The Day After Tomorrow

Stress tests, affordability and the roadmap to the four day week

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Autonomy

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Summary of findings

- We provide a conservative, 'worst-case' scenario for the impacts on profitability of a suddenly-implemented four day week in the private sector.
- We find that a four day week with no loss of pay would be affordable for most firms once the initial phase of the Covid-19 crisis has passed.
- However, some firms in some industries would experience cashflow problems if changes were implemented too quickly.
- A four day week with no loss of pay will most likely be implemented in the public sector before the private sector.
- Public sector organisations could influence private sector businesses through procurement policy and other indirect routes.
- The process of changing expectations and behavioural norms could be sped up by the creation of more bank holidays, and the reintroduction of pro-union legislation. Even if a four day week in the private sector took longer than expected, a four day week in the public sector could support the UK's long-term recovery from the Covid-19 crisis.

Introduction

The Covid-19 crisis has seen unprecedented falls in economic activity. Across Europe, in which furlough and short-time work schemes were the norm, total hours worked have dropped precipitously. In the UK, which had a relatively generous furlough scheme, total weekly hours fell by around 18% in the first half of 2020 (ONS, 2020a). In the USA, in which federal labour market support was less generous, the unemployment rate rose to 13% in May – but even this might be an underestimate (BLS, 2020).

Alongside the collapse in demand for labour, many more people are now working from home. An upshot of this, at least for office-based work, is that managers are realising that more flexible work patterns are not only possible, but can be beneficial for wellbeing and productivity (Ralph et al., 2020). This effect of the crisis, which in many ways is a positive development, has followed longstanding demands for lower and more flexible work-hours.

Autonomy has long argued that a shorter working week ought to be implemented as way of achieving greater work-life balance, improving mental health, and facilitating a greener and healthier society. In this discussion paper, we argue that:

1. A four day week with no loss of pay would be affordable for most firms once the initial phase of the Covid-19 crisis has passed. However, some firms in some industries would experience cashflow problems if changes were implemented too quickly.

2. Historically, most reductions in work-time in Britain have been achieved by the campaigning and bargaining activities of trade unions. This reflects the fact that average working hours are contested between employers and employees, with the results of these contests shaping social norms and expectations.

3. As the public sector is the most unionised part of the British economy, (point 2) suggests that a four day week with no loss of pay will most likely be implemented in the public sector before the private sector. Public sector organisations could influence private sector businesses through procurement policy and other indirect routes, which would ideally result in widespread changes in expected hours of work in the private sector, and result in sustainable changes consistent with business profitability.

4. The process of changing expectations and behavioural norms could be sped up by the creation of more bank holidays, and the reintroduction of pro-union legislation. Even if a four day week in the private sector took longer than expected, a four day week in the public sector could support the UK's long-term recovery from the Covid-19 crisis.

The paper proceeds as follows. In section 2, we utilise profitability data on UK businesses to argue that the implementation of a four day week with no loss of pay would be affordable for most firms. However, we also find that some firms in some industries are likely to suffer from cashflow issues if a four day week was implemented too quickly. In section 3, we argue that a four day week with no loss of pay will most likely be implemented in the public sector before the private sector, and consider the ways in which a four day week in the public sector could be used to shape expectations and social norms in the private sector, in a manner consistent with private sector profitability. In section 4, we consider how a four day week in the public sector could be used to support Britain's recovery from the Covid-19 crisis, and we summarise our arguments and conclusions in section 5.

Is a four day week affordable for the British private sector?

The most important point that can be made when considering the affordability of any labour market regulation is that, on a variety of measures, the average British company is highly profitable. Prior to the outbreak of the Covid-19 crisis, for example, the net rate of return for private non-financial corporations in the UK was above 9% (ONS, 2020b). This corresponded to an overall profit share in the economy of over 40%. British firms are, therefore, generating significant amounts of money for their owners.

In this section we examine the profitability of UK firms in more detail. Specifically, in order to gauge the affordability of a four day week with no loss of pay for private sector firms, we compute interval estimates for average profitability following the implementation of a four day week. This relies on the estimation of a plausible worst-case scenario, which defines the lower limits to our estimated intervals, using profitability statistics drawn from the Fame database (Bureau van Dijk). Our worst-case scenario relies on the following assumptions:

1. Business revenue is proportional to hours worked. As a result, if hours worked fall by 20% following the implementation of a four day week, then revenue also falls by 20%.

2. Business non-labour costs are also proportional to hours worked. So, if hours worked fall by 20%, non-labour costs also fall by 20%.

Effectively, therefore, the worst-case scenario assumes that there are no beneficial effects to productivity resulting from a four day week, and firms are unable to raise prices. We use earnings before interest, tax, depreciation and amortization as our measure of profitability, which takes headline earnings – i.e. revenue less costs – and adds back in interest costs, tax liability, and any allowances for depreciation and amortization. As it excludes most costs of capital and tax liabilities, EBITDA is a useful proxy for cash flow. In addition, the exclusion of capital costs means that most short-run fixed costs are excluded, which justifies assumption (point 2) above.

The EBITDA rate – i.e. EBITDA as a % of revenue – can be written as,

$$\pi = 1 - \frac{LC}{R} - \frac{OC}{R}$$

where π denotes the EBITDA rate, R denotes revenue, LC denotes labour costs, and OC denotes other costs excluding interest, tax, depreciation and amortization. Given our two assumptions, the counterfactual worst-case EBITDA rate following the implementation of a four day week is,

$$\pi' = 1 - \frac{LC}{R'} - \frac{OC'}{R'} \qquad = 1 - \frac{LC}{R'} - \frac{OC}{R}$$

where variables with a prime (e.g., π′) are variables that change after the implementation of a four day week. Note that labour costs are assumed to remain unchanged.

As revenue and non-labour costs are both assumed to fall by 20% in the worst-case scenario, the net effect on profitability is,

$$\pi' - \pi = \frac{LC}{R} - \frac{LC}{R'} \qquad = \frac{LC}{R} - \frac{LC}{0.8 \times R} \qquad = -0.25 \times \frac{LC}{R}.$$

In other words, a business's EBITDA rate falls by 25% of its labour share (in percentage points) following the implementation of a four day week under a plausible worst-case scenario.

To compute our estimates, we use data drawn from the Fame database (Bureau van Dijk). This contains information on the financial records of millions of British companies, mainly drawn from Companies House. We use cross-sectional data from the most recently filed accounts, and limit the analysis to firms with 50 or more employees. This is the population of firms most likely to be affected by any four day week policy, and is also the population most likely to be captured in Fame. We drop any inactive firms, firms that do not primarily employ people for profit, and firms with no region or industry information. After this process, our final sample contains information on just under 54,000 firms, around 38,000 of which have information on profitability.

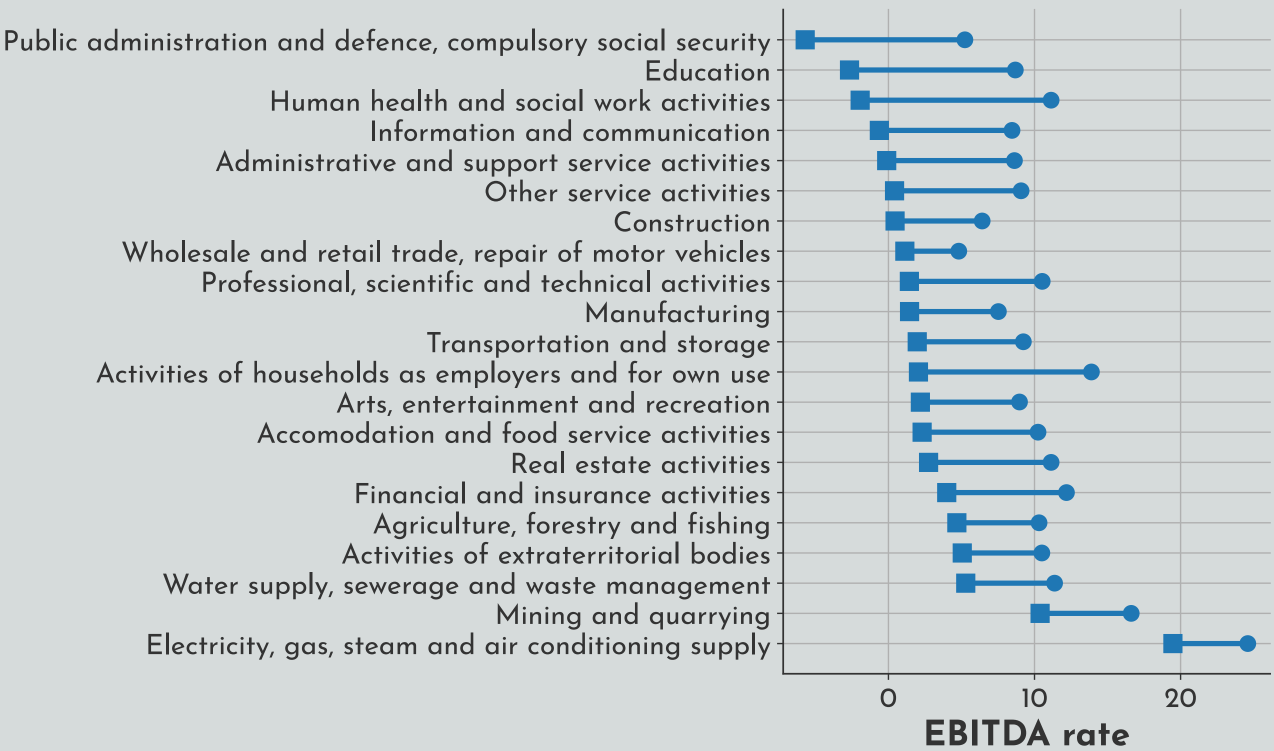

Figure 1: Estimated intervals for average profitability by industry. Square markers indicate worst-case scenarios, circular markers indicate best-case scenarios.

Using these data, we can compute worst-case scenario EBITDA rates for every firm using the method outlined above. For the best-case scenario we simply assume that the reduction in hours is entirely offset by increases in productivity and price increases, such that the best-case scenario reflects no negative deviations in profitability from current reported levels. In fact, there are a number of studies suggesting that productivity gains can offset a large part of any reductions in profitability following the implementation of a four day week, with one study finding that two thirds of UK businesses moving to a four day week enjoyed improvements in productivity as a result (Henley Business School, 2019).

Figure 1 plots estimated intervals for average profitability by industry, using the method outlined above. In the figure, each industry labelled on the vertical axis has an estimated profitability interval represented by a horizontal blue line. The leftmost extent of the interval is indicated by a square marker, which is the worst-case scenario, and the rightmost extent is indicated by a circular marker, which is the best-case scenario. The corresponding EBITDA rates can be read on the horizontal axis. So, for example, the Transportation and Storage industry has a worst-case EBITDA rate of just under 2%, and a best-case rate of just over 9%.

Figure 1 indicates that the average firm in most industries should remain profitable following the implementation of a four day week, but there are five industries in which the estimated EBITDA interval includes zero. These are the information and communication, administrative and support services, public administration and defence, education, and human health and social work industries. These are all industries with relatively high labour costs, many of which perform public service activities, and which are well known to run on tight margins. It is possible, therefore, that the average firm in these industries would struggle to remain in business if a four day week was implemented too quickly.

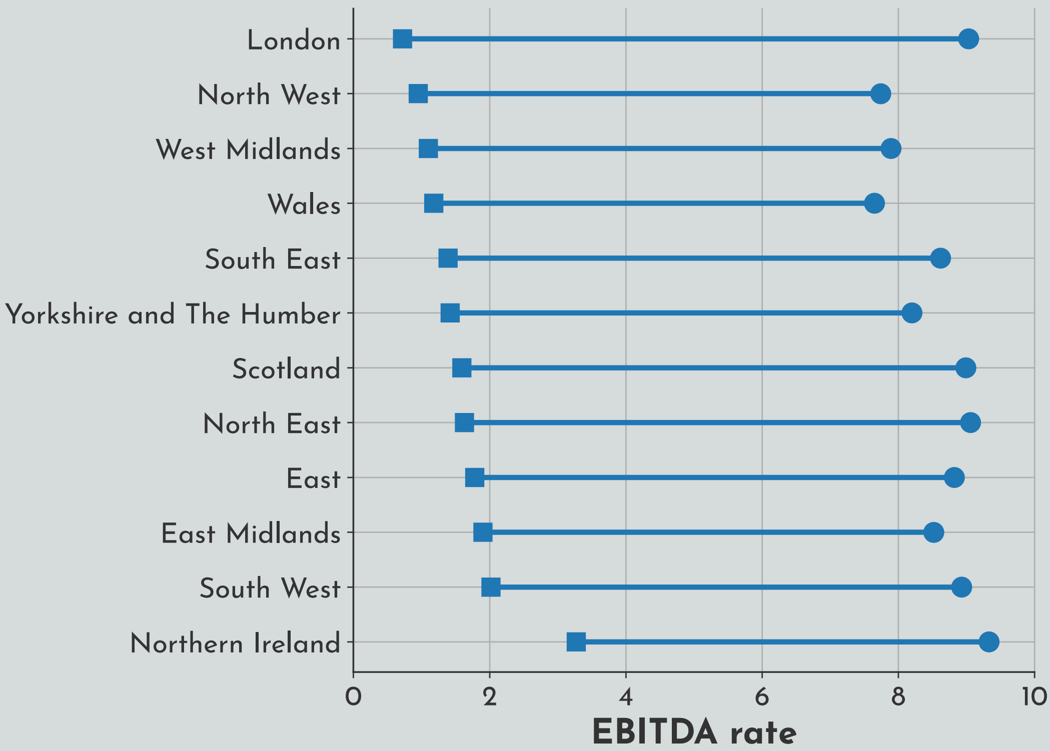

Figure 2: Estimated intervals for average profitability by region. Square markers indicate worst-case scenarios, circular markers indicate best-case scenarios.

Figure 2 plots estimated ranges of average profitability computed in the same manner, but now split by region rather than industry. Average EBITDA rates are expected to remain positive in every region in the United Kingdom, even in the worst-case scenario. The variation between regions is considerably lower than the variation between industries, and this also appears to be the case when we examine profit rates tabulated by industry and region simultaneously.

The region and industry averages in figures 1 and 2 hide a large amount of variation in firm-level profit rates, with a large proportion of firms in every industry posting negative earnings in any given year. This is illustrated in figure 3, which plots histograms of the best-case and worst-case EBITDA rates for the entire sample of firms. Even in the best-case scenario – in which firms earn the same EBITDA rate as they are observed to earn in the data – there are always a proportion of firms posting negative profits in any year, and this does not necessarily indicate that these firms are at risk of bankruptcy. However, the proportion of firms posting negative profits increases in the worst-case scenario, in which productivity improvements and/or price increases do not offset the reduction in revenue resulting from a four day week.

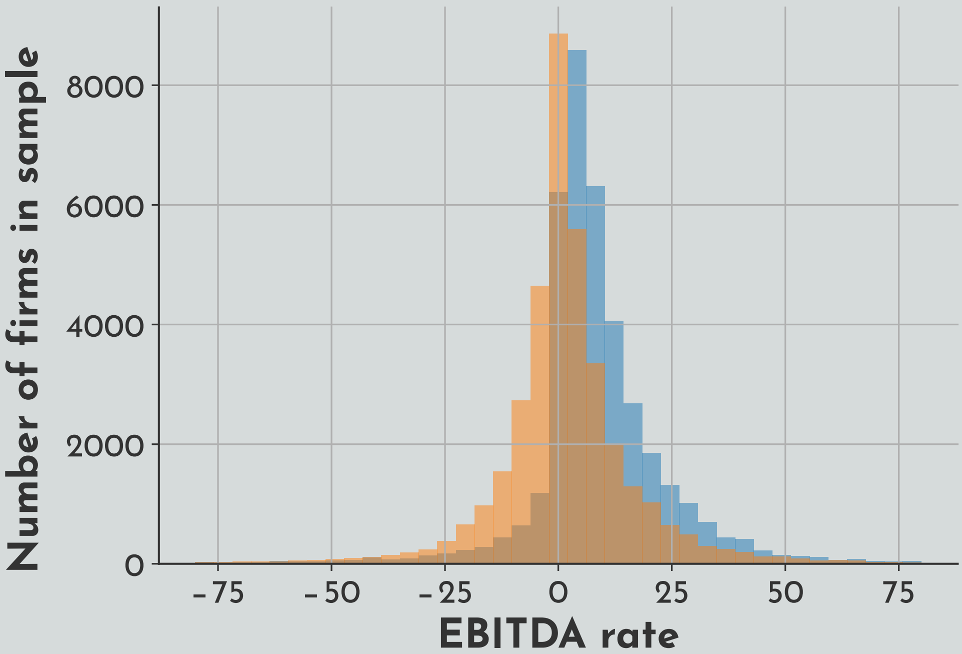

Figure 3: Frequency histograms of best-case (blue) and worst-case (red) EBITDA rates following implementation of a four day week, using the whole sample.

Finally, it is worth returning to the 'big picture' implied by the profitability algebra above: firms with significant labour costs will find reduced working hours without loss of pay difficult to achieve, while firms with lower labour costs will find the same policies easier to implement. Figure 4 plots a frequency histogram of the most straightforward indicator of the importance of labour costs for medium-to-large firms in the UK: wages and salaries as a percentage of revenue.

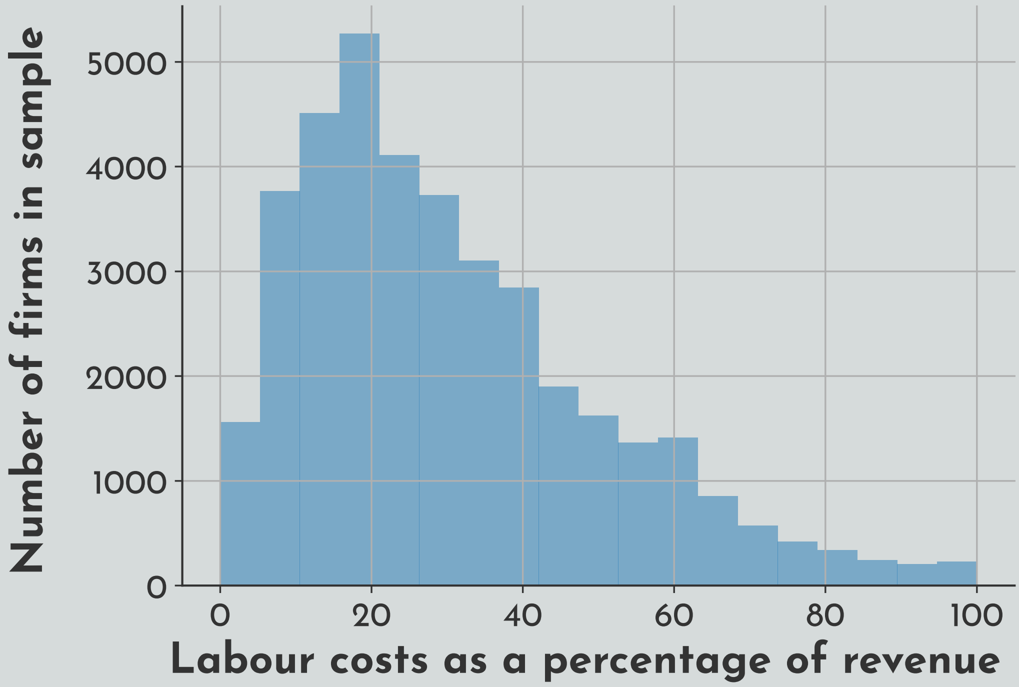

Figure 4: Frequency histogram of wages and salaries over revenue, using the whole sample.

As the graph suggests, direct labour costs account for less than half of turnover for the majority of firms with 50 or more employees. There is, however, a 'long tail' of firms in which labour costs are very high relative to revenue, a lot of which operate in the problematic industries discussed above. Again, therefore, average firms in most industries should remain profitable following the implementation of a four day week, but some firms in some industries might struggle if changes were implemented very rapidly.

Two main conclusions can be drawn from this exercise:

1. A four day week with no loss of pay would be affordable for most firms once the initial phase of the Covid-19 crisis has passed.
2. Some firms in some industries could experience cashflow problems if a four day week was implemented too quickly.

This suggests that a four day working week in the United Kingdom is a feasible goal, but that any policy push towards a four day week will have to be carefully designed. We discuss the means by which a four day week could be achieved in the next section.

Implementing a four day week

Since the high point of the industrial revolution, average hours of work have reduced steadily in most countries. In the United Kingdom, government legislation has not been the main driver of these reductions, although various acts of parliament in the nineteenth century limited legal working hours for women and children (McCormick, 1959). Instead, trade unions have historically negotiated working time reductions in Britain, alongside the occasional unilateral reduction in hours by enlightened employers. The substantial fall in average work-hours after the First World War, for example, was initiated by the engineering and shipbuilders' unions, and later spread to metal working trades, railways, textiles, coal mining and the construction trades. The resulting drop in average weekly hours is immediately visible in the long run series charted in figure 5.

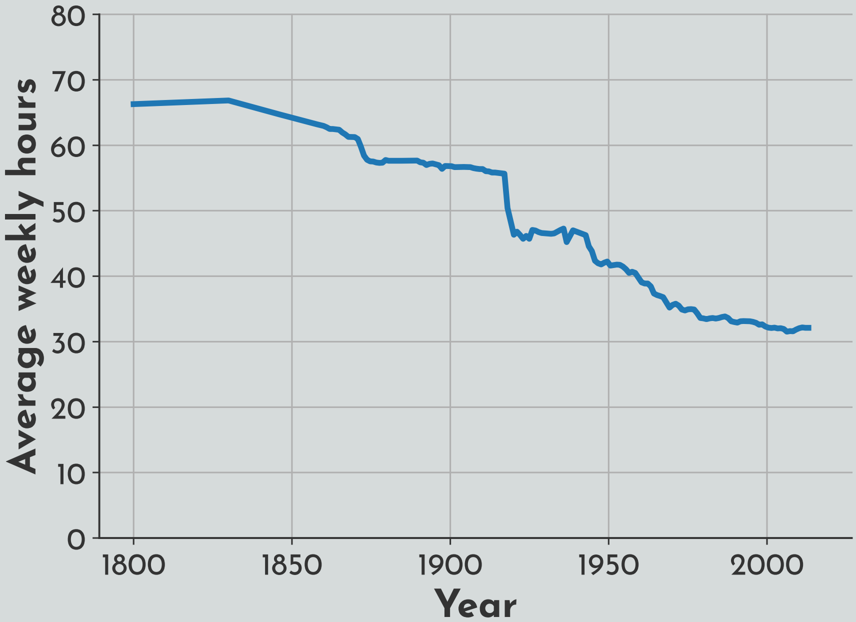

Figure 5: Average weekly hours worked, Britain/UK, Bank of England 'Millennium of Macroeconomic Data' (Thomas et al., 2010).

Trade unions have also been central to reductions in work-hours in other European countries, with Germany being a well-known example (Bosch, 1990). Other countries have taken economy-wide legislative approaches, sometimes as a response to stalled union negotiations. An important example of this approach is the French 35 hour week legislation, which was introduced between 1998 and 2002 by the Socialist Party and set a legal limit to the private sector working week of 35 hours. As discussed in Askenazy (2013), however, the absence of an effective union presence at the firm-level in France made firm-level negotiations over the specifics of work-time reductions very difficult, and led to a highly complicated set of regulations. What exactly constituted normal hours of work was contested, a variety of minimum wages were created as a by-product of the legislation, and the public sector was not covered. Although the regulations did lead to a reduction in work-hours for a large number of employees, they also appear to have increased inequalities along the lines of socio-economic status, occupation and age, and were progressively dismantled after the Socialists lost power in 2002.

The importance of trade unions, and the apparent difficulties of designing economy-wide legislation, present a conundrum for countries with low levels of unionisation like the United Kingdom. Robert Skidelsky, in his 2019 Progressive Economy Forum report to the (then) Shadow Chancellor, is apparently pessimistic that unions can play any role in twenty-first century Britain, and argues that, "Capping working hours nationwide, on the lines of France's 35-hour working week, is not realistic or even desirable" (Skidelsky, 2019, pp.42). Instead, he argues that the state ought to become the 'employer of last resort' via the creation of a 'job guarantee program', which could be used as a lever to push down the average number of hours worked in the economy (ibid., pp.45). Quite aside from the well-known issues surrounding job guarantee programs (Sawyer, 2003), we feel that Skidelsky's conclusions are overly pessimistic.

While the United Kingdom does suffer from very low unionisation rates in the private sector, its public sector is highly unionised. As of 2019, over half of public sector employees were unionised, compared to around 13% of private sector employees (ONS, 2020c). This suggests that the implementation of a four day week in the United Kingdom could start in the public sector, and would most likely be led by the public sector unions. A push towards a shorter working week in the public sector would require a sympathetic government, but the current Conservative government has shown itself to be somewhat more flexible on policy issues than its predecessors. Alternatively, pilot schemes could be conducted by political sympathetic councils, regional mayors, or devolved governments. For costings relating to a four day week in the Scottish public sector see Calvert Jump and Stronge (2020). The Scottish National Party has shown support for exploring such an idea in recent times (Marlborough, 2020). Importantly, as public sector pay has fallen substantially in real terms since 2010, there is a natural justice argument for significantly reduced work-hours across the sector.

Aside from the practical advantages of negotiating work-time reductions in the most unionised sector of the British economy, the major benefit of implementing a four day week in the public sector is in its role as *l'état exemplaire*, i.e., its role as an example of best practice for the private sector. As well as implementing a four day week for its own workers, for example, public sector procurement policy could give preference to firms that have also implemented a four day week. We discuss this further in Jones et al. (2020), where we discuss the examples of British government contracting being used to provide work for disabled ex-servicemen after the First World War, and more recently the requirement for all Scottish contracting authorities to consider community benefit requirements for any contract worth £4 million or more. Most importantly, we also show in that paper that a four day week is affordable for the public sector, costing somewhere in the region of £9 billion per year.

A strategy in which working time reductions are initially implemented in a large, influential part of the economy reflects the basic observation that normal hours of work are essentially a social norm; they are collectively determined by precedent and sentiment on the one hand, and contested by employers and organised labour on the other. For example, Sunday has traditionally been the day of rest in Britain, for obvious religious regions, and this 'fact' has rarely been contested. 'Keeping Saint Monday', the practice of worker absenteeism following festivities on Sundays, was relatively common behaviour in the first half of the nineteenth century, but was contested in a way that Sunday leisure was not. 'Saint Monday' eventually vanished as a behavioural norm, in part because of the establishment of half-days on Saturdays in the second half of the century. Reid (1976) describes how half-days on Saturdays were consciously encouraged by employers as a means of securing a full day of work on Mondays, with an element of coercion present. He quotes a Birmingham employer as describing how,

> Formerly the workpeople were apt to come in at all times, but the half-holiday enables me still more strongly to insist on regularity, and say, 'No, you have had your Saturday, and must be regular now (Reid, 1976, pp.89).

Thus, the two day weekend was born as a way of increasing weekly hours of work. 100 years of trade union action and government legislation followed, leading to today's expectation of a 40 hour full-time week with Saturdays and Sundays off.

The implication of these observations is that any four day week policy should, ultimately, be about the establishment of new social norms. This is something that sustained trade union action has historically been successful at achieving. By far the most unionised part of the British economy is the public sector, and therefore this is where a four day week is most likely to be achieved in a sustainable manner. 'Big push' legislation, following the example of France's 35 hour week, is apparently less likely to result in sustainable change, and in any case we have already demonstrated in section 2 that some businesses in some industries would struggle if a four day week was implemented too quickly.

A bank holiday route to the four day week

How might the process of change be speeded up, without forcing firms into bankruptcy? One simple possibility is an expansion of the number of bank holidays. An immediate move to the 'May model' of two bank holidays per month in June, July, August and September would require seven additional public holidays, bringing the total number of public holidays in the UK to 15. An additional two public holidays in April (in addition to the Easter bank holidays) would bring the total number of public holidays to 17, still behind countries like India and Cambodia which both have 18 public holidays per year. As well as increasing the number of days off during the school holidays, this would also free up more statutory holiday entitlement to be taken over the winter months, as the majority of statutory holiday days are currently taken in the Spring and Summer months.

As well as being a simple, 'gradualist' option for the private sector which could reinforce any actions taken by the public sector, an important benefit of the 'public holiday model' is engagement with the public. Linking new bank holidays to specific events in national history or religions, or specific people, could be very popular and reinforce a general approach of creating new social norms for shorter working hours. Bank holidays could be timed to coincide with celebrations in religions other than Christianity, and referenda could be held on events and people to celebrate. This could result in highly popular holidays akin to Martin Luther King Jr. Day or Independence Day in the USA.

Strengthening worker voice

Perhaps the most obvious way of speeding up the process of achieving shorter working hours is by the reintroduction of pro-union legislation, thus encouraging greater unionisation in the private sector. The power of unions to conduct industrial action has been repeatedly, and significantly, curbed since the end of the 1970s, with no fewer than 13 major pieces of legislation enacted between the first Thatcher administration and the last Blair/Brown administration (House of Commons Library, 2017). Secondary strike action and political strikes became effectively impossible, as did closed shops, and rules on strike ballots were repeatedly tightened. Further restrictions were imposed in the Trade Union Act 2016, including a 50% turnout threshold for strike ballots, and stringent majority requirements were introduced for workers in certain public services. A root-and-branch reform of this legislative apparatus would be the most straightforward method to improve the lives of workers, including reduced work-hours and other improvements in work-life balance.

The Covid-19 crisis

The analysis in section 2 is predicated on 'normal' profit distributions, as the data correspond to accounts filed prior to the Covid-19 crisis. At the time of writing, many more firms are likely to be facing negative cashflow, and reduced working hours have only been made possible by extensive government subsidisation. This, however, makes the strategy outlined in section 3 much more pressing, as the rise in employment implied by a four day week in the public sector could be used to mitigate the effects of private sector job losses over the Winter.

In Jones et al. (2020), we argue that a four day week in the public sector could create between 300,000 and 500,000 full-time equivalent jobs in the sector. A reasonable multiplier effect operating on that number might be expected to cushion the fall in aggregate demand, and reduce the number of private sector redundancies expected in the coming months. Moreover, these new public sector jobs would disproportionately benefit places that have been heavily affected by the Covid-19 crisis, including Wales and the North East of England, and several parts of the North West, as the public sector is an important provider of jobs in these parts of Britain.

As the economy recovers from the crisis, and profitability returns to normal for most firms, we would expect the public sector's lead in shorter working hours to filter through to private sector employee expectations of 'normal' work-time, as outlined above. Working patterns have already changed dramatically as a result of the crisis, and this coincides with a private sector ready to embrace change. A survey undertaken by Survation on behalf of Autonomy, for example, found that 47% of business leaders were 'very open', and a further 32% 'quite open', to a four day working week in which wage bills would increase (Autonomy, 2020). The ground has therefore been prepared for widespread changes in social norms surrounding working time and work-life balance in Britain, and national policy could build on this to achieve material improvements in work-life balance after the Covid-19 crisis.

Summary

In this discussion paper, we have argued that the implementation of a four day week with no loss of pay would be affordable for most firms in the United Kingdom. Specifically, using data drawn from the Fame database (Bureau van Dijk), we compute a range of profitability measures that we might expect to observe following the implementation of a four day week. Most firms in most industries could implement such a policy, which would effectively result in a significant increase in hourly wages. However, our results also suggest that some firms in some industries would suffer from cashflow issues if a four day week was implemented too quickly.

Trade unions have historically negotiated working time reductions in Britain. As the public sector is by far the most unionised sector of the British economy, we would therefore expect a four day week to be introduced in the public sector before the private sector. A strategy in which working time reductions are initially implemented in the public sector reflects the basic observation that normal hours of work are essentially a social norm. We would expect a four day week in the public sector to shape norms and expectations for working hours in the private sector, which could work in conjunction with trailblazing private sector firms to reduce working hours across the economy as a whole. Policies to reinforce this mechanism include a repeal of anti-union legislation, and an increase in the number of public holidays.

The analysis in this paper is predicated on 'normal' profit distributions, as the data we use pre-date the Covid-19 crisis. However, working patterns for those remaining in 'nine-to-five' jobs have changed dramatically as a result of the crisis, and this coincides with a private sector ready to embrace change. A survey undertaken by Survation on behalf of Autonomy, for example, found that 79% of business leaders were either 'very open' or 'quite open' to a four day working week. This confluence of economic crisis, widespread job losses, and a private sector ready to embrace change make the introduction a four day week a huge opportunity. More jobs would be created, more people would enjoy a balance between work and leisure, and livelihoods would be protected. We argue, in summary, that a four day week with no loss of pay should play a central role in post-Covid economic and social policy.

Notes on data source

The Fame database takes the majority of its data from Companies House, and includes information on millions of incorporated and unincorporated businesses in the UK and Ireland, both active and non-active. It includes information on firm size, location, financial information, and a variety of data on shareholders, directors, M&A activity and so on. We would like to thank Ayesha Kataria at Bureau van Dijk for her help and database advice.

References

Askenazy, P. (2013). Working time regulation in France from 1996 to 2012. Cambridge Journal of Economics, 37(2), 323-347.

Autonomy, (2020). Polling of UK business leaders: 79% are supportive of a four-day working week. Webpage: https://autonomy.work/portfolio/business4daypolling

BLS, (2020). Frequently asked questions: The impact of the coronavirus (COVID-19) pandemic on the Employment Situation for May 2020. Bureau of Labor Statistics Discussion Paper, June 5th 2020.

Bosch, G. (1990). From 40 to 35 hours – Reduction and flexibilisation of the working week in the Federal Republic of Germany. International Labour Review, 129, 611.

Bureau van Dijk. Undated. Fame database. https://www.bvdinfo.com/en-gb/our-products/data/national/fame.

Calvert Jump, R. and Stronge, W. (2020) A Scottish Four Day Week. https://autonomy.work/portfolio/scottish4day/

Henley Business School, (2019). Four better or four worse? https://assets.henley.ac.uk/defaultUploads/Four-Better-Four-Worse-Henley-Business-School.pdf?mtime=20190701093655

House of Commons Library, (2017). Trade union legislation 1979-2010. Briefing Paper Number CBP 7882, 26th January 2017.

Jones, P., Calvert Jump, R. and Kikuchi, L. (2020). Public Sector as Pioneer: shorter working weeks as the new gold standard. Autonomy Discussion Paper. https://autonomy.work/portfolio/publicsectorpioneer/

Marlborough, C. (2020) 'SNP conference overwhelmingly backs motion to explore four-day working week. The Scotsman. Available at: https://www.scotsman.com/news/politics/snp-conference-overwhelmingly-backs-motion-explore-four-day-working-week-3053164

McCormick, B. (1959). Hours of work in British industry. Industrial and Labor Relations Review, 12(3), 423-433.

ONS, (2020a). Labour market overview, UK: October 2020. Office of National Statistics Bulletin, 13th October 2020.

ONS, (2020b). Profitability of UK companies: October to December 2019. Office of National Statistics Bulletin, 28th April 2020.

ONS, (2020c). Trade Union Membership, UK 1995-2019: Statistical Bulletin. Office of National Statistics Bulletin, 27th May 2020.

Ralph, A., Martin, B. and Clarence-Smith, L. (2020). Big firms like the flexible approach to home working. The Times, Saturday August 29th. https://www.thetimes.co.uk/article/big-firms-like-the-flexible-approach-to-home-working-lj8vkfdql

Reid, D. A. (1976). The Decline of Saint Monday 1766-1876. Past & Present, (71), 76-101.

Sawyer, M. (2003). Employer of last resort: could it deliver full employment and price stability? Journal of Economic Issues, 37(4), 881-907.

Skidelsky, (2019). Working to achieve shorter working hours. Progressive Economy Forum Discussion Paper.

Thomas, R., Hills, S. and Dimsdale, N. (2010). The UK recession in context—what do three centuries of data tell us? Bank of England Quarterly Bulletin, Quarter Four.