

Abstract

Purpose: The literature on the union wage premium is among the most extensive in labour economics but unions' effects on other aspects of the wage-effort bargain have received much less attention. We contribute to the literature through a study of the union premium in paid holiday entitlements.

Design/methodology: We examine the size of the union premium on paid holidays over time, with a particular focus on how the premium was affected by the introduction of a statutory right to paid holidays. Our data come from nationally representative surveys of employees and workplaces.

Findings: We find that the union premium on paid holidays is substantially larger than the union premium on wages. However, the premium fell with the introduction of a statutory minimum entitlement to paid leave.

Originality/value: Ours is the first study to examine explicitly the interaction between union representation and the law in this setting. Our findings indicate the difficulties that unions have faced in protecting the most vulnerable employees in the UK labour market. We argue that the supplanting of voluntary joint regulation with statutory regulation is symptomatic of a wider decrease in the regulatory role of unions in the UK.

1. INTRODUCTION

Empirical studies of the impact of trade unions on the terms and conditions of employment have been one of the mainstays of labour economics for decades. Yet their scope is surprisingly limited, with the vast majority focusing on a single facet of the reward package, namely the hourly wage. A recent review of the evidence on this particular issue suggests that unions do still typically deliver a wage premium, at least in the US and UK, but that this premium has declined in magnitude in recent years (Bryson, 2014).

The hourly wage is, however, only one consideration in determining the value of an employee's overall compensation package. Many employees receive various forms of non-wage compensation or 'fringe benefits' in addition to their monetary wage and giving employees an entitlement to paid holidays may be viewed as one form of such compensation, alongside health insurance or sick pay. Alternatively, one may see it on the effort side of the bargain – as a reduction in the total number of hours an employee must work each year. Either way, empirical studies of union effects on this particular aspect of reward have been scarce. We are aware of only two published in the last decade: Faikh's (2014) study for Canada and Goerke et al's (2015) study for Germany.¹

We contribute to this literature through a study of the union premium in paid holiday entitlements in the UK over the period 1994-2017. Ours is the first study to provide estimates of the size of the union premium in the UK after 1998, and is the first to examine how any such premium was affected by the introduction of a minimum right to paid holidays in the late 1990s, and the extension of this right in the late 2000s. Our data come from a nationally representative survey of employees – the UK's *Quarterly Labour Force Survey* (ONS and NISRA, 2017) – and a nationally-

¹ Strictly speaking, however, Goerke et al's study is one of take-up rather than entitlement.

representative survey of workplaces – the British *Workplace Employment Relations Survey* (Department for Business Innovation and Skills et al, 2014).

We find that there is a trade union premium on paid holiday entitlements in the UK in 2017. When we compare the size of this holiday premium with the size of the union wage premium, we find that the holiday premium is proportionately around three times as large when estimated via directly-equivalent methods; however, it is of lesser value in monetary terms. Whilst we cannot claim that our results represent a causal effect of unions on paid holidays, our results are in line with theory and with other evidence of the positive effect of unions on terms and conditions.

When we examine how the union holiday premium has changed over time, we find that the introduction of a statutory right to paid holidays, via the Working Time Regulations, led to a small reduction in the size of the union holiday premium, primarily because the Regulations reduced the share of non-union workers who received no paid holiday entitlement at all. Ours is the first study to examine explicitly the interaction between union representation and the law in this setting, and our findings indicate the difficulties that unions have faced in protecting the most vulnerable employees in the UK labour market. We argue that the supplanting of voluntary joint regulation with statutory regulation is symptomatic of a wider decrease in the regulatory role of unions in the UK.

The paper proceeds as follows. Section 2 sets out the theoretical reasons as to why one might expect unions to affect the provision of paid holidays and also reviews the existing evidence. Section 3 outlines the policy context surrounding holiday entitlements in the UK. Section 4 describes our data sources and estimation methodology. Section 5 presents our results and Section 6 concludes.

2. THEORY AND PRIOR EVIDENCE

Theory suggests that unions might affect the provision of paid holidays in two ways. The first arises if unions have some monopoly over the labour supplied to a firm and seek to utilise this power to increase the provision of paid holidays above the market-clearing rate, in the same way as they might for the pecuniary element of the overall compensation package. The second route arises if unions use their collective voice to bring about a change in the balance of compensation in favour of greater paid holiday entitlements (perhaps at the expense of money wages). Such an outcome may occur if unions follow a median voter model, in which they seek to persuade the employer to meet the preferences of the average member, rather than those of the employee on the margin of quitting the firm.²

Evidence of whether unions do in fact raise the provision of paid holidays is sparse. Freeman and Medoff (1984) were the first to study the union holiday premium: their results were quite equivocal. They found no association between unionisation and the probability that a firm gave a non-zero entitlement to holidays, but they did find that, among firms making some provision, unionised firms spent more (thus implying higher levels of vacation pay). In individual-level data (from the 1977 Quality of Employment Survey), they found that unionised blue-collar workers actually had a lower probability of receiving paid vacations than similar, non-union workers. Subsequent investigations have been universal in finding positive union premia, however.

Green and Potepan (1988) used data from the 1979 US Panel Study of Income Dynamics (PSID) and found that union membership had a substantial positive influence on the length of paid holidays for US workers, ranging from +11 per cent for those with 1-2 years' tenure to +42 per cent for those with 15 or more years' tenure. They used this result – in conjunction with the

² The demographics of union membership and employee turnover suggest that the average member is likely to be somewhat older than the marginal employee; they may thus favour additional leisure time with family over a higher money wage.

relatively low rate of unionisation in the US – to help explain why the average amount of paid holiday in the USA was lower than the average in Europe at the time. Altonji and Ursui (2007) subsequently used PSID data for the period 1975-91 and, again, found a positive union membership premium on the length of paid holidays for the USA.

Green (1997) was the first to study the impact of unions on employees' entitlements to paid holidays in Britain. Using data from the UK's Quarterly Labour Force Survey (QLFS) 1993, he estimated that the average employee was more likely to have some paid holiday entitlement in a unionised workplace than in a non-union one and, conditional on receiving some paid holiday, received an entitlement that was 2.5-4.5 days longer (implying that the average non-union employee worked around 1-2% longer each year). The union premia equated to between 13 per cent and 26 per cent, depending on gender and manual/non-manual status and were thus substantially larger than estimates of the union wage premium at the time.

The situation in Britain was subsequently studied again using individual-level data by Bryan (2006) and using workplace-level data by Budd (2004). In common with Green, Bryan used data from the QLFS, but focused on the year 1997, just prior to the introduction of the Working Time Regulations (WTR). He showed that, among full-time employees, having your pay and conditions subject to an agreement between your employer and a union was associated with an additional holiday entitlement of 1.6 days on average, after controlling for other factors. Budd's study used data from the 1998 Workplace Employee Relations Survey (WERS), conducted at the onset of the WTR, and found that workplaces that recognised unions were 18 percentage points more likely than non-recognised workplaces to offer at least four weeks of paid annual leave.

The most recent study of the union premium on holiday entitlements, prior to our own, is that of Fakhri (2014) using linked employer-employee data for Canada from 2005. Although the union premium on paid holidays was not the main focus of the study, Fakhri showed that employees

covered by a collective bargaining agreement enjoyed an additional one day of paid holiday entitlement, on average, when compared with employees not covered by union bargaining.

These studies estimate the direct effect of union representation via comparisons between union members and non-members, or between those employees who are covered by collective bargaining and those who are not. Unions can affect provision in other, indirect ways, however. First, their actions in unionised firms may have a threat effect on provision in non-union firms, if the latter raise their employees' holiday entitlements to dampen the desire for union organisation. Second, unions may lobby for regulation that introduces minimum standards. The former arises from a position of union strength, and the latter arguably from a position of relative weakness (since unions in the UK have traditionally preferred voluntary to statutory forms of regulation). However, both have the potential to raise entitlements outside unionised workplaces, implying that the full effects of unions on holiday provision may be larger than has typically been estimated. These broader effects are, nevertheless, difficult to quantify.

Finally, Budd (2004) notes that there may be a 'facilitation' effect of unions on employees' awareness of their entitlements to paid holidays. Non-awareness of rights to paid holidays is still an issue in the UK some 20 years after the introduction of the WTR (Metcalf, 2018) and survey evidence points to the positive role that unions can play in raising employees' general awareness of employment rights (Fevre et al, 2009: 14-16). This may have two implications. First, it may mean that non-union employees are more likely to under-report their true entitlements in response to survey enquiries (thus potentially biasing the observed union premium upwards). Second, it could imply that non-union employees are less likely to take holidays from work (since they may be less aware that such time should be paid by their employer). Goerke et al (2015) find that union members in Germany take almost one extra day of holiday per year than non-members (a premium of around 3 per cent). There are no equivalent studies for the UK, however, since UK surveys focus on entitlements rather than actual take-up.

We examine entitlement to paid holidays, using data from the QLFS (as previously used by Green (1997) and Bryan (2006)) and WERS (as previously used by Budd (2004)). In each case, we look beyond a single year of data, both to deliver evidence on the magnitude of any union premium at the latest-available time point and to examine changes in the premium over time. Ours is the first study to provide estimates of the size of the union premium in the UK after 1998, and the first to examine how any such premium was affected by the introduction (and subsequent extension) of a minimum right to paid holidays in the UK. We focus on the effect of workplace unionisation, ignoring the broader effects that may occur via lobbying and the like, although we comment briefly on those in the conclusion.

3. POLICY CONTEXT

Before going further, it is worth pausing to outline the context around union representation and the provision of paid holidays in the UK.

The UK operates a largely voluntarist system of employee representation in which unions' bargaining power *vis a vis* employers is largely predicated on a strong membership base within individual organisations. Though some sectoral bargaining persists, it is rare, meaning that few employees benefit from collective bargaining unless their employer has agreed to enter into direct negotiations with a union that has recruited members among the employer's workforce (termed 'union recognition'). The introduction of a statutory right to union recognition in 1999 has had a limited effect on the coverage of collective bargaining, since it is predicated on the union being able to demonstrate that it has employees' support, but unions have found it difficult to organise outside their traditional areas of strength (Kersley et al., 2006: 117-122) There are no 'free-rider' provisions which would compel employees covered by collective bargaining to join a union.

In the absence of a collective agreement, the terms and conditions governing an employee's job are thus typically the subject of negotiation between the employer and the individual employee, with the necessary caveat that legislation sets down minimum standards in specific areas.

Employees' entitlements to paid holidays are governed in the UK by the Working Time Regulations. These regulations stem from the European Working Time Directive and entered UK law on 30th July 1998 under the Labour government of Tony Blair. The provisions within the regulations came into force on 1st Oct 1998, at which point employees in the UK enjoyed a legal right to paid holidays for the first time. The regulations initially entitled a worker to three weeks of paid leave in 1998, increasing to four weeks in 1999. The four weeks equated to 20 days for a full-time worker working five, six or seven days per week, and comprised 12 working days plus the eight statutory bank holidays. Part-time employees were covered by a pro-rata arrangement, which, in simple terms, equated to 4 days for each day that the employee worked each week; someone working three days per week would thus receive an annual entitlement of 12 days.³ Whilst a derogation enabled employees in the UK to opt-out of other aspects of the regulations – specifically the 48-hour limit on weekly working hours – there was no such provision for employees to opt out of the entitlement to paid holidays.

After being lobbied to exclude the eight bank holidays from the statutory entitlement, the Labour government of Gordon Brown later enacted the Working Time (Amendment) Regulations 2007. These increased the minimum entitlement for full-time staff to 24 days from 1st Oct 2007 (or 4.8 days for each day worked, again up to a maximum of 5 days per week). The entitlement rose again to 28 days on 1st April 2009 (5.6 days per weekday worked).

³ The exact amount of leave entitlement in this introductory period, and when exactly coverage began for particular workers, depended on the timing of firms' leave years. The regulations excluded various transport sectors, work at sea, trainee doctors, and parts of the armed forces and police.

The Labour Party, now in opposition, has recently repeated a call – first made in its 2017 General Election campaign – for four extra bank holidays.⁴ If enacted, this would raise the minimum entitlement still further, to 32 days for a full-time worker.

4. DATA AND METHODS

The UK Quarterly Labour Force Survey

The QLFS is a quarterly general population survey of around 40,000 households, focusing on the labour market status and activities of each household member. The survey is administered by the UK's Office for National Statistics and provides many of the UK's official indicators of labour market activity. We use survey data from employees in Britain aged 18-74 who hold a permanent contract, giving us an annual sample of around 20,000 employees. Younger and older employees, and those on temporary contracts, are excluded from our analysis. Such workers are more likely to be employed on a casual basis where receipt of paid holidays is less formalised – indeed around two-fifths of those on temporary contracts report that they receive no holiday entitlement at all. Our sample includes full-time and part-time employees; we exclude the self-employed.

We use the QLFS data to define three measures of holiday entitlement. First, we study the probability that an employee receives any paid holiday entitlement; second, we study the size of any entitlement (in days); and, third, we study whether the employee's entitlement is above the statutory minimum. It has been traditional in the literature to study only the first and second of these. Entitlement is measured via a question which asks about the number of days of paid holiday that the employee is entitled to in their main job.⁵ To convert this to a metric which is comparable across employees with different annual working hours, we use data from a question which asks the number of days that the employee typically works in a week, and compute a measure of the annual

⁴ See: <http://www.bbc.co.uk/news/uk-wales-43860415> and <http://www.bbc.co.uk/news/uk-39682388>

⁵ There are no questions about holiday entitlements in second jobs.

number of paid holidays that the worker would receive for each day that they work in a standard work-week (thus mirroring the way that entitlements are conceived within the Working Time Regulations). In keeping with the regulations, we cap the working week at five days. Accordingly, an employee who works 2.5 days per week and has an annual holiday entitlement of 15 days would – if employed continuously throughout the year – in effect earn six days of annual holiday entitlement per work-day under our metric (just above the current statutory minimum of 5.6 days).⁶

Our data series begin in 1994, this being the first year of currently-available QLFS data to contain measures of holiday entitlements, and ends in 2017, the latest year of data available at the time of writing. Examination of the annual data revealed an unexplained one-year dip in reported holiday entitlements in 2009, but the trend in the union premium appears unaffected. We thus interpolate the 2009 time point in our descriptive charts, but retain the year in our multivariate analysis.

In each year, we run a series of regressions to identify the partial correlation between various measures of union representation and each of our measures of holiday entitlement. We first use a probit estimator to examine the probability that an employee is in receipt of any holiday entitlement and then estimate the size of that entitlement among those who receive some paid holidays via ordinary least squares regression. We then estimate the size of entitlements among all employees (i.e. including those who receive no entitlement) via a tobit estimator, censored at zero (the approach originally taken by Green (1993)). Finally, we estimate the probability that the employee receives an entitlement above the statutory minimum via probit.

⁶ Our approach does not account for part-time employees whose working day is less than a full-time employee in the same firm. Such employees would, under the regulations, get a statutory holiday entitlement on a pro-rata hours basis (i.e. their weekly contracted hours / full-time weekly contracted hours in their firm). We do not have information on the number of full-time contracted weekly hours in the firm, and so we are forced to ignore this nuance. The entitlements of part-time workers may thus be biased upwards to a small degree.

We utilise two measures of unionisation: whether the employee is a member of a trade union, which is available from 1994 and referred to hereafter as ‘union membership’; and whether the employees’ pay and conditions are directly affected by agreements between their employer and a trade union, available from 1996 and referred to hereafter as ‘union coverage’. We also interact the two, in order to identify non-members who are covered by union bargaining (so-called ‘free-riders’) and union members not covered by bargaining (who might feasibly benefit from better holiday entitlements than non-members if their union membership gives them knowledge or resources to assist them in their individual negotiations with an employer). It should be noted that union coverage is considered to be under-reported in the QLFS by around one half (with Davies’ (2016) estimates putting coverage at 29 per cent in the 2012 QLFS, compared with 46 per cent in the 2012 Understanding Society dataset and 49 per cent in the 2011 WERS (Davies, 2016: Table 2)). This measurement error will bias any estimates of the holiday premium deriving from union coverage downwards. There are no such concerns about the QLFS estimates of union membership, with these being very similar to those obtained from other surveys; indeed, the QLFS is the basis for the UK’s official statistics on trade union membership density (e.g. Department for Business, Energy and Industrial Strategy, 2018).⁷

In order to estimate the association between holiday entitlements and unionisation independent of other factors, we control for a range of other employee, job and employer characteristics. The employee characteristics comprise: gender; age (and its square); and a four-category measure of educational attainment. Job characteristics comprise: whether the employee’s occupation is manual; full or part-time hours; and the number of days usually worked each week. Employer characteristics comprise: whether the workplace has 25 more employees; private or public sector; industry sector (12 dummies); and region of workplace (20 dummies). All analyses are weighted,

⁷ There may be a small downward bias in the QLFS estimates of union membership due to under-reporting by proxy respondents, but the degree of bias is estimated to be small – in the order of 1 percentage point (Department for Business Innovation and Skills, 2013).

using the sampling weights provided with the QLFS dataset and standard errors account for the use of variable probability sampling in the survey design.

The Workplace Employment Relations Survey

The WERS is a linked employer-employee survey which provides nationally representative data on workplaces in Britain with five or more employees. The strength of the survey lies in the richness of data collected on workplace policies and practices. The survey has been carried out on six occasions since 1980, but we utilise data from the three latest waves, conducted in 1998, 2004 and 2011; these are the only waves to ask about the provision of paid holidays. We use data from the Survey of Managers, in which the manager responsible for employment relations at the workplace is asked (among other things) whether employees in the largest non-managerial occupation at the workplace are entitled to a specified amount of paid holiday. The amount specified was “more than four weeks of paid annual leave (excluding public holidays)” in 1998 and 2004, and “more than 28 days of paid annual leave (including public holidays)” in 2011. The 2004 and 2011 questions thus focus specifically on the provision of paid holidays above the statutory minimum that applied at the time of the survey.

We use the WERS data to check whether any association with unionisation that is evident in our analysis of the QLFS might be the result of omitted workplace characteristics since these are less extensively measured in the QLFS employee-level survey. Our results extend those of Budd (2004) to the latest WERS.

We use a probit estimator to estimate the probability that a workplace offers the specified level of holiday entitlements to its non-managerial employees. The probit includes a dummy to identify the presence of recognized unions (akin to the measure of union coverage that we use in our analysis of the QLFS, but without the attendant concerns over under-reporting). We control for a set of firm characteristics shown to be informative in the previous literature, comprising: workplace size

(5 dummies); industry sector (11); region (10); whether single-site or multi-site firm; private or public sector; workplace age (5 dummies); the occupation of the largest non-managerial group at the workplace (7); the shares of employees that are female, from ethnic minority groups, aged 16-21, aged 50 or more; the share of employees working part-time hours; whether the workplace employs a specialist human resource manager; whether the workplace is accredited as an Investor in People; and, finally, the responding manager's subjective rating of the workplace's labour productivity relative to others in its industry sector (4 dummies).

Analyses are weighted by the WERS workplace sampling weights and standard errors account for the use of variable probability sampling in the survey design.

5. THE UNION PREMIUM ON PAID HOLIDAY ENTITLEMENTS IN 2017

We begin our analyses by focusing on the provision of paid holiday entitlements in 2017 – the latest year of QLFS data available to us. In 2017, some 97 per cent of permanent employees in Britain aged 18-74 reported at least some paid holiday entitlement.⁸ The mean entitlement among those who report some paid holidays was 5.7 days for each weekday worked: just above the statutory minimum. Once those reporting zero entitlements are included, the mean falls to 5.5 days for each weekday worked, with the median worker reporting an entitlement of 5 days. The average worker's entitlement thus falls just short of the statutory minimum.⁹ Some 30 per cent of employees have an entitlement that is estimated to be above the statutory minimum.

⁸ It is no surprise that this figure does not reach 100 per cent. Clark and Herman (2017) estimate that £1.8 billion of holiday pay goes unpaid in the UK each year; non-receipt of holiday pay entitlements is also a key focus for the Director of Labour Market Enforcement, who notes that a substantial minority of employees are unaware of their right to paid holidays (Metcalf, 2018: 104-8). Many of those who report zero entitlements in our data work part-time.

⁹ It is possible that we under-state entitlements to a small degree, however, since we do not account for the lower annual hours of those who work less than a full day on those days that they work – see Section 3.

Simple cross-tabulations of holiday entitlement by union membership status show that union members were 2.5 percentage points more likely than non-members to have some paid holiday entitlement in 2017. Among those employees who have some entitlement, union members' entitlements were 1.4 days greater than non-members'. Combining the two figures gives union members an overall advantage of 1.5 days, averaged across all employees in our population. In 2017, union members were 28 percentage points more likely than non-members to have an entitlement that was above the statutory minimum of 5.6 days per weekday worked. Model 1 in Table 1 shows these bivariate estimates for union membership: see columns 1, 3, 5 and 7 for the bivariate estimates without controls. Columns 2, 4, 6 and 8 then go on to present the equivalent marginal effects of union membership after accounting for observed differences between union members and non-members in respect of employee, job and workplace characteristics. In these models, union members retain an advantage over non-members, but the adjusted premia are around half the size of the unadjusted premia, broadly speaking. Once the observed differences are taken into account, union members were 1.5 percentage points more likely than non-members to have a non-zero entitlement in 2017 (column 2, Table 1); their average entitlement was around two-thirds of a day larger in cases where some holiday entitlement was reported (column 4), giving an overall difference of around three-quarters of a day between members and non-members (column 6). Finally, union members were 12 percentage points more likely than non-members to receive an entitlement above the statutory minimum.

[TABLE 1 HERE]

As noted in Section 3, we have a second measure of unionisation, which identifies whether the employees' pay and conditions are directly affected by agreements between their employer and a trade union ('union coverage'). Intuition may suggest that this is a more direct measure of union influence, as one might expect any holiday premium to arise through collective bargaining; however, measurement errors in the QLFS are likely to bias any associated coefficients towards

zero. In fact, union coverage is associated with a 2.2 percentage point increase in the probability of entitlement: an effect that is at least as large as that associated with membership (Model 2, column 2, Table 1). Elsewhere (columns 4, 6 and 8), the union coverage premium is positive and statistically significant but smaller than the union membership premium.

Model 3 of Table 1 combines the two indicators to form a more detailed measure of union status which seeks to identify uncovered members and free-riders. Here, we find that all forms of union status deliver premia over fully non-union employees. However, it is the combination of membership and coverage that delivers the largest benefits. Model 4 of Table 1 then presents a final specification in which the three unionised categories from Model 3 are collapsed into one, thus identifying employees who are either union members or covered by union bargaining (or both). Under this all-encompassing measure, unionisation (whether derived from membership or coverage) raises the probability of any paid holiday entitlement by 1.9 percentage points, raises the average entitlement across all workers by 0.62 days per weekday worked, and raises the probability of extra-statutory entitlement by 11.7 percentage points.

The magnitude of the union membership premium on paid holiday entitlements can be put into context through a comparison with the union wage premium, estimated from the same data via equivalent methods. An OLS regression, in which the log of employees' gross hourly wage is regressed on the union membership/recognition dummy from Model 4 in Table 1, along with our standard set of controls, yields a union wage premium of 4 per cent in 2017. Mean hourly wages among our population in 2017 equate to £15.11 per hour, implying a monetary premium of around 60p per hour for union members and those covered by union bargaining. This equates to around £1,000 per annum for a full-time worker.¹⁰ Model 4 in Column 6 of Table 1 shows that the union membership/recognition premium on paid holidays is worth 0.62 days per week-day

¹⁰ We assume a 37.5 hour week and sum over 46.5 weeks (assuming 5.5 weeks unpaid holiday).

worked. Mean entitlement among our population in 2017 is 5.50 days per weekday worked. The union premium is therefore adding 11 per cent at the mean: almost three times as much as unions add to wages, in proportionate terms. It implies an extra three days of paid holiday per annum for a full-time worker (30.5 days versus 27.5 for an employee without union membership or recognition). This would be equivalent to around £340, or around one third of the union wage premium in monetary terms when summed over the year.¹¹

One might anticipate that firms, unions or employees might trade wages and fringe benefits off against each other to some degree when composing the total reward package (some unions might seek to maximise the monetary wage; others might seek to maximise fringe benefits). Indeed, research from Norway indicates that employees place greater worth on fringe benefits than their pecuniary value would imply, suggesting that trade-offs are likely (Dale-Olsen, 2006). In this case, there could be an unobserved correlation between the error terms of our regressions of holiday entitlements and wages, potentially biasing our estimates. In fact, when we estimate the models as seemingly-unrelated regressions (Zellner, 1962) we obtain very similar figures to those used above.

Other research on the union wage premium has shown that the benefits of union representation are not experienced equally. For instance, the union membership wage premium is shown to be larger in the public sector than in the private sector (Blanchflower and Bryson, 2010), with the origins thought to lie in the greater strength of public sector unions and the absence of overt product competition, which make it easier for unions to capture rents. Similarly, the premium is shown to be larger for women than men (Blanchflower and Bryson, 2010) or even restricted to women only (Bryson et al, 2016), with the hypothesis being that unions may help to drive out

¹¹ To arrive at the figure of £340, we multiply the mean hourly wage by 37.5 and divide by five to obtain a mean daily wage, then multiply by three.

discriminatory behaviour by employers (e.g. by attaching wage rates to jobs rather than workers) which might otherwise drive the wages of unrepresented female employees downwards. With these prior results in mind, Table 2 goes on to show the size of the union holiday premium for different groups of employee. The table focuses on the average holiday entitlement across all workers and utilises the encompassing measure of unionisation (thus following the specification shown in Model 4, column 6 of Table 1). The results indicate that unionisation delivers a holiday premium for a variety of different types of employee: male and female; manual and non-manual; full-time and part-time; and in both the private and public sectors. The between-group differences in the union premia are not statistically significant from zero, however, with the exception of the contrast between male and female employees. In common with the prior evidence on the wage premium, the union premium on paid holidays is larger for women than for men, with the difference between the union premium of 0.78 days among women and the union premium of 0.48 days among men being statistically significant from zero at the 1 per cent level.

[TABLE 2 HERE]

6. ESTIMATES OF CHANGES IN THE UNION HOLIDAY PREMIUM OVER TIME

Estimates of the union wage premium suggest that it is now around one-third of the size that was observed in the mid-1990s (Forth and Bryson, 2015). In this section, we examine whether the union holiday premium has also declined over the past two decades, again using data from the QLFS. Of course, this period saw a major policy intervention in the form of the introduction and subsequent extension of the Working Time Regulations (summarised earlier in the paper). To the extent that the Regulations provided a minimum floor of entitlement for employees with insufficient bargaining power to secure such an entitlement by their own means, one might expect their introduction to have reduced the advantage experienced by unionised over ununionized employees. This is indeed what we observe.

Figures 1-5 show how holiday entitlements changed over the period 1994-2017. The figures are descriptive (that is, they show the mean entitlement without controlling for other observable differences between unionised and un-unionised employees) and unionisation is measured via membership, so as to allow for the longest time-series.¹² In Figure 1, one observes a large reduction in the unadjusted union premium for any paid holiday entitlement, arising from a sharp increase in the proportion of non-members who have a non-zero entitlement. This occurs over the period 1998-2001 and thus coincides directly with the introduction of the Working Time Regulations. In Figure 2, the unadjusted union premium on the number of days of paid holiday (among those with some) is fairly stable in comparison, though there is an indication that it may have widened since the early 2000s by virtue of a faster rate of increase in entitlements among unionised workers. Figure 3 shows the unadjusted premium among all workers (i.e. including those with zero entitlement). Here we see the effect of the reduction in non-entitlement on the average entitlement over the late 1990s. Otherwise, the pattern is broadly that seen in Figure 2, as we would expect.

[FIGURES 1-3 HERE]

Figure 4 shows the full distribution of entitlements in 1994 and 2017. Both the union and non-union distributions have shifted to the right, but the union distribution has primarily altered at the top end of the distribution, through an increase in the share of union members with relatively large entitlements of 8 or more days per weekday worked, whereas the non-union distribution has primarily shifted at the lower end, through a reduction in the share of non-members with very low entitlements of 4 days or less per weekday worked. Despite these shifts, the unadjusted difference between the shares of union members and non-members enjoying extra-statutory entitlements has

¹² The indicator of union coverage was only introduced into the QLFS in 1996.

altered relatively little since the Working Time Regulations came fully into force, standing at roughly 30 percentage points in each year since 1999 (Figure 5).

[FIGURE 4 AND FIGURE 5 HERE]

To provide a more robust account of how the union premium has altered, we undertake annual regressions of the form presented in the previous section. Here, we utilise our preferred indicator of union status (counting membership or coverage) and thereby restrict our estimation period to 1996-2017. The marginal effects of unionisation under this approach are presented in Figures 6-9.

Figure 6 shows a dramatic decline in the regression-adjusted union premium on the probability of a non-zero entitlement during the late 1990s. As implied by Figure 4, this comes as the result of the Working Time Regulations pushing up the share of non-union employees with some entitlement to paid holidays; the union premium falls from around 5 percentage points before the introduction of the Regulations to around 1 percentage point soon after.

[FIGURE 6 HERE]

No further reduction is evident after the extension of the Regulations in 2007-2009: the main inroads into non-entitlement had already been made in 1999. Instead, Figure 6 indicates a slight re-widening of the union premium on non-zero entitlements from around 2008. This most probably reflects the impact of the recession, which seems to have had a greater depressing effect on non-union holiday entitlements – the line for union employees in Figure 4 is stable in comparison. Such a pattern would accord with evidence on the counter-cyclicality of the union wage premium (see Blanchflower and Bryson, 2004).

In contrast to the sharp fall in the union premium on non-zero entitlements, the regression-adjusted union premium on the number of days of paid holiday (among employees with some entitlement) is relatively stable over the period 1996-2017 (Figure 7). It averages out at around half

a day, with the minor downturn between 1997 and 2000 being fairly inconspicuous in the context of later year-on-year variations. When combined with the probability of any entitlement, however, it is clear that the overall union premium among all employees in our population fell by around one quarter, from 0.8 days per weekday worked in 1997 to 0.6 days in 2001 – a level at which it has broadly remained ever since (Figure 8).

[FIGURE 7 AND FIGURE 8 HERE]

The union advantage in the probability of extra-statutory provision has followed a similar path (Figure 9). The premium initially spiked upwards between 1998 and 1999, when the Working Time Regulations were first introduced, because many of those non-union employees who found themselves above the transitional introductory minimum of 3 days per weekday worked in 1998 subsequently found themselves at or below the full minimum of 4 days in 1999 once the Regulations had been fully enacted. Thereafter, the union premium fell from around 15 percentage points in 1999 to around 12 percentage points in the early 2000s, a level at which it has broadly remained ever since.¹³ This then reinforces the view that the major change to union/non-union differentials in paid holiday entitlements came with the introduction of a statutory minimum entitlement at the end of the 1990s.

[FIGURE 9 HERE]

A set of conventional ‘difference-in-differences’ specifications which formally compare the size of the overall union premium on holiday entitlements either side of each of the two reform periods confirm this broad point.¹⁴ In the first case, we compare the size of the union premium on overall

¹³ The implication is that the revisions to the Regulations in 2007-2009 captured similar proportions of union and non-union workers.

¹⁴ We undertake tobit regressions of overall holiday entitlements using the specification reported in Figure 8, but restrict our sample periods to the years just before and after each of the two reforms (1997 vs 2000/2011 and 2005/2006 vs 2010/2011). Each specification includes a union dummy, a dummy for the ‘post-reform’ period and

entitlements in 1997 (just before the introduction of the WTD) with the size of the premium in 2000/2001 (just afterwards) and find a statistically significant fall of 0.18 days per weekday ($p < 0.01$). In contrast, when we compare the premium just before the extension of the WTD in 2005/2006 with that just afterwards in 2010/2011, we find a marginal, non-significant increase of 0.02 days per weekday ($p = 0.213$).

7. ESTIMATES OF THE UNION PREMIUM FROM WORKPLACE DATA

As noted earlier, it is possible that these estimates of the union premia may be biased through our inability to observe more than just a narrow set of employer characteristics within the QLFS. We are unable to perform comprehensive sensitivity tests, due to the absence of a linked employer-employee data with an employee-level measure of holiday entitlements. However, the WERS provides a workplace-level indicator of entitlements – as described in Section 3 – alongside a host of employer characteristics which can serve as controls.

Our specification is similar to that of Budd (2004), except that we control for a wider set of human resource management practices in an effort to ensure that any union premium is not contaminated by an otherwise-unobserved association between unions and ‘high-road employment practice’. As a result, we obtain a lower premium in 1998 than that presented by Budd, but the premium is still substantial, standing at 12 percentage points, compared with Budd’s estimate of 18 percentage points. This was a period when the Working Time Regulations were in the process of being enacted. By extending the analysis to 2004 and 2011, we move to a period when the WERS questions focus explicitly on provision that is above the statutory minimum that applied at the time of either survey. We find union premia of around 17 percentage points in each

an interaction term derived from the two, alongside the standard set of controls. We do not include 1996 as some of the control variables have to be derived slightly differently in that year.

of those two years (see Table 3). The main takeaway here is that the union premia on extra-statutory entitlements is both positive, and broadly of the same magnitude, in 2004 and 2011 when estimated on workplace data. This is in line with the picture of stability through the 2000s that has emerged from the QLFS.

[TABLE 3 HERE]

8. DISCUSSION AND CONCLUSIONS

Once studies of union wage premia have been set aside, there are relatively few studies of the effects of union representation on other aspects of the wage-effort bargain. We contribute to this small body of literature through a study of the union premium in paid holiday entitlements, using large-scale survey data for Britain covering the period 1994-2017.

Union representation may raise the provision of paid holiday entitlements via two principal mechanisms. The first is via a ‘monopoly effect’ in which unions increase the *ceteris paribus* level of paid holiday entitlements through the articulation of bargaining power that, ultimately, resides in their ability to institute industrial action. The second is via a ‘collective voice effect’ in which unions shift the balance of total compensation towards the provision of longer paid holidays, perhaps at the expense of money wages.

Whatever the mechanism at play (and we are unable to adjudicate with our data), we find that union members and those covered by union bargaining enjoy larger entitlements to paid holidays than non-union employees in Britain in 2017. Unionised employees are more likely to have a non-zero entitlement, enjoy longer average entitlements where any are offered, and are more likely to enjoy entitlements that are above the statutory minimum. The union premium on paid holidays is substantially larger than the union premium on wages in proportionate terms, although it is less valuable than the wage premium in money terms.

Union representation is not the only way for employees to obtain a degree of control over their holiday entitlements, however. As Berg et al (2004) make clear in their study of working time, government regulations can also be influential and, in the absence of strong or pervasive union organisation (such as might be obtained from extensive multi-employer bargaining), statutory regulation can be more effective in securing a degree of equality across the labour market. In the British case, unions have long found it difficult to extend representation to some of the most vulnerable employees, such as those working short hours, those in small firms and those working for hostile employers. We find that the introduction of a statutory minimum entitlement to paid holidays via the Working Time Regulations in 1998/99 did indeed raise entitlements – or rather, reduced the chances of non-entitlement – for a minority of non-union workers, and reduced the union premium on paid holidays as a result.

This is not to argue that unions had no role in the regulatory process. The Working Time Regulations – though originating from Europe – were enacted under a Labour government and the extension of the Regulations in 2007 to exclude bank holidays had its genesis in the Warwick Agreement that was struck between the Labour Party and a number of trade unions prior to Labour's re-election in 2005. Nevertheless, the fact that the major shift in the union premium on paid holidays over the past quarter century in Britain has been a reduction in the premium, brought about by the introduction of statutory minimum standards, is, we would argue, indicative of state substitution of the union good at the very bottom of the labour market where unions have found it hardest to offer tangible protection. As Barbash (1987: 168) has previously noted, "if unionism is not performing the equity function, management and/or the state will pick up the slack". Ewing (2005) is one of those who have previously commented on the diminishing regulatory role of trade unions specifically within the UK labour market. The provision of entitlements to paid holidays would appear to be one case in point.

9. REFERENCES

- Altonji J and Ursui E (2007) "Work hours, wages and vacation leave", *ILR Review*, 60, 3: 408-428.
- Barbash J (1987) "Like nature, industrial relations abhors a vacuum: the case of the union-free strategy", *Relations Industrielles*, 42, 1: 168-179.
- Berg P, Appelbaum E, Bailey T and Kalleberg A (2004) "Contesting time: international comparisons of employee control over working time", *ILR Review*, 57, 3: 331-349.
- Blanchflower, D and Bryson, A (2004) "What Effect Do Unions Have on Wages Now and Would Freeman and Medoff Be Surprised?", *Journal of Labor Research*, Vol. 25, No. 3, 383-414
- Blanchflower D and Bryson A (2010) "The wage impact of trade unions in the UK public and private sectors", *Economica*, 77, 305: 92-109.
- Bryan M (2006) "Paid holiday entitlements, weekly working hours and earnings in the UK", ISER Working Paper No. 2006-52.
- Bryson A (2014) "Union wage effects", *IZA World of Labour*, 35.
- Bryson A, Dale-Olsen H and Nergaard K (2016) "Gender differences in the union wage premium? A comparative case study", IZA Discussion Paper No. 10435.
- Budd J (2004) "Non-wage forms of compensation", *Journal of Labor Research*, 25, 4: 597-622.
- Dale-Olsen H (2006) "Wages, fringe benefits and worker turnover", *Labour Economics*, 13, 1: 87-105.
- Davies R (2016) *Making Sense of Official Estimates of Trade Union Membership*, WISERD Research Note, Cardiff: WISERD.

- Department for Business, Energy and Industrial Strategy (2018) *Trade Union Membership 2017: Statistical Bulletin*, London: DBEIS.
- Department for Business Innovation and Skills (2013) *Measuring Bias in the LFS for Trade Union Membership Statistics*, London: DBIS.
- Department for Business, Innovation and Skills, Advisory, Conciliation and Arbitration Service and National Institute of Economic and Social Research (2014) *Workplace Employee Relations Survey, 2011* [computer file]. 6th Edition. Colchester: UK Data Service [distributor]. SN: 7226, <http://dx.doi.org/10.5255/UKDA-SN-7226-4>
- Ewing K (2005) “The function of trade unions”, *Industrial Law Journal*, 34, 1: 1-22.
- Fakih A (2014) “Vacation leave, work hours and wages: new evidence from linked employer-employee data”, *LABOUR*, 28, 4: 376-398.
- Fevre R, Nichols T, Prior G and Rutherford I (2009) *Fair Treatment at Work Report: Findings from the 2008 Survey*, Employment Relations Research Series No. 103, London: Department for Business Innovation and Skills.
- Freeman R and Medoff J (1984) “Fringe determination under trade unionism”, Chapter 4 (pp.61-77) in *What Do Unions Do?* New York: Basic Books.
- Goerke L, Jerrowek S and Pannenberg M (2015) “Trade union membership and paid vacation in Germany”, *IZA Journal of Labor Economics*, 4: 17.
- Green F (1997) “Union recognition and paid holiday entitlement”, *British Journal of Industrial Relations*, 35, 2: 243-255.
- Green F and Potepan M (1998) “Vacation time and unionism in the US and Europe”, *Industrial Relations: A Journal of Economy and Society*, 27, 2: 180-194.

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.

Metcalf D (2018) *United Kingdom Labour Market Enforcement Strategy 2018/19*, London: HM Stationery Office.

Office for National Statistics. Social Survey Division, Northern Ireland Statistics and Research Agency. Central Survey Unit. (2017). *Quarterly Labour Force Survey, January - March, 2017*. [data collection]. 2nd Edition. UK Data Service. SN: 8195, <http://doi.org/10.5255/UKDA-SN-8195-2>

Zellner A (1962) "An efficient method of estimating seemingly unrelated regression equations and tests for aggregation bias", *Journal of the American Statistical Association*, 57: 348–368.

Table 1: Union premium on paid holiday entitlements, all employees, 2017: results for four model specifications

	Any paid holiday entitlement		Paid holiday entitlement per weekly days worked (exc. zeros)		Paid holiday entitlement per weekly days worked (inc. zeros)		Any extra-statutory entitlement	
	Probit (Marg. Eff.)		OLS		Tobit		Probit (Marg. Eff.)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Model 1. Union member (ref. non-member)	0.025** [6.93]	0.016** [4.79]	1.432** [32.87]	0.674** [18.69]	1.537** [33.30]	0.766** [18.54]	0.283** [45.13]	0.121** [17.70]
Model 2. Union recognition (ref. no recognition)	0.034** [8.55]	0.022** [6.02]	1.095** [27.31]	0.364** [9.98]	1.247** [29.19]	0.475** [11.36]	0.259** [39.89]	0.095** [13.27]
Model 3. Union status (detailed): (ref. non-member, no recognition)								
Member, no recognition	0.014** [2.74]	0.010* [1.97]	1.395** [18.46]	0.612** [9.98]	1.447** [17.97]	0.659** [9.32]	0.265** [24.24]	0.111** [10.16]
Non-member, recognition	0.027** [4.95]	0.017** [3.37]	0.708** [14.51]	0.121** [2.61]	0.841** [15.70]	0.199** [3.72]	0.211** [20.78]	0.069** [6.89]
Member, recognition	0.041** [8.04]	0.030** [6.35]	1.587** [29.88]	0.746** [16.79]	1.758** [31.62]	0.897** [17.79]	0.333** [44.02]	0.152** [17.64]
Model 4. Union member or recognition (ref. member, no recognition)	0.028** [8.41]	0.019** [5.87]	1.305** [36.21]	0.521** [15.93]	1.431** [36.62]	0.621** [16.29]	0.284** [50.53]	0.117** [16.97]
Controls?	No	Yes	No	Yes	No	Yes	No	Yes
Observations (model 4)	18,651	18,651	18,010	18,010	18,651	18,651	18,651	18,651
Goodness-of-fit (model 4)	0.02	0.22	0.09	0.36	0.02	0.06	0.08	0.23

Notes: T-statistics in parentheses. Key to statistical significance: **<0.01; *<0.05. Control variables: gender, age, age squared, qualifications (4 dummies), manual occupation, part-time, number of days worked per week, workplace with 25+ employees, private sector workplace, industry sector

(12 dummies), region of workplace (20 dummies). Goodness of fit statistics: columns 1, 2, 7 and 8: McFadden pseudo- R^2 ; columns 3 and 4: adjusted- R^2 ; columns 5 and 6: McFadden's adjusted- R^2 .

Table 2: Union premium on paid holiday entitlements, by type of employee, 2017

	Paid holiday entitlement per weekly days worked (inc. zeros)	
	Tobit	
	Coeff.	T-stat
Male	0.484**	11.69
Female	0.777**	11.64
Manual	0.516**	7.22
Non-manual	0.658**	14.44
Female full-time	0.676**	10.46
Female part-time	0.859**	5.92
Private sector	0.566**	14.74
Public sector	0.738**	7.67

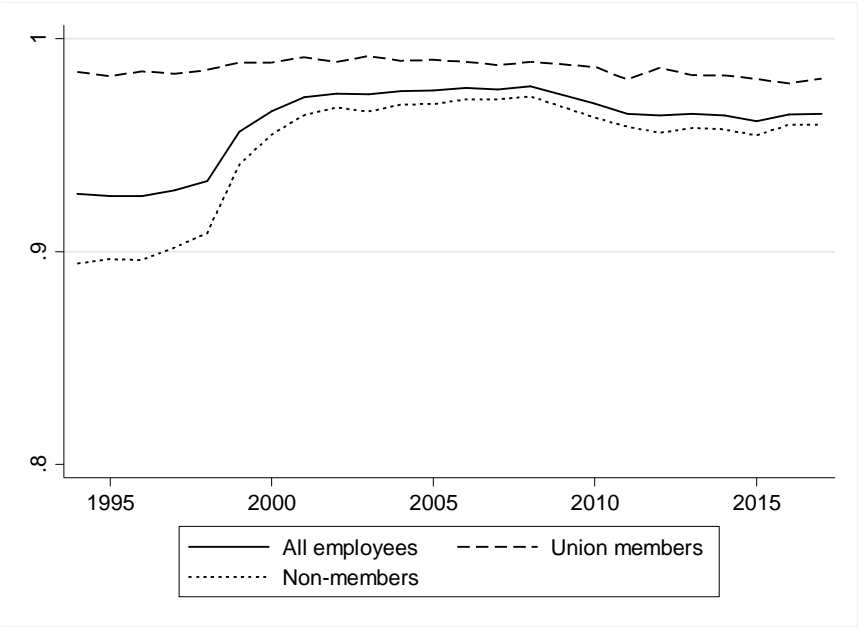
Notes: Union variable identifies membership or recognition. Key to statistical significance: **<0.01; *<0.05. Control variables: gender, age, age squared, qualifications (4 dummies), manual occupation, part-time, number of days worked per week, workplace with 25+ employees, private sector workplace, industry sector (12 dummies), region of workplace (20 dummies).

Table 3: Marginal effect of union recognition on holiday provision for the largest non-managerial occupation at the workplace, 1998, 2004 and 2011

	1998	2004	2011
Union recognised at the workplace	0.121** [3.09]	0.165** [3.55]	0.174** [3.24]
Controls?	Yes	Yes	Yes
Observations	1,966	1,881	2,151
Pseudo-R ²	0.27	0.22	0.19

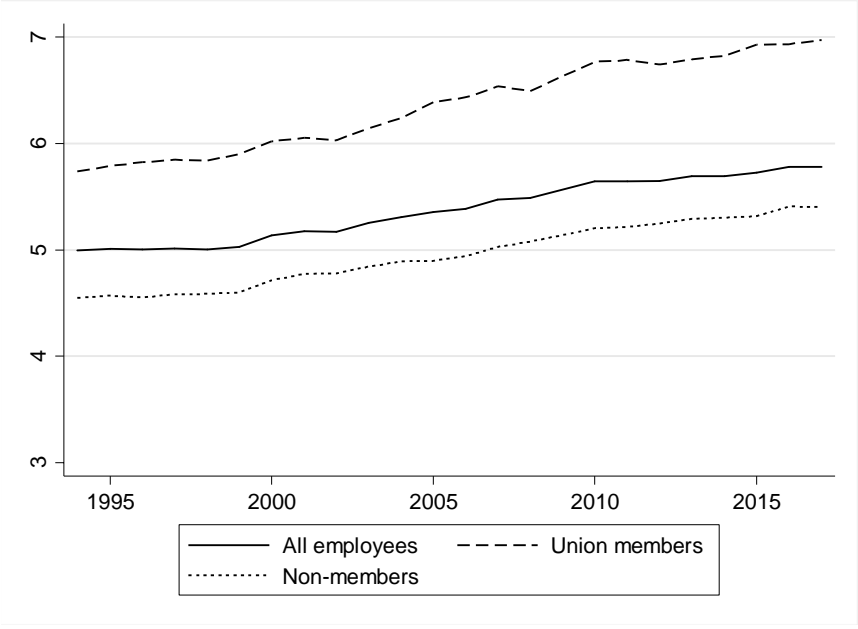
Notes: Workplaces with 10 or more employees. T-statistics in parentheses. Key to statistical significance: **<0.01; *<0.05. Control variables: workplace size (5 dummies); industry (11), region (10), single-site firm, private sector, workplace age (5), largest occupational group (7), workforce composition (% female, ethnic minority, part-time, aged 16-21; aged 50+), HR specialist, Investor in People, subjective rating of workplace labour productivity relative to industry (4). See text for the wording of the WERS questions on holiday entitlements, which vary between waves.

Figure 1: Proportion of employees with some paid holiday entitlement, by union membership, 1994-2017



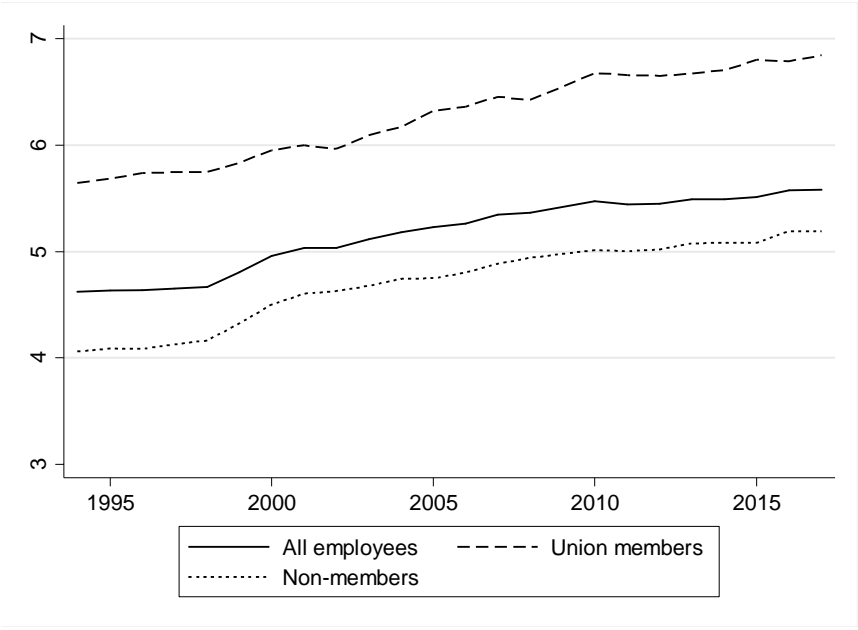
Source: Labour Force Survey. Base: All permanent employees aged 18-74 in Britain. Note: 2009 interpolated.

Figure 2: Number of days of paid holiday entitlement per weekly days worked (if non-zero entitlement), by union membership, 1994-2017



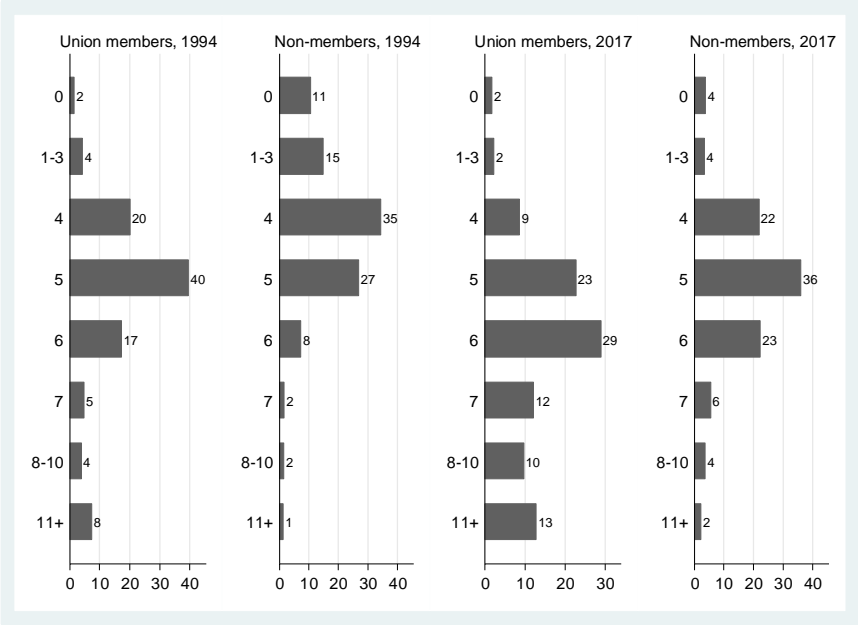
Source: Labour Force Survey. Base: All permanent employees aged 18-74 in Britain. Note: 2009 interpolated.

Figure 3: Number of days of paid holiday entitlement per weekly days worked (including zero entitlements), by union membership, 1994-2017



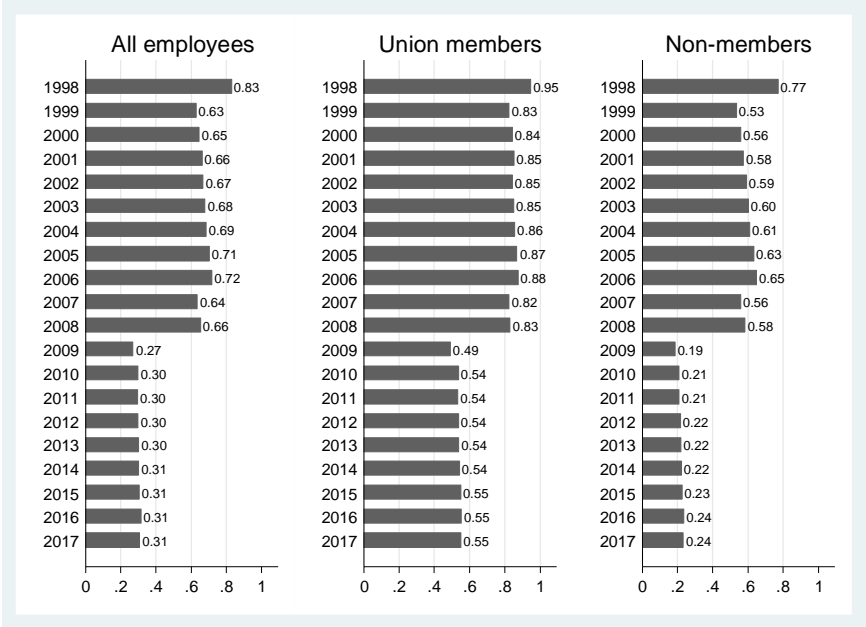
Source: Labour Force Survey. Base: All permanent employees aged 18-74 in Britain. Note: 2009 interpolated.

Figure 4: Distribution of paid holiday entitlements per weekly days worked (including zero entitlements), by union membership, 1994 and 2017



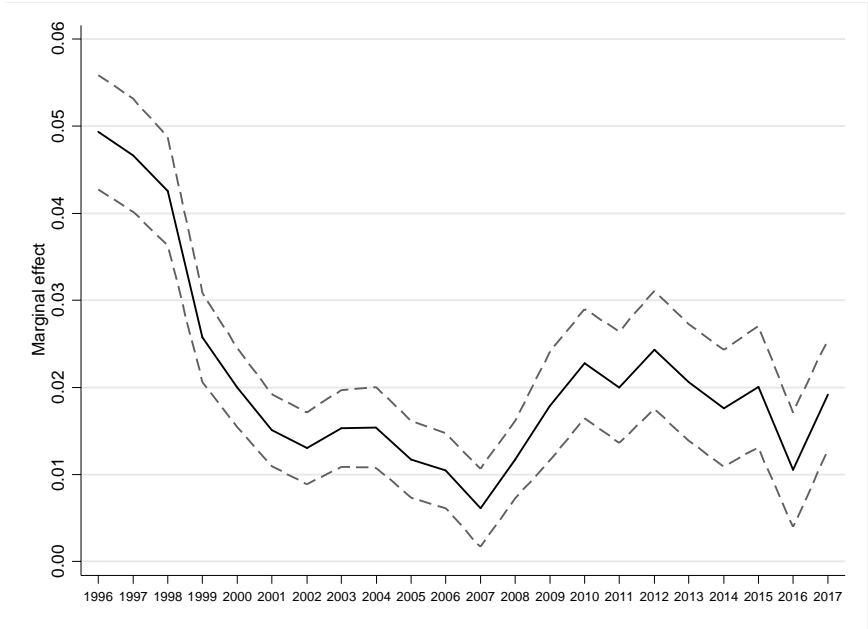
Source: Labour Force Survey. Base: All permanent employees aged 18-74 in Britain.

Figure 5: Proportion of employees with extra-statutory paid holiday entitlements, by union membership, 1998-2017



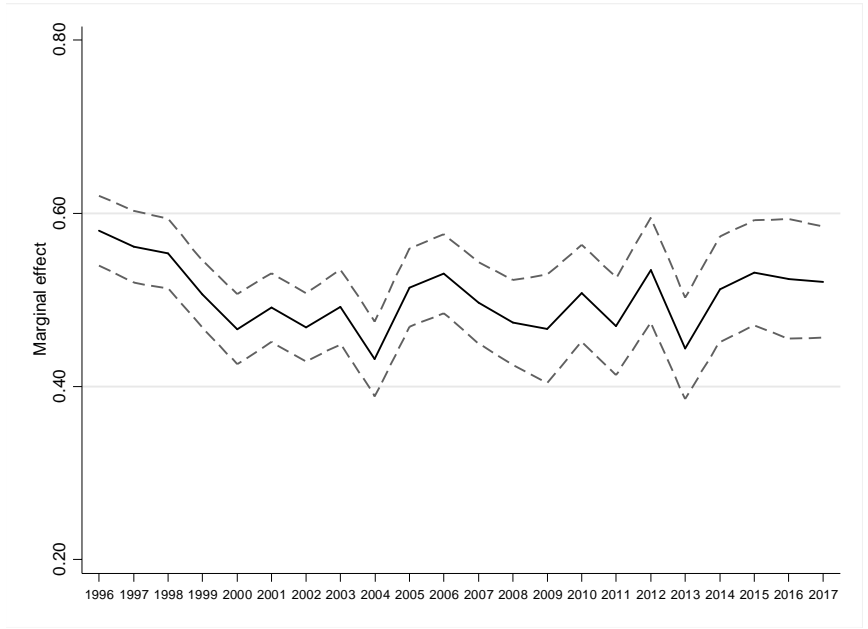
Source: Labour Force Survey. Base: All permanent employees aged 18-74 in Britain.

Figure 6: Marginal effect of union status on probability of any paid holiday entitlement, 1996-2017



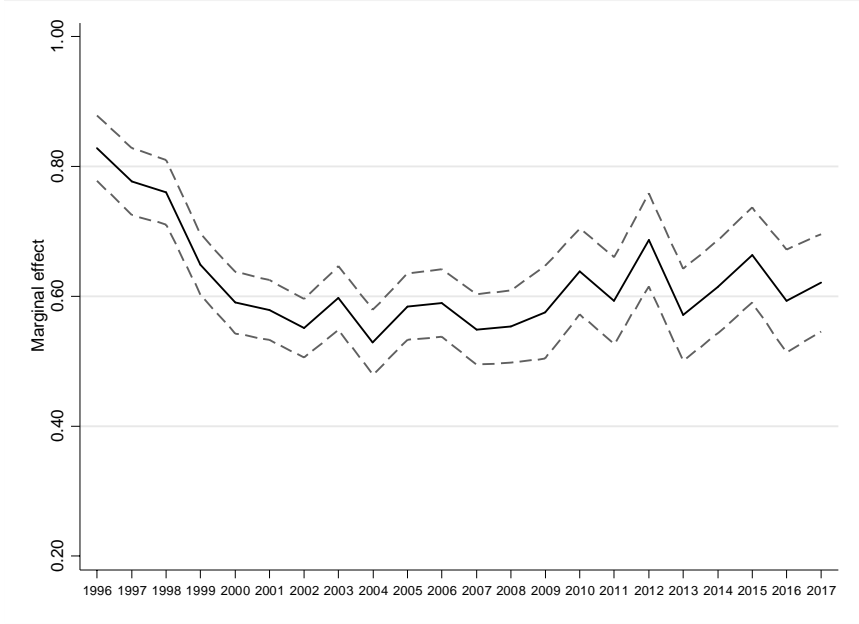
Source: Labour Force Survey. Dashed lines show 95% confidence interval.

Figure 7: Marginal effect of union status on number of days of paid holiday entitlement per weekday worked (if non-zero entitlement), 1996-2017



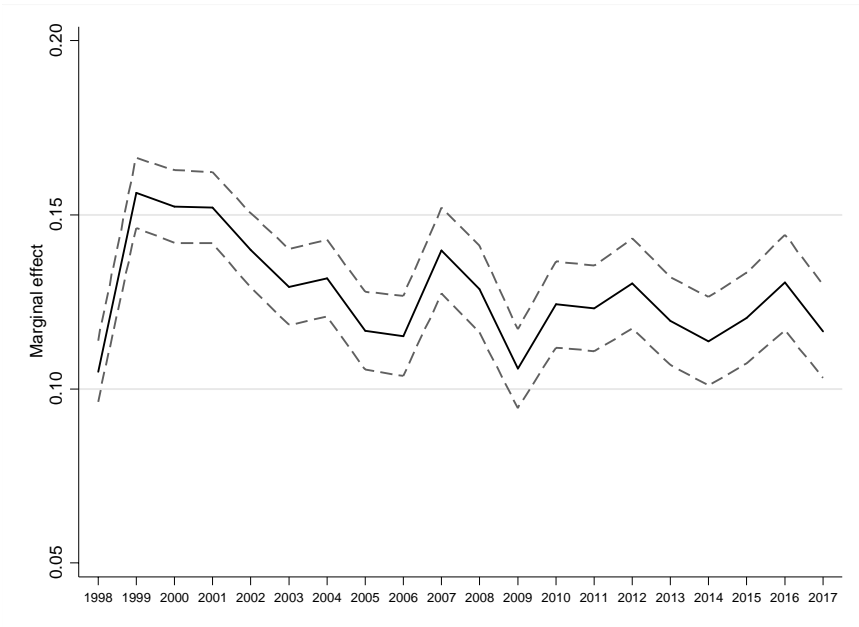
Source: Labour Force Survey. Dashed lines show 95% confidence interval.

Figure 8: Marginal effect of union status on number of days of paid holiday entitlement per weekday worked (including zero entitlement), 1996-2017



Source: Labour Force Survey. Dashed lines show 95% confidence interval.

Figure 9: Marginal effect of union status on probability of extra-statutory holiday entitlement, 1998-2017



Source: Labour Force Survey. Dashed lines show 95% confidence interval.