3.42)**	(0.84)
Distribution,	0.243	0.104	0.166	0.003	0.514
hotels, catering,					
etc.					
	(2.64)**	(0.68)	(0.94)	(0.01)	(2.14)*
Transport and	0.143	0.327	-0.241	0.024	0.281
communication					
	(1.83)	(2.84)**	(1.58)	(0.19)	(1.44)
Banking, finance	0.017	-0.125	0.214	-0.126	0.043
etc.					
	(0.19)	(0.79)	(1.12)	(0.92)	(0.19)
Public sector	0.438	0.370	0.438	0.505	0.320
	(6.90)**	(3.43)**	(3.06)**	(4.31)**	(2.35)*
Establishment size			(0.00)	1 ()	(2.00)
50-99	0.100	0.029	0.131	0.111	0.303
00-00	(1.88)	(0.35)	(1.33)	(1.13)	(2.19)*
100-199	0.282	0.185	0.363	0.268	0.439
100-133	(5.37)**	(2.37)*	(3.77)**	(2.77)**	(3.27)**
200 400					
200-499	0.413	0.279	0.566	0.305	0.604
	(8.21)**	(3.50)**	(5.87)**	(3.54)**	(4.96)**
500-999	0.505	0.475	0.610	0.227	0.816
	(9.43)**	(5.58)**	(5.79)**	(2.50)*	(6.89)**
1000+	0.571	0.617	0.570	0.366	0.718
	(10.59)**	(7.17)**	(5.55)**	(3.53)**	(6.09)**
Foreign owned	-0.096	-0.203	0.115	0.162	-0.222
	(0.93)	(1.44)	(0.73)	(1.57)	(1.11)
Single site	-0.177	-0.304	-0.013	-0.239	-0.147
organisation					
	(2.27)*	(2.30)*	(0.09)	(1.90)	(0.89)
Set up post-1980	-0.017	0.335	-0.003	-0.143	-0.065
	(0.28)	(2.63)**	(0.03)	(1.22)	(0.61)
% female	-0.403	-0.165	-0.454	-0.498	-0.257
,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(3.38)**	(0.94)	(1.95)	(2.03)*	(0.79)
% part-time	-0.142	-0.689	-0.373	0.145	0.083
/v part-time	(0.98)	(2.79)**	(1.22)	(0.47)	(0.26)
0/ non marrial					
% non-manual	-0.194	-0.388	-0.492	-0.128	0.088
	(2.54)*	(2.98)**	(3.66)**	(0.78)	(0.54)
· ·			1	•	
Year surveyed					
(ref=1984)					
	-0.175				
(ref=1984) WERS1990	(3.31)**				
(ref=1984)	(3.31)**				
(ref=1984) WERS1990	(3.31)**				
(ref=1984) WERS1990 WERS1998	(3.31)** -0.436 (7.82)**				
(ref=1984) WERS1990 WERS1998	(3.31)** -0.436 (7.82)** -0.344				
(ref=1984) WERS1990 WERS1998 WERS2004	(3.31)** -0.436 (7.82)** -0.344 (5.02)**	2 329	2 178	1 647	1 386
(ref=1984) WERS1990	(3.31)** -0.436 (7.82)** -0.344 (5.02)** 2.114	2.329	2.178	1.647	1.386
WERS1990 WERS2004	(3.31)** -0.436 (7.82)** -0.344 (5.02)**	2.329 (13.25)**	2.178 (11.01)** 1086	1.647 (11.48)** 1059	1.386 (7.16)** 812

### CENTRE FOR ECONOMIC PERFORMANCE Recent Discussion Papers

767	Anthony J. Venables	Shifts in Economic Geography and their Causes
766	Guy Michaels	The Long-Term Consequences of Regional Specialization
765	Fabrice Murtin	American Economic Development Since the Civil War or the Virtue of Education
764	Carlo Rosa Giovanni Verga	The Impact of Central Bank Announcements on Asset Prices in Real Time: Testing the Efficiency of the Euribor Futures Market
763	Benjamin Aleman- Castilla	The Effect of Trade Liberalization on Informality and Wages: Evidence from Mexico
762	L. Rachel Ngai Roberto M. Samaniego	An R&D-Based Model of Multi-Sector Growth
761	Mariano Bosch	Job Creation and Job Destruction in the Presence of Informal Labour Markets
760	Christian Hilber Frédéric Robert-Nicoud	Owners of Developed Land Versus Owners of Undeveloped Land: Why Land Use is More Constrained in the Bay Area than in Pittsburgh
759	William Nickell	The CEP-OECD Institutions Data Set (1060-2004)
758	Jean Eid Henry G. Overman Diego Puga Matthew Turner	Fat City: the Relationship Between Urban Sprawl and Obesity
757	Christopher Pissarides	Unemployment and Hours of Work: the North Atlantic Divide Revisited
756	Gilles Duranton Henry G. Overman	Exploring the Detailed Location Patterns of UK Manufacturing Industries Using Microgeographic Data

755	Laura Alfaro Andrew Charlton	International Financial Integration and Entrepreneurship
754	Marco Manacorda Alan Manning Jonathan Wadsworth	The Impact of Immigration on the Structure of Male Wages: Theory and Evidence from Britain.
753	Mariano Bosch William Maloney	Gross Worker Flows in the Presence of Informal Labour Markets. The Mexican Experience 1987- 2002
752	David Marsden	Individual Employee Voice: Renegotiation and Performance Management in Public Services
751	Peter Boone Zhaoguo Zhan	Lowering Child Mortality in Poor Countries: the Power of Knowledgeable Parents
750	Evangelia Vourvachaki	Information and Communication Technologies in a Multi-Sector Endogenous Growth Model
749	Mirko Draca Raffaella Sadun John Van Reenen	Productivity and ICT: A Review of the Evidence
748	Gilles Duranton Laurent Gobillon Henry G. Overman	Assessing the Effects of Local Taxation Using Microgeographic Data
747	David Marsden Richard Belfield	Pay for Performance Where Output is Hard to Measure: the Case of Performance Pay for Teachers
746	L Rachel Ngai Christopher A. Pissarides	Trends in Hours and Economic Growth
745	Michael White Alex Bryson	Unions, Job Reductions and Job Security Guarantees: the Experience of British Employees
744	Wendy Carlin Andrew Charlton Colin Mayer	Capital Markets, Ownership and Distance

The Centre for Economic Performance Publications Unit Tel 020 7955 7673 Fax 020 7955 7595 Email <a href="mailto:info@cep.lse.ac.uk">info@cep.lse.ac.uk</a> Web site http://cep.lse.ac.uk