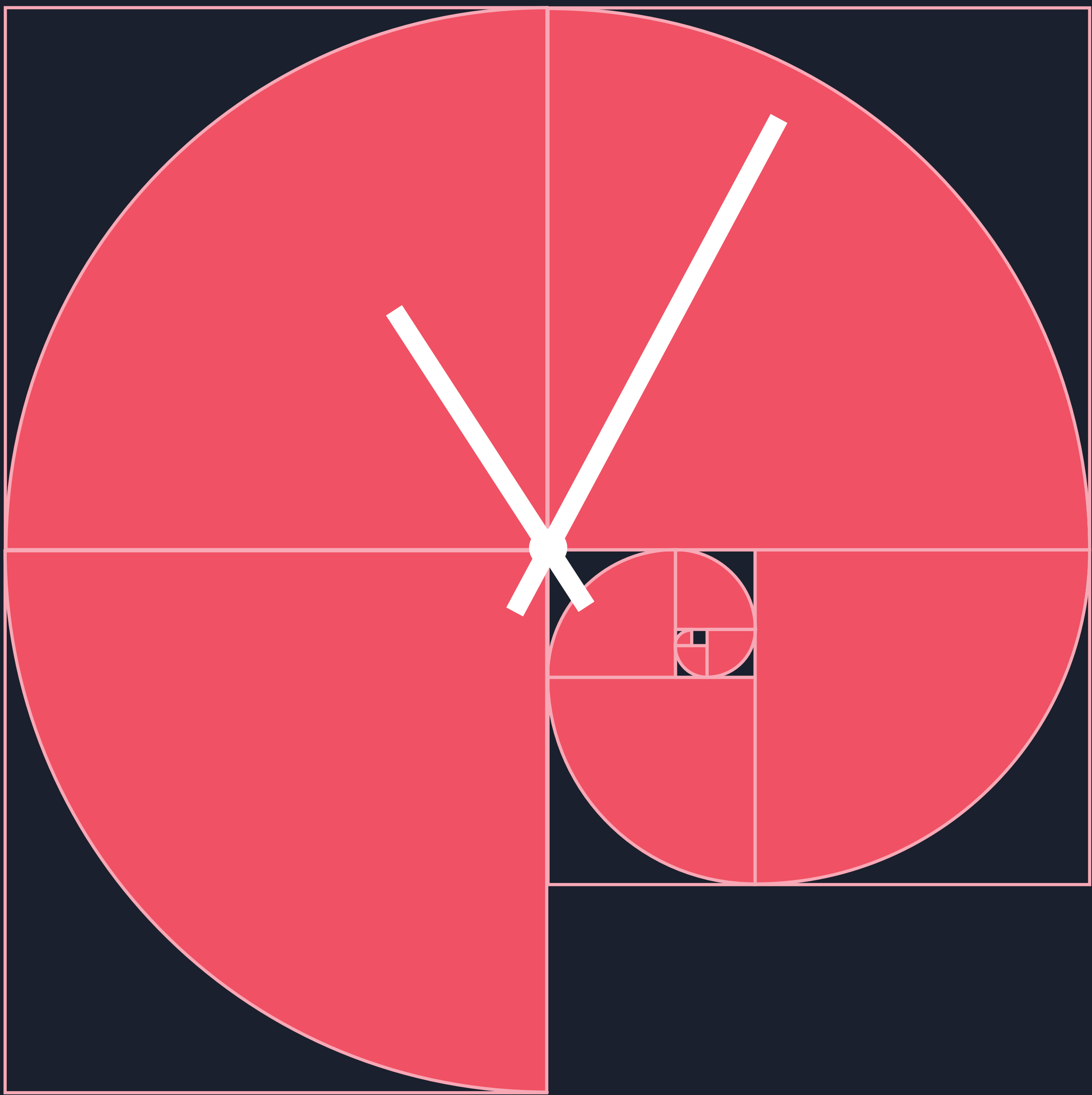
How to achieve shorter working hours

Lord Skidelsky



PEF Progressive Economy Forum

How to achieve shorter working hours

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Commissioned by the Rt Hon John McDonnell MP,
Shadow Chancellor of the Exchequer

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Preface

At the end of 2018, I was asked by Mr McDonnell to inquire into the feasibility of legislation to limit hours of work. I was glad to accept his invitation, subject to the Report being politically independent. No financial support has been requested or received from the Labour Party.

I have been greatly helped in conducting the inquiry and writing the Report by my research assistant, Rachel Kay, and by Nan Craig and Alex Bagenal. The arguments with Rachel have often been fierce, but the Report is better for having had them. Parts II and III are mainly her work.

A number of people have kindly supported the work of this Inquiry by giving evidence and advice. I would like to thank Anne Eydoux, Sharon Graham, Rayhan Haque, Aidan Harper, Alice Martin, Seamus Nevin, Tej Parikh, Adam Peggs, Matthew Percival, Carys Roberts, Florent Sherifi, Guy Standing, Tim Thomas and Bertie Wnek. Special thanks go to William Brown, Barry Colfer, Michael Davies, Richard Layard and John Monks who read and commented on the draft Report. As always, the House of Lords Library staff have been invaluable.

Particular thanks are due to Patrick Allen and the Progressive Economy Forum for assisting in the publication and launch of the Report.

Robert Skidelsky

Introduction

'Beyond the immediate postwar period… the economic problems of the day… will lie in solving the problems of an era of material abundance not those of an era of poverty. It is not any fear of a failure of physical productivity to provide an adequate material standard of life that fills me with foreboding. The real problems of the future are… the profound moral and social problems of how to organize material abundance to yield up the fruits of a good life. These are the heroic tasks of the future.'

— John Maynard Keynes 1943

People should have to work less for a living. Having to work less at what one needs to do, and more at what one wants to do, is good for material and spiritual well-being. Reducing working time - the time one *has* to work to keep 'body and soul alive' - is thus a valuable ethical objective. It is also a much desired one. By work we simply mean 'necessary labour time', necessary in the sense of the time and energy required to earn needed income. It is not synonymous with activity in general, which may be undertaken for any number of reasons.

Automation - the use of technology to make a process happen automatically - brings about an increase in output per unit of effort. As a result it should, in theory, ease the burden of toil, bringing about shorter hours of work.

This indeed has been happening since the Industrial Revolution. But hours of work have not fallen spontaneously, and more recently have stopped falling at all, even though automation has been advancing. Rather, automation is often viewed as a threat to jobs and existing income levels. The reversal in trend towards shorter hours brings out the point that whether automation turns out to be a blessing or a curse depends on the speed and conditions of its 'roll-out', and the distribution of wealth, income, and life chances which accompany it. These are, or should be, matters of social choice.

In the past, a general reduction in working hours has been made possible by productivity growth, and brought about by a combination of collective bargaining, voluntarism, and legislation. Both enablers and drivers of shorter working time have weakened since the 1980s, and as a result the reduction of hours has stalled. Measured productivity growth has slowed down dramatically in the western world in the last forty years, for reasons which are not well understood, but which are connected with the shift from a manufacturing to a service economy. Collective bargaining for wages, hours, and conditions of work has been severely eroded. Real wages have stagnated, earnings dispersion has widened and job insecurity has increased, putting voluntary choices for hours reduction beyond the reach of increasing numbers of workers.

The reversal of the economic conditions which favoured shorter working hours means that policy interventions explicitly designed to secure reduced working time will be more necessary now than before. They will need to be directed less to stimulating economic growth and more to promoting security of employment, improved conditions of work, increased organisational efficiency and redistribution of incomes and life chances, so as to make it possible for more people to choose the work-life balance they prefer. As a major employer the government can exert a direct influence on hours worked throughout the economy.

In the past, shorter hours have been justified by increases in productivity, as measured by Gross Domestic Product per head. This allowed people to maintain, and even increase, living standards with fewer hours. GDP is only a measure of the value of the quantity of traded output, however, which fails to capture improvements in the quality or value added by non-traded sectors of the economy, like home care.[1] Reduction in hours should not, therefore, be rigidly tied to this narrow metric.

Public debate has concentrated on current obstacles to reduction in working time. These are important and should be addressed by policy. Policy is about detail, and the report concludes with detailed proposals for bringing about shorter working hours.

To avoid being buried in a clutter of detail, the central reason for working less needs to be kept in mind: that a reduction in hours of necessary work should be a natural and desirable outcome of a progressive society. This requires the imagination to think of futures beyond just GDP growth.

These are the principles which underlie this Report.

[1] For discussion of the flaws in the GDP measure of output, see The Economist (2016).

Part I. Why the interest in working time reduction today?

There are two main reasons for current legislative interest in shorter working time. The first is the prolonged failure of hours of work to fall, contrary to historical experience and the desire of the workforce. The second is alarmist predictions of job losses from automation. The Trades Union Congress has pressed for a general reduction of working hours, and there have been a number of private sector experiments to shorten the working week. There is also the fact that several EU countries, such as the Netherlands, Germany and Denmark, have achieved reductions in working time which have eluded the UK: they work shorter hours and produce more. Apart from the claim that reducing working time enhances productivity and lowers carbon emissions, the advantages claimed can be broadly classed under the heading of quality of life. They include improved mental and physical health and decreased work-family conflict. In parallel with the quest for shorter working hours, there has been renewed discussion of a universal basic income as a way of giving people more choice between work and leisure (see Standing 2019). The following section examines how the present position of hours in the UK has been determined by productivity and wages, automation, and the restructuring of the labour market.

The Present Position of Hours

Full-time employees in the UK – 74 per cent of the workforce - work longer hours than full time employees in all other EU countries except Greece and Austria. The EU average is 41.2; the UK's is 42.5 as of 2018 (see Figure 1).[2]

[2] This figure, from Eurostat, refers to the 'usual' hours worked by full-time employees, which does not include absences due to sick-leave or holiday leave. The Office for National Statistics, however, does include these absences, and gives 37.1 hours as the average for full-time workers. However, the Eurostat figure is more representative of the normal working week in the UK.

The 42.5 full time hours worked in the UK is an average. Amongst full-time workers, there are significant occupational, and to a lesser extent regional, variations in hours worked.[3] Hours worked in the public sector do not differ significantly from the national average (Eurostat 2019). Recent ONS data (April 2019) shows that of all employees, 17.1 per cent work over 45 hours. For the self-employed this is 25.9 per cent. This variation in working hours amongst full-time workers would present an obstacle to any legislation seeking to cap hours on the national level. Nonetheless, there are important commonalities across occupational divisions: polling by the TUC has found that stress and long hours are workers' biggest concerns following pay (2018a).

Usual weekly working hours in the main job for full-time employees, average, EU countries, 2018

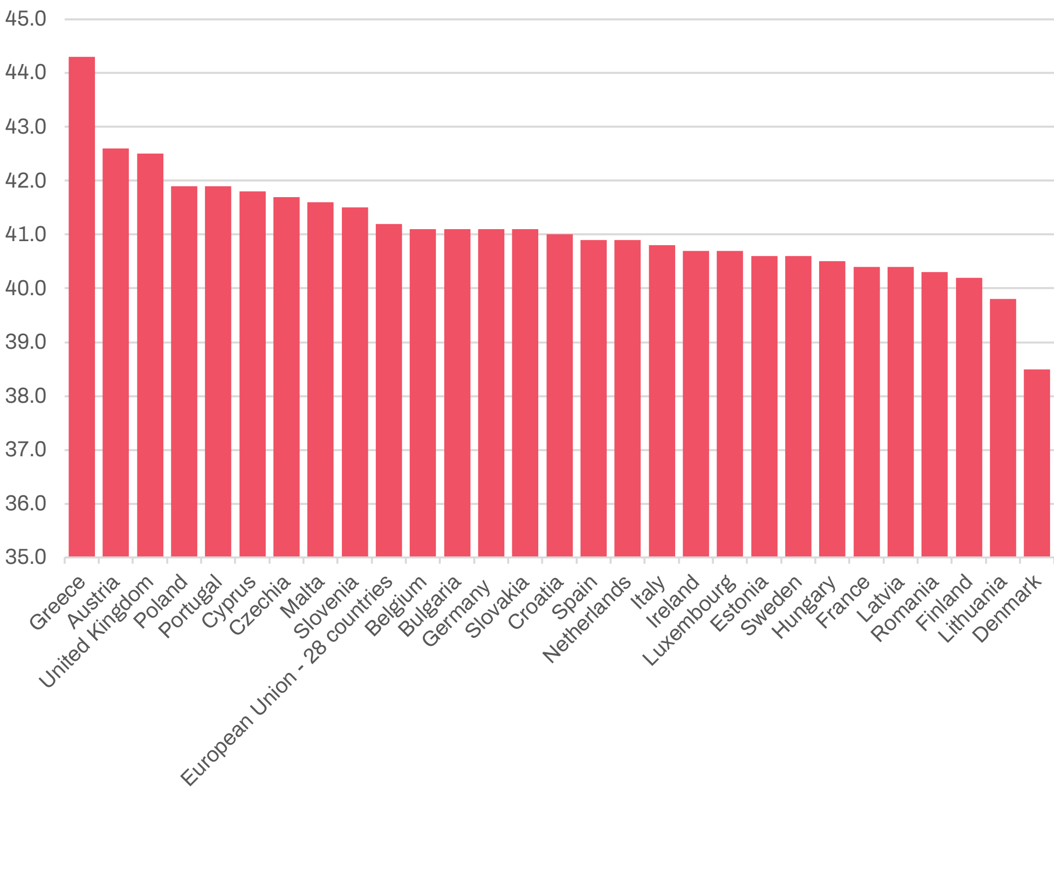

Figure 1: Authors' graph. Data from Eurostat (2019)

[3] From ONS data on hours worked by occupation (2018d), transport workers and plant process and machine operatives stand out as working significantly above-average hours. For data on regional variations in hours worked, see TUC (2008).

If we include part-time work, the picture changes. On a total work measure, UK workers work 36.6 hours a week, with 22 EU countries working longer hours (Eurostat 2019). This would be a welcome indicator were the hours of the 26 per cent of part-timers voluntarily chosen. In practice, part-time workers can be divided into those who want to work more hours but cannot get them (involuntary part-time employment) and those who have chosen to work less than full-time. In actual fact, however, there is not always a clear line between voluntary and involuntary part-time working, since government policies, including the availability of in-work benefits, shape choices. This is evident in the case of parents and particularly mothers. In the absence of state provision of childcare, a mother might choose to work part-time, but under a different system (such as Sweden's) where childcare is considered a public good and parental leave policies favour gender equality, she might choose to work full time. The headline unemployment figures do not include those in part-time work who would like to work more hours.

Given the uncertainties concerning work preferences, the full-time figure is the most representative of working-time norms in the UK. The comparison with other countries is, however, secondary to a more pressing concern. Over the last 150 years, working hours in industrialised countries have almost halved. Since the 1980s, however, hours of work have stopped falling, albeit with notable variations between countries. This confounds Keynes's famous prophecy of 1930 that by now industrialised countries would be approaching a working week of 15 hours.[4] Figure 2 shows what has happened to full-time weekly working hours in the UK since 1860. It reveals that after substantial and continuous falls up to 1980, hours of work stagnated.

[4] In his prediction, Keynes missed the fact that people care about relative and not just absolute income. Differences in income impart a dynamism to consumption, which means that, hitherto, most people have preferred more income to less work.

Weekly working hours in the main job for full-time employees, UK, 1860-2017

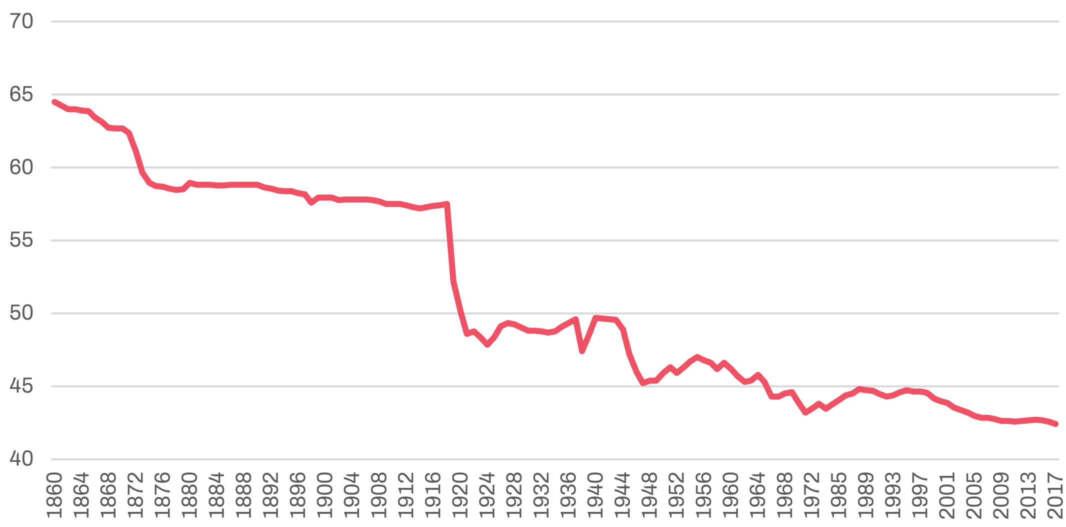

Figure 2. Authors' graph. 1860-1973 data are from Band of England (2018b) for full-time 'actual' working hours, though data for hours worked including overtime is only available consistently from 1944 onwards. 1983-2017 data are from Eurostat for full-time 'usual' working hours (2019). Note that Eurostat's measure of usual working hours excludes sick leave and holiday leave.

Angus Maddison's data for *annual* hours worked in the UK show the same trend. (Maddison 2006: 347-8).[5] Measurement of annual hours brings out the fact that reduction in hours can take a variety of forms: a shorter working week, increased annual leave, later start to work, earlier retirement. All have contributed to a reduction in necessary working time.

However, the important fact for today is that the average fall in hours worked, however measured, has been arrested. Recent analysis by the New Economics Foundation suggests that had average hours continued to fall in line with the post-war trend 1946-1979, we would currently have an average full-time working week of around 34 hours, and would be on course for a 30-hour week by 2040 (NEF 2019).[6]

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[5] Maddison's data includes part-time work, meaning that the picture of falling hours is complicated by changes in the gender composition of the workforce. The average fall, that is, covers a fall in men's hours but an increase in the number of part-time workers, which is also linked to sectoral shifts in employment.

[6] It should be noted that there are slight differences between the NEF's statistics on past working hours and those in this report, due to the use of different datasets (see footnote 1).

Productivity, wages and hours

Why have hours of work stopped falling? The brief answer is that the British economy has stopped working in a way which supports a fall in working hours.

The most important index of this is that productivity growth, as currently measured, has slowed to near zero. The more output per hour a country's workforce can produce, the richer its inhabitants will be and the less they will need to work to achieve any given output.

Already evident in the 1970s, the fall in UK productivity growth accelerated after the crash of 2008 (see Figure 3). Productivity grew at an annual average rate of 3.1 per cent between 1950 and 1973, 2.3 per cent between 1979 and 2007, and since the start of 2008 has averaged 0.4 per cent (Financial Times 2018).

Labour productivity growth 1910-2014 (10 year moving average)

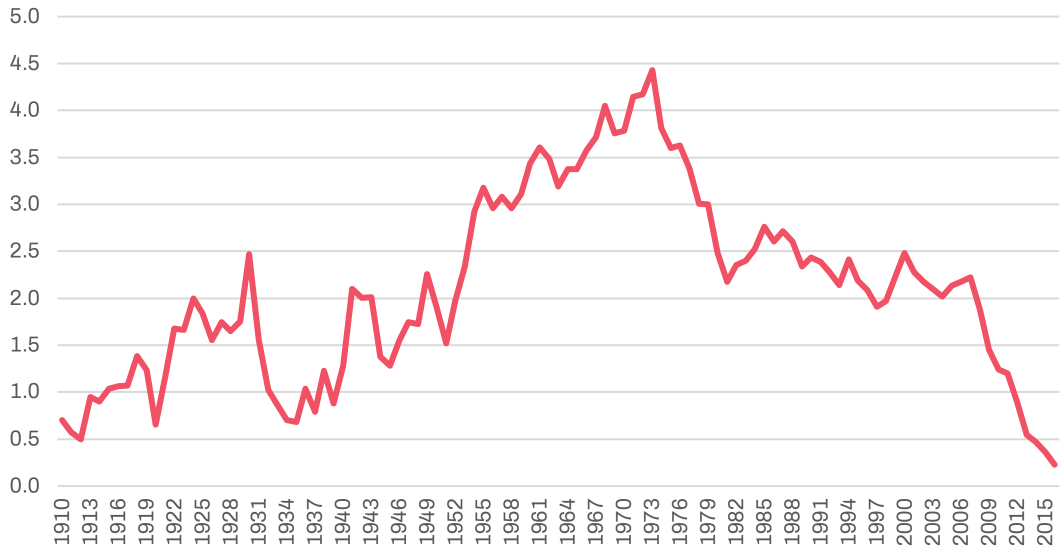

Figure 3. Authors' graph. Data from Bank of England (2018b).

A high rate of productivity growth makes possible a continuous increase in living standards. Figure 4, which shows the growth of real wages in the UK 1950s and 1960s compared with earlier and later periods, confirms this relationship. Since the 1970s, average real wage growth has slowed down in line with measured productivity growth, and since 2008 has stagnated, with employment growing faster than new capital.

Despite the high pressure of demand - unemployment was generally below 2 per cent in the 1950s and 1960s - inflation was subdued until 1968, enabling higher money wages to be translated into higher real wages. It is a notable question why such a tight labour market did not lead to inflation (money wages rising above productivity) as employers bid for scarce labour. The counter-intuitive, but probably correct, answer lies in the system of collective bargaining. The oft-maligned trade unions played a key role not just in forcing up real wages in line with productivity, but also in limiting money wage increases to productivity improvements, until at least the late 1960s. Industrial relations in the UK were far from perfect (as pointed out in the Donovan Report, 1968) but too little credit has been given to the moderation of the first postwar generation of trade union leaders.

Year-on-year real wage growth (10 year rolling average)

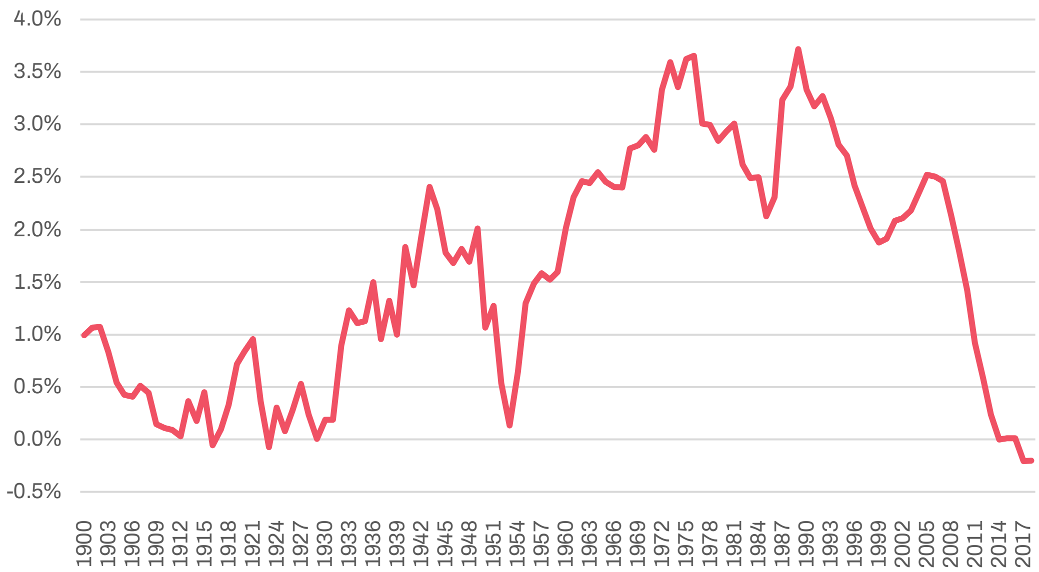

Figure 4. Authors' graph. Data from Resolution Foundation (2018b).

Over the long term real wages in the UK have risen less than productivity (Bank of England 2018a). The economic argument is that this is because workers have 'chosen' to take out a (small) part of productivity gains in the form of shorter hours rather than higher wages.[7] However, the idea that workers 'choose' between higher wages and more leisure exaggerates the element of choice employees have. It may help explain the fall in working hours of salaried professionals and independent contractors. But

[7] Economists distinguish between the 'income' and 'substitution' effects. As people's incomes rise, the opportunity cost of leisure - i.e. the wages forgone by not working - increases, and so people may work more (the substitution effect). On the other hand, higher wages increase the demand for leisure, which could encourage people to work less (the income effect). Historically, the income effect has dominated, but the fall in hours has been much less than forecast by economists like Keynes.

employers have generally had the power to determine working hours and conditions.[8] Similarly, it is employers, not workers, who 'choose' the speed at which they automate working practices, and thus how much extra time is released for leisure; and it is governments, not workers, who 'choose' the economy's capacity utilisation and the distribution of wealth and income.

Union activism has given a strong push to historical reductions in hours worked. In the UK of the 1950s and 1960s, trade unions were able to negotiate shorter working hours together with higher wages. Working time in the UK has been characterised by 'long periods of relatively stable working hours interspersed with rapid major adjustments' (Scott and Spadavecchia 2011: 1268). Major reductions in hours worked have coincided with periods of union strength (compare Figure 2 and Figure 5). Notably, in both 1919 and in the decades after World War II unions were able to exploit their wartime growth to secure large reductions in hours for industrial workers.

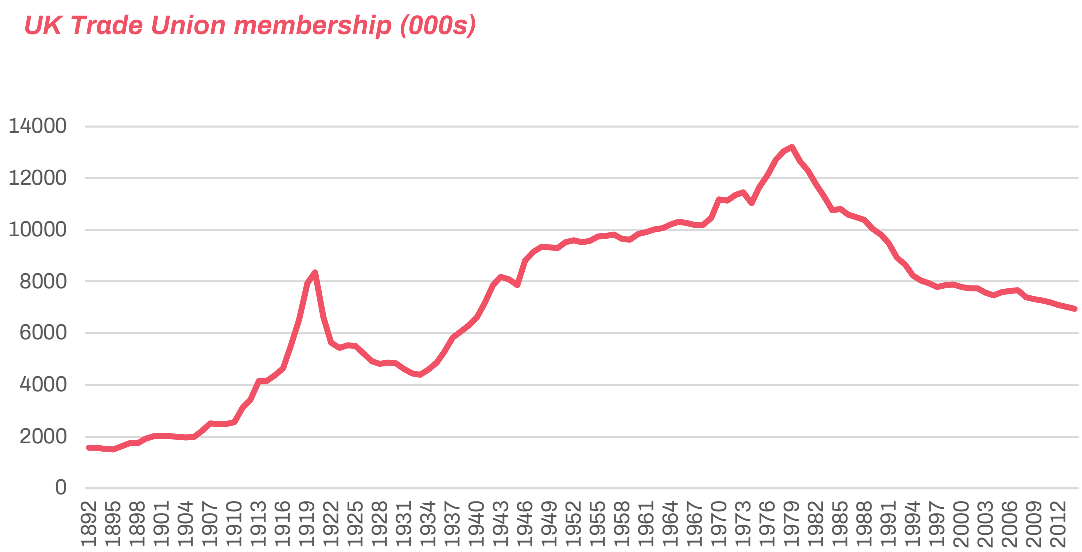

Figure 5. Authors' graph. Data from Bank of England (2018b).

A crucial link in this virtuous circle was the compression of the earnings distribution. Post-tax equalisation through progressive taxes and enlargement of the 'social wage' limited absolute poverty and moderated earnings dispersion. As these policies were reversed in the UK, the 1980s saw a dramatic increase in income inequality (see

[8] As Juliet Schor points out (1992), competitive pressures combined with poor protection of working rights have resulted in American employers working their existing workforces longer rather than spreading the workload thinner over larger numbers of employees, since the latter would involve additional costs of training and management, not to mention statutory paid vacations, insurance, and the like.

Atkinson 2015) as measured by the Gini Coefficient (see Figure 6).[9] Since the 1990s, income inequality has been significantly higher than it was in the postwar decades, with the UK now having the 7th highest income inequality of the 35 OECD countries (OECD 2019).

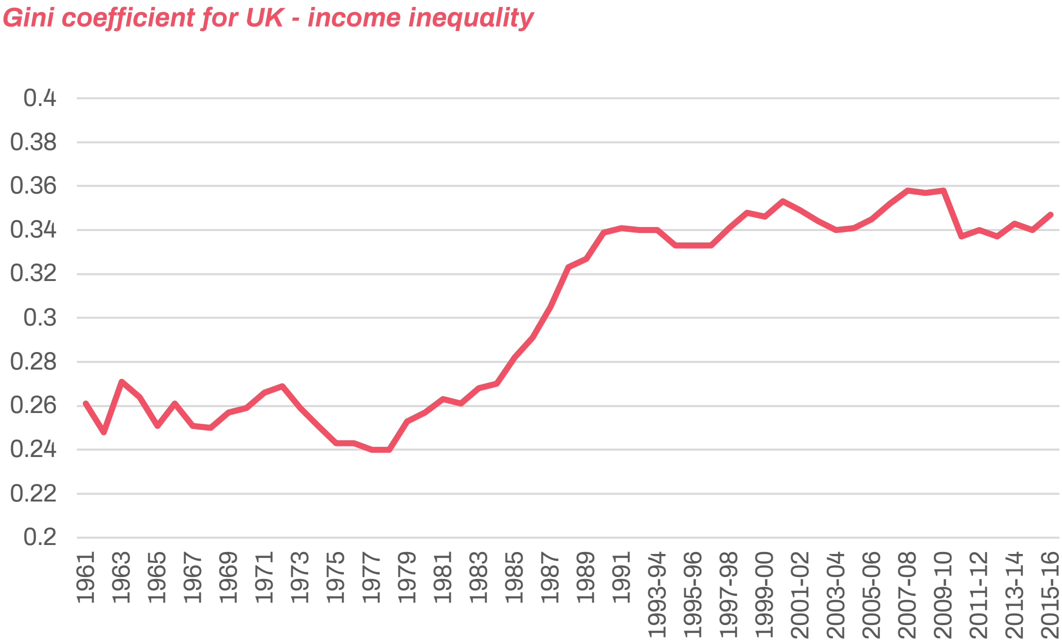

Figure 6. Authors' graph. Data from Institute for Fiscal Studies (n.d.).

There has been much debate about the collapse in British productivity since 2008. The reasons are complicated, but the following are the most commonly cited: the shift in the economy towards services; collapse of investment in physical capital; skills shortage; lack of demand; and lack of wage pressure. The shift to services is particularly important, because output in services is much harder to measure, and because services have attracted a disproportionate share of investment.

Productivity growth is largely driven by investment in physical and human capital, and in the reorganisation of work to achieve greater efficiency. Historically, the UK has invested a lower percentage of its national income than its main European comparators; but by its own sluggish standards, it experienced an investment boom in the 1950s and 1960s (Matthews 1968).

[9] The Gini coefficient is an index of inequality in the distribution of household disposable income (gross income minus direct taxes) adjusted for household size. The Gini coefficient is very likely to be an underestimate of inequality. Firstly, it measures relative rather than absolute inequality. Secondly, survey data doesn't pick up all wealth, especially that which is hidden offshore.

The causes of the investment boom are disputed but probably the most important factors were the government commitment to full employment, and specific tax incentives for investment.[10] An ancillary role was played by public investment, which contributed just under 10 per cent of the total. The commitment to full employment was also important in increasing both the confidence of investors, and, by lowering the risk of default, reducing the cost of capital. Thus, the full employment policies of the 1950s and 1960s were conducive to a high rate of investment, and via high investment, to the growth of productivity.

Skills shortage has been particularly emphasised by business leaders. Faults have been identified with the school, post-school training (e.g. apprenticeships) and adult skills systems (see e.g. Dromey and McNeil 2017). The UK has a low level of basic skills (literacy and numeracy) as well as shortages of STEM skills at the graduate level.[11] There is widespread ignorance by school leavers of graduate level apprenticeship schemes funded by the employers' levy (Financial Times 2019). The point being made is that there is no advantage in mechanising production if the workforce is not sufficiently skilled to use the new technologies. This is a long-term problem, meaning that it can hardly explain the collapse of productivity since 2008.

Lack of wage pressure means that employers have little incentive to save on labour costs. Since 2008, there has been no 'cost push' from the side of labour, despite the recovery of 'full employment'. Although the different factors behind the productivity decline can be separated out, the extent of the collapse must be the result of the recession itself, and the reaction of the labour market to it (a theme taken up later in the report).

To summarise the argument so far: falling hours are associated with high measured productivity growth; high productivity growth with high investment ratios and rising real wages; and rising real wages with shorter working hours.

The reversal of productivity growth thus makes it much harder to secure the reduction of hours. As one author notes: 'It [reduction in productivity growth] is especially surprising in light of popular infatuation with the supposed acceleration of automation and robots, and other labour-replacing technology. While some industries and occupations have certainly been transformed and disrupted by automation, overall

[10] For example, the investment allowances, introduced in the late 1950s, permitted more than 100 per cent of the original cost of an asset to be written off out of a firm's profits before these were subjected to tax.

[11] The proportion of pupils achieving the 'threshold of a Grade 5 or above in English and Maths in 2018' was 39.9 per cent (Department for Education 2018). A Grade 5 pass is defined as 'strong'. A grade 4 pass is defined as 'credible'. Presumably a Grade 3 pass is incredible. Readers can make what they want of these euphemisms.

investment in new machinery and new technology is slowing down, not speeding up' (Stanford 2019: 6-7).

Automation: Blessing or Curse?

Historically, mechanisation has been the durable engine of productivity growth and of the shortening of working hours, though often with a considerable lag.

The simplest reason for this is that machines replace human labour and thus the amount of time humans need to work. In his essay *In Praise of Idleness*, Bertrand Russell illustrates his theme with a thought experiment. Suppose that a pin manufacturer employs a certain number of people who work 8 hours a day and produces all the pins the world needs. Now suppose that an invention allows the same number of people to make twice as many pins. In a simplified world, everybody concerned in the manufacturing of pins would take to working four hours instead of eight - without loss of pay.

However, there is one compelling reason why the simplified story may not work out in practice. The owner of the pin factory may simply sack half of his workforce rather than halving their hours. Depending on the structure of the labour market, they may stay unemployed or find less well-paid work. This is the root of the fear of machinery, going back to the Luddites.[12]

In other words, the effect of machinery on work depends crucially on the conditions under which it is introduced. The benign possibilities envisaged by Bertrand Russell will not be brought about automatically by market forces.

In recent decades, technological invention has raced ahead, with robots able to take on cognitive as well as physical tasks. Forecasts of the future of work in the so-called 'Fourth Industrial Revolution' are polarised between alarmist headline stories of estimated job losses and rosy business narratives pointing to the higher-waged work automation will enable. Typical of the 'jobs at risk' stories is a report from Bank of America Merrill Lynch which 'suggests that the marriage of artificial intelligence and robotics could replace so many jobs that the era of mass employment could come to an end' (The Observer 2015).[13] The alarmist suggestion is that, with automation biting

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[12] Britain's handloom weavers are the most famous example of technology eliminating a skill, and the work which depended on its possession. But many similar stories can be told - for example, the invention of hydraulic door closers decimated the jobs of thousands of janitors and porters, whose task it had been to open and shut doors.

[13] Estimates of UK jobs 'at risk' range from 47 per cent of total US employment by Frey and Osborne (2017) to the ONS's recent estimate that 7.4 per cent of jobs in the UK are 'at high risk of automation' (ONS 2019a). Estimates depend partly on methodology. Frey and Osborne look at the automation of whole

ever deeper into cognitive work, and at an accelerating rate, there will soon be almost no jobs that robots could not do as well as, or even better than, humans. Therefore, job losses due to automation will inevitably exceed those caused by mechanisation in the past; some new jobs may be created, but far fewer than jobs destroyed.[14] The alarmist headlines play up the fear of unemployment, which probably remains the greatest fear of workforces in developed countries, despite the softening of hardship through the welfare state. All the evidence shows that workers want to work fewer hours, but also fear that automation will lead to mass unemployment.

The benign story sees the benefits of introducing machines in one sector being automatically shared. A fall in the relative price of the automated good raises the real income of other workers, who will spend more. 'Higher productivity implies faster economic growth, more consumer spending, increased labour demand, and thus greater job creation' (Pissarides and Bughin 2018). In short, as automation advances, real incomes will be raised in one sector after another creating increased demand for new products and hence increased demand for the labour to supply them. This is how it happened in the past, and there is no reason to suppose it will not happen today.

The benign forecast also invites us to consider the impact of automation on tasks, not jobs. Tasks can be divided into manual routine, cognitive routine, manual non-routine and cognitive non-routine. The idea is that automation initially replaces manual routine tasks, then cognitive routine, then manual non-routine, and finally cognitive non-routine. Most jobs contain non-routine tasks which cannot be automated. This means that over most of the job range, current and future, machines will 'complement' or 'augment' rather than compete with human labour. Provided facilities are given for workers to 'learn as they earn', automation need not lead to a net reduction of jobs; rather to the creation of higher-paying, more satisfying work.

In contrast to the simple alarmist projection of total joblessness, the benign story distinguishes between different risks for different types of jobs. The 'safest' jobs - those least susceptible to automation - are those requiring personal interaction, original thinking, and specific types of physical dexterity. It has been claimed that those most at risk are routine jobs in the middle-income, middle-skilled range, though even here it is only the most routine of them which will go to the wall (Autor and Dorn 2013). However, a recent study by the ONS suggests that it is mostly low-paid and low-skilled jobs that are at the highest risk of automation (ONS 2019a).

As we have argued, automation has distributional implications. In the worst case, the owners of the robots keep all of the productivity gains. In a more realistic reading, an

occupations whilst the ONS investigates the automation of tasks. The best-known predictor of a jobless future is Martin Ford (2015).

[14] For scepticism about the claims that technology will soon take over large numbers of jobs, see Brooks (2017).

earnings premium will be attached to those tasks/skills which are hardest to automate. One can imagine a new division of labour which polarises society into a small class of very wealthy entrepreneurs, financiers and 'creators' at the top, a relatively small group of highly skilled engineers, supervisors and professionals in the middle, and an insufficiently educated, poor and subsidised mass of people at the base. Even those who enthuse over the coming of robots acknowledge that the only way to avoid such an outcome is to 'reskill' the workforce so that human workers can learn to 'race with the machines'.

However, the common point in both stories is that they are set in the future. The 'roll-out' of so-called 'Industry 4.0' technology is still in its infancy, more so in the UK than in other advanced economies, particularly in Asia. According to the International Federation of Robotics, the UK, with 71 robots per 10,000 workers, is among the least automated of G7 countries (2018). So far, few economic benefits or woes can be attributed to the new wave of automation technology.[15] What the Shadow Chancellor John McDonnell has called the 'long hours and low wages' of the UK economy cannot have been caused by the redistribution of labour from automated to low-tech jobs which pay less, because there are too few automated jobs.

The roots of the phenomena described by Mr. McDonnell must be sought in the way that the British economy has been restructured in the post-Thatcher years.

Restructuring the economy

Since the 1980s, the engine of working hours reduction has stalled.

The key change on the demand side has been the abandonment by governments of their moral and financial responsibility to maintain full employment. Since 1980, unemployment and underemployment have both been much higher than they were in the first postwar decades. The confidence of business to invest and the bargaining power of labour have both thereby been eroded.

Private sector investment as a share of GDP never recovered the buoyancy it achieved in the 1950s and 1960s. The fall in the rate of private investment was not compensated for by an increase in public investment. Since the Thatcher governments of the 1980s, the state's investment function has been greatly reduced as governments pursued privatisation policies.[16] There have been three deep recessions since the 1980s, with austerity policy contributing both to their depth and duration. The vaunted pre-2008

[15] Autor and Dorn have argued, however, that previous waves of automation, such as the automation of clerical tasks, have been in part responsible for a hollowing-out of the income distribution (2013).

[16] Gross public investment as a share of GDP fell from 8.9 per cent in 1975 to 1.7 per cent in 2000.

'Great Moderation' lasted barely ten years. The collapse of investment, private and public, since 2008 has arguably been the most important reason for the accelerated collapse in productivity growth.

On the supply side, the fundamental shift has been the abandonment by government for any responsibility for the location and allocation of output.

Rejection of industrial policy meant abandonment of any attempt to preserve British manufacturing, the historical engine of productivity growth. This was in deference to the neoliberal dogma that an economy prospered best by leaving allocation of capital and labour to the market, and that manufacturing had no inherent advantage over services. This was in sharp contrast to Germany, which took a collective decision to preserve its manufacturing base. In the UK, manufacturing now constitutes a smaller percentage of economic activity than in almost any other advanced country, having shrunk from 32 per cent of gross value added in 1970 to 24 per cent in 1980, 14.5 per cent in 1997, and 10 per cent today (Mills 2014). The figure of 10 per cent is an underestimate of the current size of the manufacturing industry, since part of the shrinkage reflects changes in statistical classification rather than in actual activity. In the UK, manufacturing firms whose service activities predominate are classified as service firms.[17] Nonetheless, there has been a substantial redistribution of the labour force from manufacturing to services (see Figure 7).

Percentage of the labour force in England and Wales working in each sector of the economy, 1841 – 2011

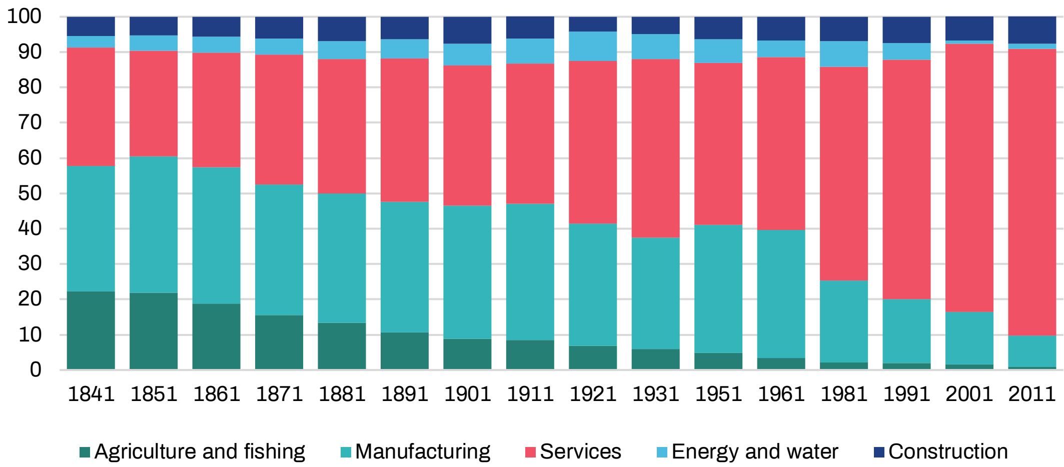

Figure 7. Authors' own graph. Source: ONS data (2016).
1941 and 1971 are omitted due to insufficient data.

[17] Personal correspondence with Make UK. See also Chang (2011: 92-3).

The aim of labour market policy since the 1980s has been to lower the rate of unemployment by increasing the incentives to work. Workers must be encouraged to 'get on their bikes' to search for available jobs. Raising the minimum wage to make work relatively more attractive to living on benefits has been one strategy to 'make work pay'. Another has been to provide 'in-work' supplements to wages. Schemes like Working Tax Credit now boost the incomes of 58 per cent of households with at least one wage-earner, up from 40 per cent in 1994-5. In-work benefits have also boosted the share of self-employment. In the late 1970s it was at around 7 per cent (CIPD 2012). By the beginning of the 1990s it had increased to 13.4 per cent, and by 2017 to 15.1 per cent (ONS 2018a). Part of this rise, however, is due to 'bogus' self-employment, when workers who should have employee status are classified as self-employed so that employers do not have to provide employee benefits.

The weakening of trade unions has played a key part in increasing labour flexibility. Since the 1980s, legislation has made it more difficult for workers to organise (for the shrinkage of union coverage see Figure 5). As of 2016, only 16 per cent of the UK's private-sector workers were covered by collective bargaining agreements (ETUI 2016). This includes workers in the privatised public utilities. The majority of union members are now in large unions, formed by mergers: as union density has decreased, unions have increasingly moved away from sectoral or occupational distinctions in order to maintain membership. This has blurred former boundaries between sectors.

Some social partnership bodies, which provide forums for the state, employers and trade unions to come to agreements over pay and working conditions, have also been abolished. In the UK these included the Wages Councils, which set legally-binding minimum wages in weakly-unionised, low-pay sectors (all but one were abolished in 1993), and the National Economic Development Councils (abolished in 1979).

More important than trade union legislation in diminishing the power of collective bargaining has been the globalisation of markets and corporate ownership, and the 'fissuring' of enterprises and employment contracts through outsourcing and subcontracting (Brown and Wright 2018). This means that simply reversing the legislation would not restore the power of collective bargaining. Increased competition has increased the pressure on working time, as working time management has become an important way for businesses to stay competitive. Their two main strategies have been first to extend production times/business hours, and secondly to adapt hours to suit customer demand. The result is that employees are working more non-standard hours and flexible work schedules.[18] Actual increases in

[18] From the 1980s onwards, companies across the UK began to reduce or remove payments for unsocial hours and overtime working: managers justified this in terms of the need to meet customer demands. The rise in the number of workers having to do unpaid overtime has resulted in the erosion of the idea of the 'standard' working day in the UK (Rubery et al. 2005).

working time have also been implemented in some cases in order to improve competitiveness (Eurofond 2008).

In their own terms, supply-side policies worked. The labour market has adjusted 'efficiently' to the recent recession, but at the expense of productivity. Instead of 'shocks' leading to persistent mass unemployment, as happened in the 1930s and even in the early 1980s, the Great Recession which started in 2008 saw the maintenance (after a short lag) of 'headline' full employment, but a redistribution of jobs to labour intensive (low productivity) sectors such as retail and hospitality, much of it part-time and self-employed. An IPPR report estimates that during the period from 2012 to 2014, approximately half of the fall in productivity in the UK was due to job growth in low productivity sectors of the economy (Dolphin and Hatfield 2015:3).

To summarise, the restructuring of the economy since the 1980s has resulted in the disintegration of the institutional nexus that supported high investment, high productivity growth, and real wage growth which had made possible a steady reduction in working hours. The recession of 2008 strengthened these tendencies through 'austerity' policies, which cut further into public investment, public sector employment, and welfare entitlements. Automation, if introduced under these conditions, will accentuate the 'low pay, long hours' phenomenon by decimating swathes of professional, routine, and low-skilled jobs.

Part II: Historical attitudes towards reducing working time

Today, there is overwhelming evidence that most workers would choose to work fewer hours if they could do so without a loss of pay (Skidelsky and Skidelsky 2013: 29-30). The TUC has found that eight in ten UK workers would like to reduce working time in the future (2018b). In this section the current demand for shorter working time is put into historical perspective.

It was the rise of factory work during the industrial revolution that initially brought about a widespread scrutiny of working time (Kay forthcoming). Prior to this, the norm in the manufacturing industry was to make goods from one's own home. The industrial revolution saw a centralisation of paid employment in work*places*, and this meant that the conditions of work were determined by the employer. As a result, working time became popularly contested. The 19th century saw the growth of a labour movement demanding shorter working hours and a say over the terms and conditions of employment. An early example of this was the 10-hour day campaign of the 1840s (Rubin 1995). During the 19th century, union pressure, along with political campaigns and action by workers themselves, led to the passage of the Factory Acts, which introduced legislation regulating working hours for specific groups of workers. During the 20th century, however, as a result of the emergence of strong trade unions, reductions in working hours were achieved predominantly by collective bargaining and not by legislation. Major settlements for certain industries were achieved in 1919 for a 47- or 48-hour week and in 1948, 1960/61 and 1965/66 for a 40-hour week (Bienefeld 1969). The 40-hour week campaign was popular amongst workers and drove increased recruitment to the unions (Rubin 1995). Nonetheless, many workers in the UK were not covered by any maximum hours regulation until the 2003 EU Working Time Directive.

The following landmarks show the historical role of both legislation and trade union activity in reducing working hours, with legislation often responding to pressure from below.

1874	The Factory Act raised the minimum working age to 9, limited the working day for women and young people to 10 hours in the textile industry, and reduced the working week for these workers to 56½ hours.
1886	The Shop Hours Regulation Act regulated the hours of work of children and young persons in shops; weekly hours of work were limited to 74.
1909	The Coal Mines Regulation Act introduced a statutory 8-hour day in mining.
1914–18	Extensive government-sponsored research during World War I found that the shortening of working hours reduced fatigue and therefore resulted in increased productivity. During the war the trade union movement maintained the 48-hour week as a postwar objective.
1919	In its first convention, the International Labour Organisation recommended maximum working hours of '8 hours a day and 48 hours a week'. In the UK, unions achieved this for industrial workers. This working time reduction was implemented in countries across Europe.
1935	Printing unions negotiated a 44-hour week shift system in provincial newspapers.
1938	The Holidays With Pay Act recommended that companies give their employees a week of paid holiday annually.
1944	The TUC called for legislation forcing industry negotiators to agree the 40-hour week or have it imposed by the Ministry of Labour.
1946	A five-day week of 43.5 to 45 hours was agreed in several industries employing mainly women.
1946–7	Union struggle for 40-hour week achieved limited success.
1959-60	Union struggle for 40-hour week again achieved limited success.
1962	40-hour week in printing negotiated.

1963	Just over half a million workers in the UK had now achieved a standard working week of 40 hours (not including overtime). These workers were in two major industries - printing and Scottish building - and in large firms in other industries (Whybrew 1964).
1979	The four-year settlement of the 1979 engineering dispute involved an increase in annual holiday entitlement from four to five weeks as well as a reduction in weekly basic hours from 40 to 39 hours.
2003	EU Working Time Directive stipulated a 48-hour maximum working week. The UK is covered by this, but it created its own provision so that employers can request employees to opt out of this.

As mentioned above, working time can be reduced in a number of ways besides weekly working hours. The 1938 Holidays With Pay Act and the events leading up to it marked an important change in national attitudes towards work and leisure. Before WWI, employers did not think that paid leisure time would make workers more productive, and unions perceived the idea of it as 'somewhat utopian' (Jones 1986, cited in Dawson 2007: 281). However, according to Dawson's account, the increased union membership following WWI led to a growing consensus amongst both workers and unions that paid leisure was a basic social right. The demand for paid leisure time was combined with the campaign for an 8-hour working day. The popularity of paid leisure in the media prodded the government to set up a committee to investigate the possibility of legislating for this. The committee presented evidence that excessive work without time to recover reduced worker productivity (ibid.: 292). There was much debate, however, about how to finance this paid leisure time. The unions wanted employers to pay for it because they saw paid leisure as a workers' right. Predictably, most employers disagreed, saying that it would reduce profit margins and would hit some companies worse than others. It is evident here that there are a number of parallels with today's debate around the shorter working week. In the end, the 1938 Act recommended that all full-time workers were given one week's annual paid vacation, but it did not mandate employers to do this. However, just as important in its impact as the legislation itself was the preceding campaign, since by the time the act was passed, four and a half million workers had already been granted annual paid vacations (ibid.).

The historical arguments for working time reduction (WTR) have encompassed employee well-being, improvements in worker productivity, and reduction in unemployment by work sharing. The last was the traditional trade union response to recession-induced reductions in the demand for labour.[19] But work-sharing has also been a recurrent motive in response to the fear of technological unemployment (Bienefeld 1969).

In the recent debate about working time, additional arguments in favour of WTR have come to the fore. One target has been a UK working culture that encourages long hours and employee exhaustion. The 2017 Skills and Employment Survey, funded by the UK government, shows employees have been made to work *harder* than they have for the past 25 years. The survey reports that 55 per cent of women and 47 per cent of men said they 'always' or 'often' went home exhausted from work (Financial Times 2018). Another set of arguments revolve around gender equality and reducing work-family conflict. Advocates of gender equality have argued for work-time norms that enable a more equitable distribution of paid and unpaid labour between women and men. WTR would free up more time for the unpaid work of childcare and also for other care-work in an ageing society with a growing burden of care. This would facilitate women's participation as equals in the labour market and encourage men to play a greater role in family life at home. However we cannot expect the reduction of working time alone to bring about gender equality.

It has also been suggested that WTR will create a more sustainable economy. It is indisputable that society's level and type of consumption is having detrimental effects on the environment, and that the threat to the climate is the most urgent problem of our time. Provided that some way is found to reduce the pressure to consume, increased labour productivity, rather than being used to fuel greater consumption, can be channelled instead towards the non-material benefits of increased leisure time. The New Economics Foundation have suggested that a shorter working week could form part of a Green New Deal. Schor, Rosa and Knight examine data from OECD countries between 1970 and 2007 to find that countries with lower average hours of work have lower resource usage and lower carbon footprints (2013). In a forthcoming paper, economists Anders Fremstad and Mark Paul look at household-level data on work hours and household purchasing habits from the U.S. Consumer Expenditure Survey. They also find that people who work less emit less carbon dioxide (Aronoff 2019).

In recent years there has been a growth in the prevalence of flexible working arrangements. This is distinct from WTR, though it certainly constitutes a positive development for workers if they, rather than their employer, are able to determine when they work. However, flexible working is still much less common in the UK than it is for some of its European neighbours. In Sweden, where flexible working arrangements are more widespread than in the UK, it is common for parents to leave

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[19] This response can be seen in Germany today where manufacturers of heavy vehicles have reduced employees' working hours as an alternative to making them redundant. Under German law, the government is obligated to cover most of the shortfall in the workers' wages if the employer has been forced to reduce workers' hours by an economic downturn (Financial Times 2019).

work at 3pm in order to pick up their children from school (The Guardian 2019). This solves the long-standing problem of the '3-5pm gap' between children finishing school and parents finishing work.[20]

There are therefore a number of persuasive arguments in favour of reducing working time. Whilst the present debate on working time has come to encompass a broader range of issues than past campaigns, there have been underlying consistencies over time. The demand for shorter working time as a form of social progress has been ongoing since the industrial revolution. This strengthens the case for reducing working time today.

[20] The Labour Party have pledged that workers would have the right to choose the distribution of their working hours from day one of a job (at present workers can request flexible working after 26 weeks in a position).

Part III: Case studies

Legislation: France’s 35-hour working week

France’s 35-hour week, known as the ‘Reduction du temps de travail’ (RTT), was legislated for in 1998 by the socialist coalition government of Lionel Jospin. The new law, ‘Aubry I’, set the limit for the working week at 35 hours for the private sector. The reduction in hours was to be implemented without a reduction in salaries, though this had limited success as noted below. Large firms had until 2000 to adopt the shorter working week and small firms (fewer than 20 employees) until 2002. Aubry I aimed to link the reduction of working time to the promotion of negotiations between trade unions and employers’ organisations, which would allow the specifics of the RTT to be decided at company or industry level.

The primary goal of Aubry I was to increase employment, and secondarily to increase employee wellbeing. The government recognised that pursuit of the first goal would put a financial burden upon companies, so it provided a social security rebate to companies that negotiated the RTT with unions and maintained or increased employment levels. The government was therefore subsidising the shorter working week in order to make it financially neutral for companies. Some incentives were already in place: the 1996 Robien law had established lower payroll contributions for companies that reduced working time and increased employment by at least 10 per cent (Estevao and Sa 2008: 422).

The RTT was also paid for partly by workers. Analysis by the French Ministry of Labour at the time shows that whilst there was no immediate loss of wages, around three quarters of companies agreed with unions to implement a wage freeze or only modest wage increases for an average of two years (Bosch & Lehndorff 2001: 229).

The 1998 Act met with opposition from employers. They signed voluntary agreements to reduce working time in exchange for greater flexibility in working hours and a lower level of job creation. A second bill of 2001, ‘Aubry II’, came about as a response to this opposition. This involved an annualisation of working time, where hours worked had to average out at 35 per week over the year. This increase in flexibility had undesirable consequences for some workers, as discussed below. Subsequent governments also made adjustments to the two RTT laws, further weakening them by allowing companies more flexibility to increase hours. For example, the 2003 Fillon government raised the limit on the maximum number of overtime hours. Unfortunately, such reforms have made it impossible to evaluate the long-term effects of Aubry I.

The introduction of the 35-hour workweek had a clear impact on weekly hours of work in the period immediately following the laws of 1998 and 2001. After the introduction of the law, the percentage of individuals working exactly 39 hours declined significantly in large firms and less so in small firms (Estevao & Sa 2008). Employer surveys estimate a reduction in working time from 1996-2004 for full-time workers of around 10 per cent (Askenazy 2013: 335). By 2003, almost 60 per cent of private sector employees were in companies with a 35-hour working week (ibid.). Some firms (mostly small firms) are still not covered by a 35-hour agreement.

Eurostat data (2019) shows that average weekly working hours for full-timers decreased between the years 1998 and 2002, but began to rise again from 2003 onwards due to the weakening of the RTT laws by successive governments. Eurostat also gives a breakdown of hours by occupation. Some saw greater hours reductions that others: for example, managers were hardly affected at all, but plant and machine operatives went down from 39.1 hours in 1998 to 36.7 in 2002. However, all occupations show the same overall pattern of a decrease followed by an increase.

Most of the assessments of the 35-hour week in France were based on job creation, as employment was the main purpose of the RTT. There were a number of projections of job creation before the RTT law was implemented: the most pessimistic projection was 120,000 new jobs and the most optimistic 700,000. Between 1998-2001 (first Aubry law was in 1998), it is estimated that 350,000 new jobs were created - a reasonable outcome.[21]

According to surveys done by the French Ministry of Labour, employers said that the RTT had a positive impact on labour productivity. There was no negative impact on firms' competitiveness. Firms were incentivised to negotiate with unions over how the RTT was to be carried out because the government had offered to subsidise the firms' social security contributions if they agreed to negotiate[22]. One finding was that firms which engaged with the Aubry laws tended to be 'good practice' firms. The same

[21] The impact of the RTT on employment is difficult to measure and is much debated. See e.g. Askenazy (2013: 338-340). More research is also needed into the types of new jobs that were created.

[22] Philippe Askenazy points out that the 35-hour working week had the additional effect of opening up more space for social bargaining, since other issues were also negotiated alongside working time (2013).

applied to those which engaged with the 1996 Robien law financial incentives. This meant that 'bad practice' firms were less likely to improve.[23]

Effects on wellbeing varied across different groups of workers. The French sociologist Dominique Méda carried out a large-scale survey on the effects of RTT on employees in 2001 using a sample of over 1000 people who worked full-time before the RTT and experienced a reduction in working hours mainly due to the first Aubry law. With regards to daily life at work *as well as* outside of work, 59 per cent of employees said the effects of RTT were heading in the direction of an improvement. 13 per cent said that there had been a deterioration and 28 per cent said nothing had changed. Men and women with children under the age of 12 came out overwhelmingly in favour of RTT (Méda 2013). It was also observed that the RTT resulted in some workers, predominantly women, transitioning from a 'long' part-time working week to a full-time week (Askenazy 2013: 336): this constitutes an improvement in gender equality, since women who were previously too time-constrained (perhaps by caring responsibilities) to work full-time could now do so.

Méda's survey showed that employees' perception of RTT outcomes in the area of working conditions was likewise varied. According to the surveys, for some workers there was an intensification of work as well as an increased demand for flexibility from employers. Almost a third of employees said that they were more stressed in their work. The increase in stress particularly affected unskilled workers, many of whom had to face increased unpredictability of working time and had little choice in deciding their schedules[24]. However, skilled workers, especially women, were very satisfied with the RTT. They had more choice about how to structure their working time: for example, they could simply add one day to their weekend. Méda's survey shows that those who had regular days off were more satisfied.

The introduction of the 35-hour week in hospitals caused particular problems because it was done without proportional job creation, and productivity gains cannot easily be made in hospitals. Since the number of nurses is limited by the number coming out of medical schools, the hospitals found that there was a shortage, and as a result not enough new hires were made to compensate for reducing working hours. This meant that work intensified to an unpleasant degree, with workers becoming even more overloaded than before[25]. The state also accumulated a debt to its workers through millions of days saved in time accounts and millions of hours of unpaid overtime (Askenazy 2013: 331-2).

[23] Personal correspondence with Anne Eydoux, April 2019.

[24] As above.

[25] As above.

One of the most striking findings from the surveys is the difference in satisfaction with the RTT between skilled and unskilled employees, with unskilled employees being more likely to experience an increase in the unpredictability of their hours. Another notable outcome was the negative impact on hospital workers due to a shortage of trained workers. **The main lesson from the French case, then, is that implementation of working time reduction needs to be considered carefully on a sectoral basis: a one-size-fits-all approach will inevitably lead to problems in some sectors**.

Heath's 'Natural Experiment'

On 13 December 1973, Prime Minister Edward Heath announced a three-day working week in order to conserve coal stocks in the face of a miners' strike. From 1 January to 7 March commercial users of electricity were limited to three consecutive days of consumption each week and prohibited from working longer hours on these days. Essential services, such as hospitals and supermarkets, were exempt. Workers' wages were reduced by 40 per cent, though the government offered unemployment benefits for the lost days (Grawe 2004).

The three-day week came about in the context of an ongoing conflict between the government and trade unions. It was therefore not regarded as in any way a persuasive experiment. What is worth noticing is the impact it had on output.

The expected 40 per cent decline in output did not occur: the actual decline was between 10 and 20 per cent. British employers reported that this was because employees worked harder. The most commonly cited reason for this was that workers feared the loss of their jobs if companies closed due to the loss of output (New York Times 1974).

Collective bargaining in Germany

Germany has achieved WTR mainly through collective agreements at the industry level. As of 2004, sector-level collective bargaining had resulted in a 35-hour week for a fifth of German workers (Hayden 2013: 129). Collective agreements on weekly hours vary, from 35 in the engineering industry to 40 for hotels and restaurants. Past hours reductions did not hinder firms' international competitiveness; in fact, their competitiveness increased, as hours cuts stimulated productivity gains through the reorganisation of work processes (Bosch & Lehndorff 2001: 230). Unlike in the UK, working hours in Germany continued to decrease beyond 1980: collective agreements brought about significant reductions of working hours in Germany up until about 1995. From the late 1990s onwards there has been a gradual weakening of union power:

despite this, however, collective bargaining at the industry level is still the most common way of deciding pay and working conditions in Germany. In 2013, around 57 per cent of the German workforce were covered by collective agreements (ETUI 2016).

Germany's sectoral collective bargaining is supported by strong legislation. This is something that the UK never had, partly because the British unions believed that collective bargaining should be kept free of government intervention. In Germany, legislation was introduced in the late 1990s which gave the labour minister the power to extend collective agreements covering under 50 per cent of an industry's workforce. Further to this, the legislation also enables minimum rates of pay to be set in any industry which lacks collective agreements: minimum rates have been set in this way for a number of industries including cleaning, social care and construction (ETUI 2016). Germany's legislation is complemented by state-supported sectoral skills training. The UK never had this to the same extent, and has now lost it entirely.

Whilst bargaining takes place at the industry level between unions and employers organisations, Germany also has works councils, made up of employee representatives and individual employers. Works councils cannot negotiate collective agreements, but can come to agreements on company-specific issues not covered by a collective agreement. The works councils are intended to operate by consensus-building between employer and employees. There is also strong legal support for works councils: under Germany's Works Constitution Act, a works council can be established in any private sector workplace with at least five employees (ETUI 2016).

After 1995 there was a slowdown in WTR in Germany. This slowdown can be attributed mainly to the decline in the number of employees covered by collective bargaining and the resultant increase in domestic competition over working hours (Bosch 2009). This connection between collective bargaining coverage and working time reduction has been substantiated by the OECD, which has shown that in those countries where collective bargaining is more developed, there is a faster decline in working hours (Lehndorff 2000: 39). Sectoral bargaining in Germany has come under strain for a number of reasons, including the departure of some employers from employers' federations in order to be able to set their own pay and conditions.[26] Employers have also been increasingly using flexibility-security trade-offs, where unions agree to concessions on working time in order to secure jobs and prevent outsourcing (Doellgast & Berg 2018).

The German case is in contrast to the UK, where during the 1980s most employer federations were dismantled or ended their involvement in collective bargaining. The UK now has very little bargaining in the private sector, and where there is bargaining it is typically at the company level. This is less effective than sectoral bargaining as

[26] Further reasons for the decline in collective bargaining are discussed in Bosch (2009: 23).

agreements cover many fewer people. The UK lacks the legal support for collective bargaining and worker representation that Germany has.

There are, therefore, certain institutional differences between the UK and Germany that have meant that Germany has been able to reduce working time more effectively. We cannot attribute this only to collective bargaining, since from the 1960s onwards Germany's productivity growth has been consistently higher than the UK (Financial Times 2018). The combination of factors that have enabled WTR in Germany is demonstrated by a recent German collective agreement which has gained media interest. The agreement, negotiated by German railway and transport union EVG, gave workers the opportunity to choose between wage increases and more holidays. In 2017, 56 per cent of these employees voted in favour of boosting their holiday allowance by six days. That is, they traded off increased wages for shorter annual hours. This is because they felt their wages were high enough for the trade. Importantly for the UK case, this kind of trade-off would not be possible for low-paid workers.

Nonetheless, collective bargaining is a key ingredient in the mix that enables WTR: we can understand it as part of the 'virtuous circle' (see Part I) that also includes high productivity growth and real wage growth. **Collective bargaining in Germany has enabled workers to receive both real wage increases and WTR as part of the reward for improved productivity.**

Company-level working time reduction

A number of companies in the UK and abroad have already made the decision to move to a shorter working week without loss of pay. The most famous case has been Perpetual Guardian, a trust fund in New Zealand with 240 staff which recently trialled a four-day week. The trial was deemed successful as the increased leisure time resulted in greater motivation, reduced fatigue and significant productivity gains (Perpetual Guardian 2019). Employees were able to work more efficiently to produce the same output in four days rather than five. The White Paper produced by Perpetual Guardian (ibid.) stresses that asking employees for their views and giving them autonomy over how to re-organise their work was crucial to the success of the four-day week.

Improvements in employee retention, morale and productivity have been reported elsewhere for companies moving to a shorter working week. For example, Pursuit Marketing, a telephone and digital marketing firm in Glasgow, has seen an unprecedented productivity increase of 30 per cent since it moved to a four-day week two years ago (The Observer 2018). However, most of the companies that have moved to a shorter working week are marketing, consultancy and accounting firms.[27] These could be described as belonging to the 'knowledge industry'. These types of jobs are particularly amenable to reducing working time without the need for new hires or new automation technologies, as they rely upon workers completing projects or tasks rather than necessarily having to be present for a certain period of time: these jobs can 'flex' (Mason 2018). Productivity gains can come from reorganisation of work within the company and improved employee motivation. Clearly, however, many types of work do not allow for hours to be reduced in this way.

However, companies outside of the knowledge industry have also reduced working time. Simply Business, a Northampton-based call centre, have announced that they will move up to 250 of their staff to a four-day week without loss of pay in September 2019 (The Guardian 2019c). This is in response to technological changes - such as increased use of data analytics and email correspondence - which mean that fewer calls need to be made and therefore that productivity has improved. There are also a small number of hotels and restaurants in the UK that have gone down to a shorter working week without loss of pay.[28] This is primarily due to the ongoing shortage of skilled chefs in the hospitality industry, as potential employees are put off by the long hours required. However, all of these companies have had to take financial hits. In 2015 Sat Bains, a restaurant in Nottingham, moved to a four-day week, opening only from Wednesday-Saturday. It has since found that it has attracted many more experienced chefs, but has nonetheless lost over £100,000 as a result of reduced opening hours (Garrahan 2015). It is evident that not all companies in the hospitality industry would be able to cope with this level of financial burden.

There is a similar issue of recruitment and retention due to excessively long hours in the teaching profession. The Forest Gate Community School, a secondary school in east London, is planning to move down to a four-and-a-half-day week in September 2019. The school day will end at 12pm on Friday, but will remain open until 5pm for optional supervised study and talks from guest speakers, meaning that parents do not have to take time off work to look after children. Teachers can either finish early or use the half-day to improve their teaching at professional development training. Pay and holiday entitlements for teachers will remain the same.[29] The school hopes that these changes will lift the burden on overworked teachers, lead to a healthier and more motivated workforce, and help to tackle the shortage of teachers in the profession

[27] For a fuller list of companies that have moved to a shorter working week, see Autonomy (2019: 78-79).

[28] Other companies in the hospitality industry that have moved to a four-day week include Hand-picked Hotels, Edinburgh's 21212 restaurant, and the Devonshire Hotels and Restaurants Group.

[29] The hours reductions are not a response to austerity: according to Simon Elliott, CEO of Forest Gate Community School, no money will be saved by the school as a result.

(The Independent 2019).[30] It should be noted, however, that a number of schools have opted to reduce operating hours not in order to improve staff welfare, but due to the need to cut costs.

Early in 2019, the Wellcome Trust was considering moving its 800 staff down to a 4-day week without loss of pay. However, after consulting with its employees, the management decided that this would be too complex a procedure, due to the wide range of job types within the company. Whilst for some jobs the 4-day week was deemed feasible and desirable, for others it was not. Back office and support functions such as IT, human resources and finance would have struggled to fit their work into four days. The various teams within the Wellcome Trust would need to adopt different strategies to each other in order to adapt to the shorter week, and it was predicted that this would cause significant disruption (The Guardian 2019b). This highlights the difficulty of introducing a significantly shorter working week for large companies with multiple types of role. Perhaps a better strategy for the Wellcome Trust would have been a more gradual reduction in working time so as to minimise disruption.

To conclude, the introduction of a shorter working week has been successful in a small number of companies, predominantly where it can be implemented without the need to hire more staff. However, for many other companies this would not be the case. **The main lesson here is that widespread reduction in working hours is unlikely to come about purely through the initiative of individual companies.**

Voluntary Working Time Reduction: Part-time working in the Netherlands

In the Netherlands, an anomalously large number of employees work voluntarily part-time (as opposed to involuntarily working part-time when they would rather work more hours). Taking full- and part-time employees together, the Dutch work a weekly average of just over 30 hours. This is a unique example of individual, voluntary time reduction en masse: the Netherlands has by far the highest percentage of part-time workers in Europe. This is largely, but by no means wholly, due to the entry of significant numbers of women into the Dutch labour market in the 1980s. In other words, the statistical result that the Dutch work fewer hours than elsewhere in Europe is partly explained by the big increase in part-time women's work.

However, part-time working in the Netherlands has also been encouraged by legislation that has given part-time workers equivalent rights to full-time workers. For

[30] Whilst controversial to the UK, this case is uncontroversial in the European context, since many continental school systems (Benelux, France, Germany and Greece) have at least one afternoon free per week.

example, part-time workers are entitled to the same holiday allowance and training as full-time workers. Under the Working Hours Adjustment Act of 2000, Dutch full-time workers have the right to reduce their work hours, while part-timers who want more work can adjust their hours upwards. Employers can only refuse if they can show that significant business or organisational interests stand in the way. Similar legislation for requesting flexible working was introduced in the UK in 2014, though without the emphasis on adjusting hours. Through legislation on workers' rights, then, the Netherlands has been able to change public norms relating to part-time work by reducing the bias against it.

However, the Dutch example also shows that hours of work depend on the distribution of earnings. Income inequality is relatively low in the Netherlands compared to other OECD countries, and it was one of the few countries that didn't experience an increase in income inequality from the 1980s onwards (OECD 2015). Conversely, the UK is amongst the countries with the highest income inequality in the OECD (OECD 2019). **Given the prevalence of in-work poverty in the UK, voluntary working time reduction is not currently an option for a large portion of the British workforce.**

Conclusions so far

The lesson of Part III is that, except for the small number of voluntary company initiatives, in no case has the reduction in hours been secured by market forces alone. It has required intervention in the market by legislation or forms of collective pressure. At the same time, what has worked elsewhere cannot be mechanically applied to the UK with its very different institutional traditions and practices. The lessons from other countries have to be adapted to British conditions.

More generally, the conclusions of the first three sections of the Report may be summarised as follows. Reduction in hours of work is the natural result of people having to work less hard for the income they want. But this simple and desirable outcome is complicated by such factors as the social pressure to consume, the distribution of power inside and outside the workplace, security of employment, and the distribution of income. A comprehensive set of policies aimed at WTR would need to address all these factors. Given the pressure to consume, rapid progress in WTR must be paid for by an increase in labour productivity. This can come about through labour-saving machinery, through making work practices more efficient, through 'speeding up' work in the shorter time available, or by some combination of the three.

The last method of reducing hours imposes a 'real' cost on employees. It may suit some occupations and some types of employment: for example, university teachers can cram their teaching into one term, leaving the other two free for the 'leisure' of research. But in the standard employer-employee relationship, shortening hours by extracting more effort in the remaining hours is not a way of reducing the amount of work, but simply of redistributing it. The extra day's leisure is purchased at the price of increased exhaustion. This belies the true promise of WTR which is to free up time in order to improve well-being.

Part IV: Policy pathways to shorter working hours

The aim of policy

Available evidence shows that the desire for shorter working hours without loss of pay is widespread across the different sectors of the economy.[31] The aim of policy should be to bring this about as quickly as possible, for as many workers as possible. The policies suggested below are desirable for many reasons - for example, they can be used to reduce poverty or can be adapted to the requirements of a 'Green New Deal' - but they are also a means to the shortening of hours, and it is for this reason that they are put forward.

Shortening working hours will be harder to achieve than in the past. The general reason is that productivity gains were more readily available in an economy dominated by manufacturing industry. A policy prescription for such an economy would be to ensure a steady flow of investment in successive vintages of machines, and then to rely on collective bargaining to increase wages and reduce hours. This was the model of the 1950s and 1960s.

But this is not the economy we have today. Today's economy is overwhelmingly a service economy. Productivity gains are harder to come by, and certainly harder to measure, in services than in manufacturing. You do not improve the outputs of education by reducing the numbers of teachers per pupil, though this would count as a gain in productivity. Conversely, unpaid domestic work adds value to the economy,

[31] Unite the Union has consulted so far with 3,000 workers' representatives in 19 sectors and 10 regions across the UK. It has found that the demand for shorter working time without loss of pay has been consistent across all of these sectors.

but goes unrecognised by measured productivity increases.[32] A basic income entitlement would be one way of giving childcare and care for the elderly its due economic value (see Standing 2019).

Further, contrary to what many economists claim, productivity gains in one sector do not automatically benefit other sectors - or at least, not for a long time, and with much social breakage on the way. Therefore, social mechanisms must be found for spreading the gains of automation to the sectors of the economy, or sets of tasks, that are relatively resistant to being automated.

This means that the approach to working hours reduction has to be tailored to the possibilities offered by different sectors of the economy. Capping working hours nationwide, on the lines of France's 35-hour working week, is not realistic or even desirable, because any cap needs to be adapted to the needs of different sectors. The evidence is that, after a brief impact effect, France's legislation was rendered broadly ineffective by an accumulation of exceptions and loopholes. Rather, a general reduction in working hours should be seen as a culmination of other policies and changes in the norms of work. **This leaves the state with a crucial role to play in hours-reduction policy as employer and investor.** 'Pressure from below' cannot simply replicate old-fashioned models of collective-bargaining: outside the public sector, the union muscle no longer exists. But the weakening of trade unions should not destroy the valuable idea of social partnership. New social partnership bodies will have to be created.

Social attitudes support a piece-meal rather than a one-size fits all approach. Recent evidence gathered by Unite the Union has found that **UK employees, whilst welcoming the goal of shorter hours, want the specifics of working time reduction to be decided on a sectoral level.** For many industries this is not a demand for a shorter working week *per se*, since the reality of a standard 'working week' does not exist for all, but rather for shorter working time that can be adapted to the needs of the sector. Workers from different industries prioritised different aspects of working time alongside the demand for shorter hours: for example, shop stewards from Graphical, Paper, Media and IT wanted a lower retirement age, whilst those from Energies and Utilities emphasised that they wanted it to be easier to get flexible working time.[33] Legislation and/or regulation should therefore reflect the fact that different sectors have different requirements.

Particularly for the following types of worker in the UK, the achievement of shorter working hours presents special problems, because of the nature of their employment:

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[32] A report by the ONS estimates that the value of housework done in the UK is £1.24 trillion a year (2018e).

[33] Information from personal correspondence with Sharon Graham, Unite.

A. Low-paid workers, who need whatever hours they can get. Whilst the proportion of low-paid workers has fallen since the introduction of the National Living Wage in 2016, it is still relatively high at 17.8 per cent. Furthermore, when gross weekly earnings are considered, the proportion of low-paid employee jobs is much higher, at 27.3 per cent. This reflects fewer hours of work available for the lowest paid (ONS 2018c). According to the Joseph Rowntree Foundation, 4 million working people are classified as living in poverty (earning below 60 per cent of average household incomes) (JRF 2018).[34] The London Good Work Commission has found that working poverty is a particularly urgent problem in the capital, where high housing, childcare and transport costs mean that on a minimum wage job it is 'simply not possible to survive, let alone live' (London Plus 2019: 7).

B. Self-employed, atypical and precarious workers. Though, as David Coats notes, the 'uberisation' of the economy has not occurred to the extent that media headlines suggest (2018: 76). People in full-time work with permanent contracts still make up the majority of the labour force: the percentage of such workers dropped from 65 per cent to 63 per cent between 2008 and 2010 and has remained constant since. Whilst not all workers on 'atypical' contracts are economically insecure, pay and security are more important concerns than reducing working time for many workers in the 'gig economy'.

C. Small businesses. For many private sector companies, profit margins will not be great enough to incur the hiring and training costs to employ more staff to share the workload. Whilst it is evident that business interest in WTR has begun to rise, this is still on a very small scale (see Part III).

D. Public sector workers whose jobs resist automation. The UK has an ageing population and therefore an increasing demand for social- and health-care. Although improvements in the organisation of care are certainly desirable, it is not obvious that the effectiveness of care is enhanced by replacing a human nurse by a robot.

To summarise: productivity increases can be desirable, undesirable, or unfeasible, depending on the occupation. Some professions will be able to move down to a shorter working week quickly by reorganising work or automating tasks, whilst others will require a radically changed working environment to do so.

The WTR agenda should have two complementary objectives: i) to improve the economic security and rights of workers so that all workers are in a position to decrease their working hours voluntarily should they wish to, and ii) to change working norms so as to prepare the ground for hour-capping legislation. Legislation and the

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[34] Definitions of poverty are debated (see IFS 2018).

enforcement of legislation is most effective when norms have already begun to change in its favour.

As the case studies show, four main methods of reducing working time have been used in the past: state initiative, collective bargaining, company-level action and voluntary action. The policy roadmap draws on all four, as well as proposing new ones. Its method will be to 'nudge' existing institutions towards the desirable goal of reducing hours of work rather than ram shorter working hours down their throats.

The Role of the State

The state should take the lead in moving the economy to shorter working hours. There are three things it can do directly: abolish unemployment, invest in the public sector, and use public procurement policies to leverage conditions of employment in the private sector. The government should set itself the task of achieving a 35-hour working week in the public sector and in all those occupations in which it is party to the employment contract over ten years without loss of pay and with improved quality of service in all those occupations in which it is party to the employment contract. This would set a norm for the whole economy.

In today's 'full employment' Britain there are 1.29 million registered unemployed, and around 2.5 million under-employed (ONS 2019b), making a total of 3.79 million. Contrast this with the mid-century golden age of WTR, when total unemployment numbered less than one million. However, opinion has turned strongly against the discretionary fiscal policies used by governments from the 1940s to the 1970s to 'fine tune' the economy, and full employment today should be sought by different means. **This report proposes a new role for government as 'employer of last resort', by means of a Job Guarantee Programme (JGP), to be managed by a new Department of Employment**. Put simply, the government, as 'employer of last resort', should guarantee a job to any job-seeker who cannot find work in the private sector, at a fixed hourly rate which, we suggest, would not be lower than the national living wage rate. In pledging itself to achieve this, government would be fulfilling the traditional trade union demand for 'work or maintenance', by guaranteeing work.

Such a proposal squares with increasing recognition that the market cannot be relied upon to provide continuous full employment, and that that payment for work should replace payment for non-work. Ronald Reagan tried 'Workfare' in the 1980s. Conservative governments in the UK introduced 'Restart' and 'Workstart' at about the same time. The Coalition government started a 'Welfare to Work' scheme in 2011, and in 2015, the Labour party proposed a job or training guarantee for 18- to 24-year-olds.[35] However, these initiatives fell far short of providing a secure pathway to work.

A Job Guarantee would achieve several desirable social and moral objectives. There are four features of special relevance to working time reduction. First, it would weaken employers' control over the employment contract. Second, by eliminating cyclical unemployment (that is, unemployment caused by an economic downturn) it would substitute an upward for downward pressure on wages. Third, by removing fear of 'technological unemployment' it would reduce opposition to automation. Fourth, it would maintain total spending and total investment better during an economic downturn. For these reasons, **a JGP would be a powerful lever to push down the average number of hours worked.**

To make the guarantee feasible, central and local government should maintain a 'buffer stock' of public sector jobs, distinct from 'normal' public sector employment, which would expand and contract automatically with the business cycle. This stock would function as a super-charged automatic stabiliser, whose expansion would limit downturns and whose contraction would automatically limit government spending on unemployment in the upturn. It would cost more money than the 'dole' but would deliver a much more powerful boost to the economy.[36]

The JGP would be centrally funded, but locally managed, since local authorities, NGOs and social enterprises would be best placed to identify jobs that would help to meet local needs.[37]

There are bound to be problems with the design and implementation of such a programme. The three most difficult issues are likely to be (a) the nature of the work offered (ensuring it isn't 'pretend' work), (b) the relationship between the job guarantee and other forms of social security, and (c) the initial wage-rate for the public sector job (i.e. what should be the floor for wages in the economy?). Since the programme is entirely novel, there will be a lot of learning to be done from experience. That is why it should be rolled out gradually, starting in those areas with the heaviest unemployment and greatest poverty.

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[35] For criticism of the earlier initiatives see Skidelsky and Halligan (1993). Ed Miliband proposed that 18- to 24-year-olds out of work for a year a more would be offered a job, with those who refused losing benefits. The job would be 25 hours a week at the minimum wage, and the employer would have to guarantee compulsory training. Labour intended that up to 80% of these jobs would be in the private sector (Labour Manifesto 2015).

[36] The current maximum Job Seeker's allowance for those aged 25 and over is £73.10 a week: full-time employment at the National Living Wage for those aged 25 and over is about £300 a week.

[37] An example of the type of non-profits that could identify jobs is the Community Land Trusts, which own land on which communities can build/refurbish houses and commercial buildings that are then priced according to local income (see The Times 2019). The building/refurbishment process could generate JGP jobs for local people, who would also have a stake in the process.

The government should also invest heavily in the public sector. In July 2016, John McDonnell promised that Labour would mobilise £500bn over 10 years for investment and SMEs, of which £250bn would be public spending and £250bn would be lending through a National Investment Bank. Any new public investment should include the aim of bringing the public sector, which comprises around 10 per cent of the employed workforce, up to the best standards to be found in the private sector. This would mean automation of administrative work, which comprises 60 per cent of total public employment. Of course, most public-sector workers already use computers, but so far the diffusion of integrated electronic circuits, and consequent reorganisation of work routines, has been very limited. This is evident even in high security areas like the police force. Partly this is due to lack of investment in the new technology; partly to the inability of employees to use it to maximum effect. So an investment priority would be training employees to use computer technology efficiently.

Automation and the reorganisation of working practices should enable a phased reduction in hours throughout the public sector. Actual reduction would be achieved through negotiations between the government as employer, professionals, and the public-sector trade unions on how to split the efficiency gains fairly between all 'tasks' in the public service, including those which cannot easily be automated like nursing and teaching. **A sensible target for government to set would be to achieve a 35-hour working week in the public sector over ten years. It should aim at no less than making the public sector the standard-setter for the whole economy.**

However, such a programme comes with three health warnings. Firstly, we must improve the measurement of public service productivity, so as to better capture the 'value added' by public service workers.[38] This would be the basis of higher wages and greater choice of hours.

The second is a point made forcefully by The Economist: 'spending money on I.T. is not enough: businesses also have to learn to use it efficiently' (1998: 23). This is especially important for businesses shielded from competition, as most of the public sector is.

Thirdly, it is especially important to ensure that automating 'back office' work preserves the essential 'human connection' in the delivery of the service. New technologies should aim to improve efficiency without having to automate the social interactions themselves. In social care, employees could schedule timetables more efficiently, reduce the time they spend collecting and processing case notes, and reduce time spent travelling (Skills For Care 2017: 20). In healthcare, data collection takes up a significant amount of working time, and this could be automated (McKinsey 2016). These technologies would need to be trialled initially to ensure that they didn't

[38] See Weeks (2019).

worsen the quality of service. Focus groups carried out by the IPPR have found that workers tend to respond positively to the introduction of new technologies if they are involved in the decision-making process.[39]

Above all, we must resist the 'logic of the unmanned' - entrusting decisions to algorithms when they require discretion, judgment and empathy. This is the domain of service ethics. Automation of service delivery should always involve a prior determination as to how much decision-making should be 'delegated' to automatic reaction systems. Nothing destroys trust in a service more than that access to it should be entirely through a robot.

In sectors of private employment where automation is possible and beneficial, the state should use its procurement leverage to encourage automation, training and hours reduction. This might include underwriting company and trade-union run training schemes. Singapore has 'individual learning accounts', giving citizens over 25 money to spend on 50 approved courses. Unions could organise lifelong training for workers in small firms and the self-employed (The Economist 2017).

The central point is that through its direct effect on elements of both supply and demand - the job guarantee scheme, investment in the public sector, and procurement policies - the state will be in a position to exert leverage on working practices throughout the economy.

These proposals will cost money, and thus raise issues of public finance, which is the special concern of the Treasury. A theory of public finance which requires all public spending to be met from taxation will never allow the necessary increase in public spending in a downturn, or the investment needed to achieve WTR in the public sector, and its private sector feeders. The alternative view, which we owe to Keynes, is that increased public spending in a downturn, as in the Job Guarantee scheme proposed above, would largely pay for itself by minimising the fall in government revenues. Mariana Mazzucato and Ha-Joon Chang have further argued that the state as entrepreneur can create at least some of the revenues it spends (see e.g. Mazzucato 2013). A fiscal credibility rule must explicitly allow borrowing for investment, as Labour has already pledged to do.

Social partnerships

Given the changes in the labour market described on in Part I, a generalised return to sectoral bargaining along the lines of the former model looks unfeasible. **The vacuum**

[39] Personal correspondence with Carys Roberts, May 2019.

left by the demise of collective bargaining could be partly filled by establishing social partnership forums at the sector level in order to bring employers, employees, unions and government into dialogue with one another over issues of pay, working time, automation and insecurity. To which sectors the social partnership idea could be fruitfully applied, and whether legislation would be needed to set them up, would be matters for consideration.

One existing example of a social partnership organisation in the UK is the Social Partnership Forum (SPF) which brings together, amongst others, NHS Employers, NHS Trade Unions, NHS England and the Department of Health and Social Care. However, the priority should be to establish social partnership forums in weakly-unionised, low-pay sectors (such as retail and hospitality) which include jobs that are at high risk of automation. The benefit they could bring would be to suggest ways of increasing productivity through targeted investment in the sector in question and to show how this could be tied to reduced working hours without cutting pay (see Autonomy 2019: 70). They would be especially useful in managing the transition to automation in low-paid, low-skilled occupations. Recent ONS data shows that a number of low-paid jobs - classified as 'elementary occupations' - involve tasks that are at high risk of being automated (2019a). Examples include shelf-fillers, warehouse workers, and retail cashiers. Automation could open the way to WTR for these occupations without loss of pay, if automation were managed in the right way.[40] As things stand, however, it is likely that automation in these jobs will simply lead to redundancies. In fact, this has already happened in the case of the online retailer Shop Direct in the UK (The Independent 2018). The social partnership forum is a way of ensuring that automation is not simply 'left to the market'.

Company-level time reduction

Financial incentives should be provided by the government to companies to reduce working time. As discussed in Part III, France's 1996 Robien law lowered payroll contributions for firms that reduced working time. Under Aubry II (the second WTR law) the government gave social security rebates to firms signing 35-hour-week contracts with the unions.

In addition, **a statutory duty should be imposed on listed companies, as part of their annual reports to shareholders, explicitly to forecast the hours and employment effects of introducing new machinery.**

[40] See Roberts et al. (2019) for further discussion.

Individual time rights

These policies aim to facilitate voluntary time reduction and strengthen workers' rights relating to time more generally.

Firstly, time rights in general need to be linked to improved enforcement of the existing rules on working time. The UK suffers from poor enforcement of labour law. The TUC point out that responsibility for enforcement is split between different agencies, and some rights can only be enforced by the employee taking the case to court.[41] They have suggested that enforcement agencies should gain responsibility for enforcing all rights, though taking a case to an employment tribunal should also remain an option (TUC 2018). Another way to enforce existing rules is to protect workers' leisure time and personal lives. In France, workers in companies employing more than 50 workers have won a 'right to disconnect' from work-related emails and other communication outside of contracted working hours.

Voluntary time reduction should be facilitated by giving workers in large companies the right to reduce their working hours and then to return to full employment if they wish. In 2018, the German government introduced legislation that allows workers in companies with more than 45 workers the right to request a reduction in their working hours. Unlike in the UK, workers retain the right to return to their previous employment (TUC 2018). Autonomy have suggested that employees should have the automatic right to take any pay rise in the form of time instead of money (2019). It should be emphasised, though, that these proposals only work for those on decent wages.

There are other time rights that could aid the WTR agenda. The UK's opt-out provision for the EU 48-hour limit (the Working Time Directive) should be removed: this would not be controversial as the vast majority of other EU countries do not have an opt-out provision or restrict its use to certain sectors or occupations. The opt-out is supposedly voluntary but in many cases employees feel pressured to sign it. 'Use it or lose it' paternity leave should also be introduced to encourage gender equality in working time. Sweden and Canada both have this. Finally, exploitation through over-work would be prevented by instructing the Low Pay Commission to introduce higher national minimum wage rates for overtime.[42]

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[41] For a more detailed discussion of enforcement of employment rights, see Taylor et al. (2017).

[42] The UK is an international outlier in its lack of regulation of overtime. In 2016, only half of employees doing overtime were paid at least 10 per cent more than their standard hourly wage (Resolution Foundation 2017). Time-and-a-half was standard in the UK under the wages councils (abolished in the 1990s) and still is in a few of the more strongly-unionised sectors.

Summary of Proposals:

1. **Job Guarantee Scheme**
2. **Investment in the public sector**
3. **Use of procurement policies to establish pay, conditions, and hours**
4. **Establish sectoral social partnership forums, by legislation if necessary**
5. **Impose a statutory duty on listed companies to disclose the impact of automation on employment**
6. **Improve and enforce individual time rights, including ending the opt-out provision for the EU Working Time Directive**

Conclusion

A criticism of the above proposals is that they set up bureaucratic and collective mechanisms for achieving outcomes which should be left to the market. This is based on the argument that competitive markets allow workers to 'choose' how many hours they want to work, just as they allow them to 'choose' how much they want to be 'trained' for different jobs and pay levels. Since the choices have to be made within the limits set by measurable productivity, no obstacles should be placed in the way of automation and other efficiency-improving innovations. In this idealised world there are no market imperfections or public goods.

This Report proceeds from a different set of premises.

1. The reduction in hours is both desirable ethically and desired by most people. Even though some people are compelled to work shorter hours than they want to, most people are compelled to work longer hours than they want to.

2. Mechanisation does not 'automatically' produce a reduction in working hours. It may lead to 'technological unemployment', with some people doing no work, and others working the same hours as before at lower wages. The argument that, in the long-run, mechanisation will create more jobs for more people at higher wages needs to be taken on faith. There are many suspect links in the chain of arguments supporting this contention. An important one is the uncertainty of measuring outputs in services. And even supporters of the benign scenario acknowledge that there will be heavy transition costs.

3. Historical experience is less of a guide to the future of working hours than one might believe. The reason is that since the Industrial Revolution the main effect of machinery in reducing hours of work has been in the extractive and manufacturing sectors, and these are vanishing parts of advanced economies. Today, services dominate. Productivity gains in large sections of the service sector are harder to achieve than in manufacturing and may not always be desirable anyway. The latter is true of all those services where personal supervision, personal interaction within companies, and 'person-to person' provider-client relationships guarantee the quality of the service. Thus, the old 'automatic' route to the progressive shortening of hours (which was never as automatic as market enthusiasts claim) may be partly barred. Thought needs to be given as to how to restore at least some part of Britain's manufacturing capacity, by investing in manufacturing start-ups and renewable sources of energy. This is the essence of the argument for a 'Green New Deal'. The British have always had a genius for mechanical invention - the British industrial tradition has revolved round the production of 'useful things', and it is wrong that so much of it should be channelled into financial innovation.

This does not mean, though, that workers in the hard-to-automate sectors of the service economy should not benefit from the productivity gains in other sectors. But this requires some mechanism for transferring income from inherently high productivity to inherently low productivity sectors of both the private and public economy. The expansion of the caring professions, to give one example, should be properly financed by the more highly automated sectors. The role of the state will therefore be more important in securing hours reduction than it has been in the past, both for financing automation, training workers for its use, and securing a fair distribution of its fruits.

4. Individuals choose how much to work but within the limits set by the institutions of a particular society. These include the market system, but they also include cultural norms and the ways in which power and wealth are distributed inside and outside the market. At present, the rules governing employment are largely set by financial logic. This is inimical to a civilised reduction in hours. There is therefore a strong argument for setting up countervailing institutions to 'nudge' society in a direction which science and technology makes possible, and which is also desired by most people. A balance will need to be struck between what workers want from employment and what employers can afford to give. The game can be played for lower stakes than at present, but the stakes must not be so low as to bankrupt an economy which still largely relies on private enterprise to 'deliver the goods'.

5. Policy should keep constantly in mind the goal of reducing 'necessary' labour effort. This, rather than unlimited growth in consumption, was the chief promise of mechanisation. Material wealth is the means to a better life, not the better life itself. We have made the growth of GDP an end in itself - an offence to the gods, but also to the planet whose trustees we are. Policy can do little to make us good; but it can help us to choose wisely for ourselves and for the generations to come.

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About PEF
The Progressive Economy Forum (PEF) was founded and launched in May 2018. It brings together a Council of distinguished economists and academics to develop a progressive and sustainable macroeconomic programme and to foster wider public engagement with economics. It opposes and seeks to replace the current dominant economic narrative based on austerity.

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