

**IP  
PR** Economics  
Prize  
UNDER-25 WINNER

# **AUTOMATION AND WORKING TIME**

**HOW TO REWARD DIGITAL LABOUR**

**Bertie Wnek**

July 2019

## ABOUT THE IPPR ECONOMICS PRIZE

The inaugural IPPR Economics Prize invited entries in response to the question: “What would be your radical plan to force a step change in the quality and quantity of the UK’s economic growth?”

We wanted to know whether the downward trend in the rate of economic growth can be reversed, and if so, how this can be done. Is it realistic, desirable and achievable for the UK economy to grow at 3 or 4 per cent in the 2020s? We wanted to capture the best new thinking out there.

Crucially, we wanted to understand not just what policies could raise the growth rate, but also how growth could translate into higher pay for ordinary households and reduced inequalities across regions and generations. We wanted to know whether such proposals could be environmentally sustainable, accelerate decarbonisation, and ensure that the UK meets its international commitments and its responsibilities to present and future generations.

We offered a main prize-pot of £100,000, with a dedicated under-25s prize of £25,000 and a runners-up prize also of £25,000. IPPR and the judging panel, chaired by Stephanie Flanders, with John Eatwell, John Mills and Helena Morrissey, examined over 200 ideas and ultimately awarded prizes to four entries: two winners of the main prize, an under-25 and a runner-up.

The IPPR Economics Prize was generously supported by John Mills, The de Laszlo Foundation, the Nigel Vinson Charitable Trust and Christopher Nieper.

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# SUMMARY

## IF THE SERVICE IS FREE, YOU ARE THE EMPLOYEE

The time we spend online is political. We may not think it so, but our engagement with the digital world is increasingly resembling a product that is stored, studied and sold. Our digital presences make up a mass that has come to be so valuable it is forcing entire political and economic structures to rewrite themselves. At the root of these changes are the major digital platform companies.

The major digital platforms are all modelled on the accumulation of vast amounts of user-generated data. This data is used to develop artificial intelligence (AI) technologies, improve platform performance and is sold to advertisers. As an indicator of scale, the five largest companies in the world by market value (Alphabet, Facebook, Amazon, Microsoft and Apple) are now all modelled – or partly modelled – on this type of data extraction. If the total mass of user-generated data in the UK – the result of billions of hours of unremunerated labour – was treated as a product, it would constitute our country's sixth largest export. Instead, this is a commodity we elect to give away for the reward of being allowed to use the relevant platforms free of charge. This is a little like an employer granting employees free office space, a desk and a chair, provided they agree to work for nothing.

Our extraordinary generosity needs to be set against the profitability of the work we do for the platform giants. Alphabet and Facebook alone reported £9 billion in UK sales in 2017, revenues on which they paid a total of £65 million in tax. Our first proposal, therefore, is to treat digital companies, for tax purposes, in the same way as conventional ones.

This proposal recommends the introduction of a new levy on revenues generated from the provision of digital services or advertising activity in the UK. A digital company would be deemed to have a taxable status if it either exceeds a threshold of £25 million in annual revenues in the UK, if it has more than 100,000 UK users in a taxable year, or if it has global revenues of over £650 million. As an indication of the potential returns for such a tax, 5 per cent levied on digital advertising services and services provided by online marketplaces/intermediaries would yield an expected gross tax revenue of about £2.02 billion. If one assumed deductibility of the revenue tax at 18 per cent, these estimates would reduce to a net figure of £1.64 billion.

Thinking of the data supplied by UK internet users as the product of unremunerated labour brings us to our second related proposal.

There is significant evidence to suggest that a 30-hour working week can provide a solution to a range of socioeconomic problems: mental and physical health crises, over-consumption, rising carbon footprints, low-wage low-productivity equilibrium, and an ageing population, to name a critical few. In addition to these advantages, reducing typical working hours could hold some of the keys to our nation's productivity crisis. Whereas, traditionally, one would have probably had to accept a reduction in overall productivity with a shorter working week, emerging technologies are beginning to allow us to work far less as a society

without losing our output. An increase in productivity-boosting investment could be the way to stimulate long-term growth. This comes with a caveat; we strongly believe the efficiency improvements from such technology should not further entrench inequalities between shareholders and employees in the form of greater profits, but should be shared equally among us all. This proposal therefore recommends that the revenue generated from the digital labour tax should be used to set up a fund to accelerate the uptake of such labour-saving automation and other productivity boosting technologies. In order to keep the benefits evenly distributed, the investment grants would be conditional on firms opting to do shorter working weeks of 30 hours.

We seek to make an explicit connection between a reduced working week and our collective digital labour. By reframing the time we spend online as labour, we intend to overcome the conceptual and cultural resistance to a 30-hour week. In simple terms, the working week would not be reduced, but merely altered to account for unrecognised labour, which would be rewarded to the benefit of millions of UK citizens.

This policy would also ensure that the reduced working week would be collectively earned and facilitated collectively; that is to say, a reduction in working hours would be made possible by an investment derived from the collective generation of taxable data. As a result, we believe the UK population would all have a stake in the fiscal basis of a reduced working week. Businesses would be supported by a collective digital labour that would serve to generate a sense of collective responsibility and agency. The investment fund would have the dual function of safeguarding the jobs and incomes most at risk from automation in the longer term by enshrining and accounting for any efficiency improvements in a reduction in working hours. In this way, workers would be protected from shocks to the labour market. The final purpose of the levy would be to provide a timeframe wherein adequate measures can be taken to bring privately-owned data into public ownership, bringing with it its own collective benefits.

This significant restructuring of the British economy must, however, be taken in careful steps, as opposed to abruptly and with undue risk. We argue that this moment in our economy represents a unique turning point and opportunity to facilitate two great economic redistributions: of labour and data. But it is crucially important not to miss the opportunity by forging ahead with one and not the other. Only after both redistributions can we fully capitalise on this hugely important moment for our economy to provide a basis for a wholesale redistribution of power, wealth and reward.

# 1. A BRIEF DIAGNOSIS OF THE PROBLEMS IN THE UK ECONOMY

The UK economy leads the world in a number of sectors. It has a 3.3 per cent share of the global gross domestic product (GDP) and constitutes the world's fifth largest economy (PwC 2019a). Growing primarily out of the industrial revolution, and with access to colonial markets, the UK has been at the forefront of innovation for two centuries. Primarily made up of services, the UK economy relies on a tertiary sector that amounts to nearly four-fifths of its GDP. The service industry is itself dominated by the finance sector, which employs 1.1 million people, generating a trade surplus of £51 billion and contributing £27.3 billion in tax revenues for the exchequer. In 2017, the sector contributed £119 billion to the UK economy, which constituted 6.5 per cent of total economic output (Rhodes 2018).

Other world-leading sectors include Britain's aerospace industry, which employs 95,000 people and generates £8 billion gross value added (GVA), equating to 4.7 per cent of UK manufacturing GVA (Brien and Rhodes 2017). The UK's pharmaceutical industry is the tenth-largest in the world, employing 68,000 people in the UK (Monaghan 2014). The UK economy is highly developed and globalised, and significantly powerful on the global stage. But, if one were to look at its performance relative to its size, the results are less promising.

In the late 1970s, the British economy, having previously been the fastest growing in the world, was struggling. Its GDP per capita had been easily surpassed by the major continental European countries and was 40 per cent lower than the US. However, by 2007, after 30 years of productivity improvements and job growth the UK's relative economic performance had improved substantially, exceeding the GDP per capita of both France and Germany, as well as reducing the gap with the US (Besley and Van Reenen 2017). But, as was revealed by the financial crash of 2007–2008, much of the growth our economy achieved prior to 2007 was the result of a build-up of household debt. In the last quarter of 2009, having experienced six quarters of negative growth, the UK moved out of the recession having suffered 6.4 per cent total contractions in GDP. At the height of the recession, GDP fell by 2.6 per cent in a single quarter (Q1 2009) – the same percentage by which the economy expanded during the entire of 2007 (Allen 2010). In an effort to shore up the economy in the years after, the Bank of England cut interest rates to a historic low of 0.5 per cent and began quantitative easing to boost lending. However, the recovery has not been easy, and, in fact, disposable income per head only returned to its pre-crisis level at the end of 2016, leading Mark Carney, the governor of the Bank of England, to describe the period as a 'lost decade' (Chan and Foster 2016). If we look further, we can see that this is true. Our economy has only grown at a rate of 2 per cent a year since 2013, and forecasts predict UK GDP growth to slow to around 1.1 per cent on average in 2019 before picking up somewhat to 1.6 per cent in 2020 (Hawksworth et al 2019). Of the G7, only Italy and Japan have slower rates of growth at 0.9 per cent and 0.7 per cent

respectively (OECD 2019). GDP still remains between 3 and 4 per cent below its peak in early 2008, and the pace of recovery is slower than in every previous UK recession (Besley and Van Reenen 2017). Why the UK economy has been so ponderous in its recovery is down to a series of wider structural problems that will be briefly outlined here.

### 1.1 GROWTH DECOUPLING FROM WAGES

In the past, growth and earnings have been broadly commensurate. For this reason, GDP was a good measure of living standards and economic prosperity because it often tended to translate into higher earnings for most people. However, while economic growth has continued in this country (albeit slowly), average weekly earnings have seen no increase at all – in fact they have barely increased since 2002 (Corlett et al 2018). The implication of this is severe; we can no longer regard GDP as a good measure of the wealth of a population. Its second implication is that people are not receiving a fair share of our economy’s growth.

This decoupling can be explained in part by a lessening of the strength of the labour market. Since the 1970s, an increasingly diminished share of the national income has been going to labour. This trend not only increases inequality, but it also makes it more difficult for growth to continue at a higher rate, since the labour market – or those who depend on salaries and wages to live their day to day lives – expend a far greater share of their income than high earners, who are much more likely to save or invest capital overseas. The decline can be partly explained by a steadily falling rate of trade union membership (see figure 1.1). For this reason, it is vital that income is redistributed more evenly in order for growth rates to improve. As Aghion et al (2017) note, “inequality is not an inevitable by-product of growth.” More inclusive and sustainable growth is available if policies that promote a more efficient and more equal labour market are implemented (Aghion et al 2017).

**FIGURE 1.1**  
Trade union membership and labour share of national income (1970–present)



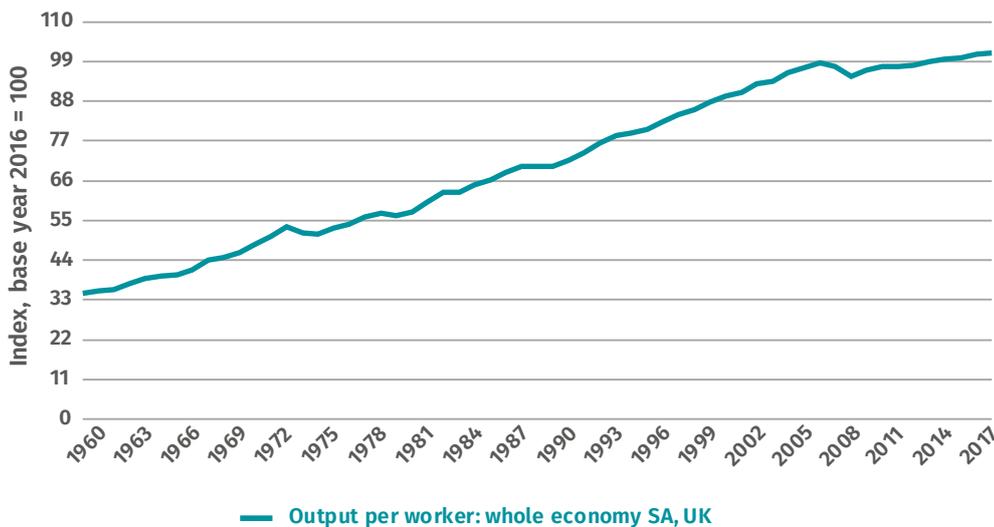
Source: Author’s analysis of Department for Energy 2018 and the IPPR Commission on Economic Justice 2018

## 1.2 LOW PRODUCTIVITY

This of course follows onto a second problem relating to the slow recovery – productivity. UK productivity growth, measured by output per worker, has been weak in recent years (see figure 1.2). It is in a slump that continues to hinder our national living standards and public services – GDP per hour worked is the second lowest in the G7. UK productivity is now 16 per cent lower than the G7 average and our annual growth in productivity has declined to 0.4 per cent in the past decade (ONS 2019). Longer hours do little to counteract the problem. In the UK, we work more hours than many other major advanced economies. Last year, the average annual hours per worker was 1,514, whereas in Germany the average was 1,356 and in Denmark 1,408 (OECD 2018a). This average includes the 8 per cent of the workforce who are under-employed (ONS 2018a), meaning the average for full-time employees is likely significantly higher. But these extra hours do little to improve our overall productivity as the average German worker is far more productive – it’s often noted that they have done the same work as their UK counterpart by Thursday afternoon every week.

**FIGURE 1.2**

**Output per worker, whole economy SA, index 2016=100, UK**

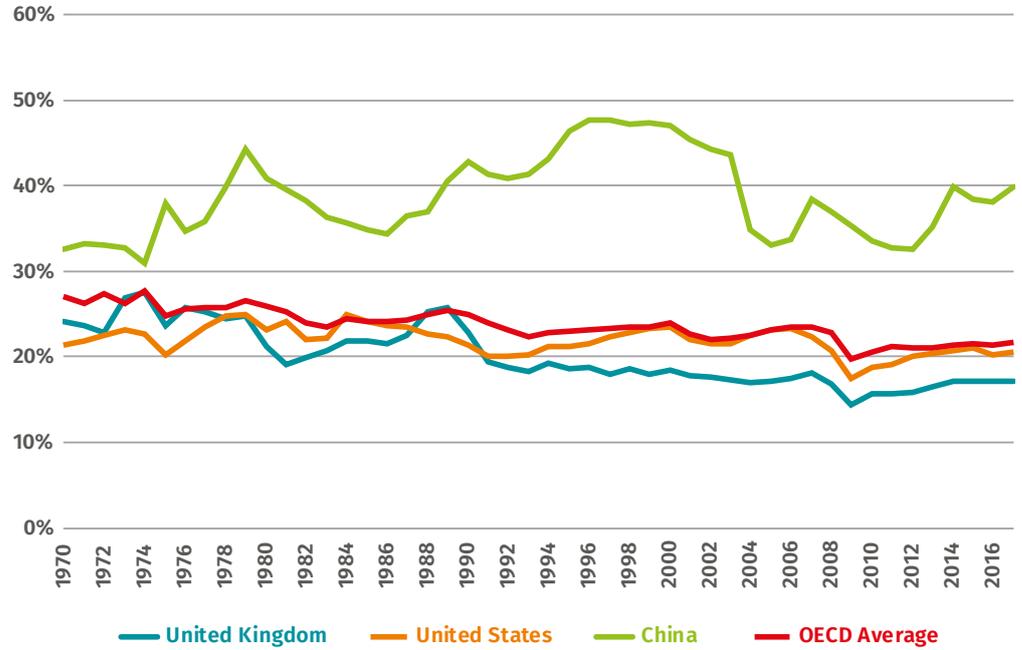


Source: ONS 2018b

There are a number of explanations for the slump but they essentially all come back to a lack of investment in labour, management and production systems. Business investment, while picking up since the 2008/09 recession, has not done so to the extent seen in most past recovery cycles (Hawksworth et al 2019). Many businesses have been reluctant to invest in new labour-saving automation technologies that are relatively risky when compared to the alternative of using more low-cost labour, including migrant workers from the EU (ibid). This locks us into a low-wage low-productivity equilibrium in which firms cut costs and do not get the returns from investment in the form of better workplace practices. Brexit has only made firms more reluctant to invest as the uncertainty over our future trade relationship with the EU remains up in the air. Low interest rates have not stimulated the levels of investment or performance that had been hoped for, meaning productivity growth is expected to remain subdued for the next few years (ibid). The falling rates of investment can be seen in figure 1.3, which illustrates that the UK is 4 per cent below the OECD average.

**FIGURE 1.3**

**Gross fixed capital formation (outlays on additions to the fixed assets of the economy) as a percentage of GDP**



Source: World Bank 2018

Our low productivity is also partly explained by the UK having one of the most flexible workforces in the world. With low minimum wages and a plethora of part-time workers and workers on zero-hours contracts, employers are able to easily exploit a labour market in which an increased demand can be met with more labour as opposed to better labour. It is these low wages that are locking us into a state of affairs where our economy underperforms due to a general reluctance to invest, and workers have reduced income and limited bargaining power.

### 1.3 AN OVER-RELIANCE ON HOUSEHOLD CONSUMPTION

More stable and sustainable forms of growth are clearly more desirable in the long-term, as they can be maintained, they allow us to plan our economy better and they're also more resistant to shocks. With a fall in business investment, our economy has had to rely on consumer expenditure, which has driven 90 per cent of growth in 2017 (IPPR 2018). Not only is this less conducive to a higher growth rate, it is also unsustainable, for the reason that most of this expenditure is financed through debt. Warnings have already been issued by the Bank of England over the instability of this form of growth (Fuller 2018), and the need for longer-term solutions has also been expressed by the International Monetary Fund (IMF), who argue that short-term growth policies are risking a new financial crisis (Adrian and Natalucci 2019). A serious problem of a reliance on this form of growth is the entrenchment of pre-existing inequalities. This is illustrated by the housing market, where inflation leads to higher rents for property owners and less real income for renters. With household debt rising again, it's clear that we need to learn lessons from the very recent past and reconsider how we want our economy to grow; whether from a build-up of household debt, or from a sustainable investment-led process of innovation and productivity improvements that can allow our economy to stay prosperous in the long term.

Any policy seeking to improve overall growth must base itself around improving levels of public and private investment, and around allocating those improvements into households across the country. There is a growing belief that the structure of our economy can and should work for everyone. This comes alongside an understanding that there are a number of political problems with the way our economy is structured. High levels of poverty, intergenerational inequality, and regional divides are all clearly symptoms of a system that is not working for everyone. However, it is our conclusion that this proposal may offer a route out of many of the crises our economy and society more generally are experiencing today.

## 2.

# THE DIGITAL REVOLUTION AND GLOBAL DIGITAL ECONOMY

### 2.1 THE RAPID PACE OF DIGITALISATION

Today, we are living through a period of such wholesale change that the process has been likened on many occasions to a ‘revolution’ (HM Treasury 2018a, OECD 2017, European Commission 2017).<sup>1</sup> Digitalisation is irreversibly restructuring contemporary society,<sup>2</sup> affecting all traditional economic, political, governance, and enforcement systems. From the way we interact with one another to the way we store information, from the way we consume to the way we work, very few areas of society have remained unaffected by the digital revolution of the last 40 years. The changes brought about by these technological advances have in many instances had positive effects.

- Encouraging and creating new opportunities for innovation both by allowing businesses to freely store information and to communicate more easily with suppliers, customers, and employees.
- Lowering transaction costs and barriers to entry for thousands of people in multiple sectors.
- Making entertainment, culture and education increasingly accessible via online databases and free open-source educational programmes.
- Diminishing costs of economic and social cooperation, providing opportunities for dialogue and interactions across different communities and groups that would have previously been impossible.

These are of course only a small number of examples of the impacts of 40 years of global digitalisation. While the digital revolution has been ongoing since the early 1980s, it is only in the last decade that we have seen the balance of economic power tip towards digital companies, namely towards the major platform giants. Whereas, in 2006, only one digital company was among the top 20 by market capitalisation by 2018 the top five largest companies were all platform companies or platform hybrids and eight out of the top 20 were digital technology companies, accounting for 56 per cent of the total market capitalisation of the largest 20 companies (PwC 2018).

The market value of those five largest companies - Amazon, Apple, Alphabet, Facebook, and Microsoft - exceeded £3 trillion in the same year, which already amounts to more than the GDP of 90 per cent of the world’s countries (Gallagher 2018). This is unprecedented in scale and poses questions fundamentally different to those that have come before. An illustrative example of the novelty of these changes is to say that, in the past, the time it has traditionally taken fortune 500

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1 Regarded as the period from 1970s onwards.

2 The term ‘digital economy’ is a contested term due to the lack of an agreed definition – in many ways, the entire global economy is now digital. Alternative monikers have been proposed by the IMF, such as ‘digital sector’, and or ‘digitalisation’. This has consequences for the measurements of the digital sector, making them difficult. This paper takes ‘digitalisation’ to cover ICT goods and services, online platforms, and platform-enabled activities such as the sharing economy.

companies to reach a valuation of \$1 billion has been 20 years, whereas these platform giants have only taken four years. The trend is set to increase in the coming years, with the growth of digital companies by far outstripping the global economy at large; the average annual revenue growth for digital firms is 14 per cent, whereas for other multinationals (MNEs) it lies at 0.2 per cent (European Commission 2018). In the US, the digital sector has grown at an average annual rate of 5.6 per cent in the 11 years between 2005 and 2016, compared with 1.5 per cent growth in the economy as a whole (Bureau of Economic Analysis 2018). And in Europe, close to one-third of the growth of the overall industrial output is already due to the uptake of digital technologies (European Commission 2017).

The changes to our everyday lives reflect the new structure of the market. In the last 10 years, global sales of smartphones have increased from 151 million units to 1.468 billion units a year (Statista 2018). Connectivity has become an all-pervading master – one whose main function is to extend and expand all opportunities for capital and to draw users into the uninterrupted operation of markets and information networks. In 2017, a record 3.5 billion people were connected to the internet as a result (ibid). The effect is the collapsing of geographic distances and an increased capacity for immediate interaction, communication and transaction. Now, in the space of 60 seconds, there are 156 million emails sent, 3.8 million Google searches, and 29 million WhatsApp messages processed (ibid).

This tells us that it is only really in the last 10 years that our lives have begun to be taken over by the same platforms and digital services that have begun to dominate the world economy. The relationship between the two – our lives and global markets – is explained in the growing stores of data we produce.

Today, the annual volume of data created across the globe is estimated to double every year, with more than 44 zettabytes (a trillion gigabytes) of data expected to have been produced by 2020 (OECD 2018b). This, combined with ever-improving data analytics<sup>3</sup> and technology advances,<sup>4</sup> is providing the basis for unprecedented levels of profitability and development in businesses, inducing a structural transformation of the global economy (ibid).

## 2.2 THE DIGITAL ECONOMY IN THE UK

Here in the UK, the effects of digitalisation have been more pronounced than in most countries in Europe. As of 2016, the digital sector represented 12.4 per cent of UK GDP (Boston Consulting Group 2012). It employs more than 2 million people figure and accounts for £4.46 billion of capital investment in 2018, which is the third highest figure globally and £2.58 billion higher than the next highest European country, Germany (see figure 2.1). Like in Europe and the US, the UK's digital technology sector is growing faster than the economy as a whole with the turnover of digital tech companies rising 4.5 per cent in 2017, compared with a 1.7 per cent rise in GDP (Tech Nation 2018).

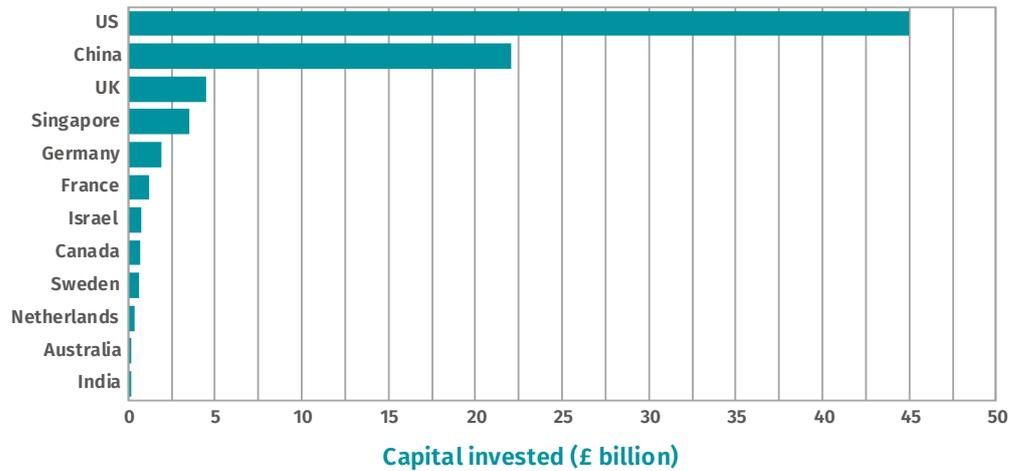
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3 Automation is an improved technology which is already advanced enough to offer a significant number of performance and productivity benefits to businesses. For example, improved access to and quality of data use on the part of a business can increase labour productivity by 14 per cent on average (Barua et al 2013).

4 Technological advances have brought about a rapid decline in the unit cost of data processing, which has facilitated the adoption and integration of digital products and transactions.

**FIGURE 2.1**

**Investment in digital tech by country**



Source: Tech Nation 2018

Indeed, the UK has a uniquely large – 30 per cent (ibid; European Commission 2018b) – share of the European digitalisation, thanks both to the aforementioned levels of investment and to UK citizens’ avid use of the internet. The UK has 90 mobile and 39 fixed broadband subscriptions per 100 inhabitants (OECD 2018b). All these factors combine to give the UK one of the largest digital sectors globally, and, by extension, we are facing serious and pressing questions about how we manage and regulate the revenues currently being generated.

The fact that these changes have been so vast and so rapid means that many of the regulatory frameworks we currently use are quite simply not up to date. However, it is this proposal’s belief that these changes also come with their own immanent opportunity: to decide on and build something entirely new. As history has shown us, revolutions are apt to enrich the lives of as many members of society as possible, or else might serve to increase the power and wealth of a concentrated number of individuals. It is the aim of this proposal to try and ensure the former.

### 2.3 THE STRUCTURE OF DIGITAL PLATFORMS

The digital platforms that are increasingly dictating the time and money we spend online are multifarious in form. They have a commonality insofar as they are based around coordinating or ‘intermediating’ the supply and demand of two parties on either side of a digital market, known as a ‘three-sided market arrangement’ made up of users, suppliers and platforms. The platform’s role is akin to that of the auctioneer presenting goods to a room full of bidders. Google, for example, presents information to searchers, Spotify presents music to potential listeners, Tinder presents singles – who constitute the users and the suppliers – to one another. Indeed, Google’s former CEO Eric Schmidt himself said in 2003: “All of a sudden we realised we were in the auction business” (Levy 2009).

These companies have key differences with the traditional ‘brick and mortar’ companies for which the corporate tax framework was solely designed. There are three key differences exhibited in all of them.

1. **They are increasingly reliant on intangible assets** – namely, intellectual property assets such as machine-learning algorithms<sup>5</sup> and software. The use of these assets is central to their business models.
2. **They can be “heavily involved in the economic life of a jurisdiction without any – or any significant – physical presence”** (OECD 2018b). The OECD calls this operational local scale without local mass or “scale without mass” (European Commission 2018b), and it enables businesses to separate the various stages of their production processes across different countries without losing access to customers and/or users.
3. **They rely on data and user participation** (Lawrence and Laybourn-Langton 2018). The data produced by users is valuable in three ways: it can improve company performance through the fine-tuning of goods and services produced, including platforms themselves; for example, Amazon’s recommendation function improves with more purchases and extractable data, leading to increased revenues. Secondly, it can be analysed to create insights that can be sold to generate revenue, and thirdly, it provides the raw material for AI development (ibid). In some cases, a barter transaction occurs in which goods or services are traded without monetary compensation against user engagement or user-generated content. This is why users benefit from ‘free’ access to a specific social media platform or search engine – it is compensated for by the platform in the form of data extraction. According to the OECD the possession of user-generated data and the ability to analyse it represents a ‘core economic asset’.

While these three processes represent salient common characteristics between various digitalised businesses, many digital platforms have the foregoing attributes in varying measures. It is therefore necessary to look more closely at the relative models of significantly evolved value creation to understand how digital companies present challenges to the current politico-economic system. This is made more difficult by there being a lack of a clear industry definition of the types of different platforms – a problem which has led to a number of different distinctions being proposed.<sup>6</sup>

Indeed, the IMF states that the “coverage of online platforms and their products is incomplete” (IMF 2018), which increases the difficulties when analysing, measuring, regulating and indeed writing about digitalisation. This proposal will therefore seek to outline its contention of the various differing structures and models of value creation and revenue generation in digital platforms, with a view to outlining where said value might be incorporated back into the UK economy.

As is stated by the European Commission, “There is no single defining feature of new ways of doing business in the digital space and the different aspects are often combined together in a single business. This diversity requires work on the scoping of the various types of digital activities and services to be covered by any potential solution” (European Commission 2017). This proposal agrees that the proposed categories are not autonomous, and indeed there are areas of overlap between the processes of value creation. For example, while Alphabet – Google’s parent company – does act as an intermediary in a digital marketplace, it also

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5 Defined as a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

6 In some cases, definitions distinguish platforms along the types of service they provide. For example, the provision of a social media platform might be distinguished from the provision of a search engine (HM Treasury 2018a; HM Treasury 2018b). However, it seems that, while for a user the platform may be different, the models are essentially the same. For example, Facebook and Google have different end-user-functions, but they are both based on the same advertising model, as outlined by a number of proposals.

manufactures many of its own products, and so also acts as an industrial hardware provider. In other words, the definitions categorise business lines as opposed to overall companies.

This proposal sets out four broad lines of business, drawn from the European Commission's Impact Assessment on the digital economy, all of which have in common scale without mass, intellectual property (IP) assets and data reliance.

#### **Advertising (data-sale-based)**

This model is based on the harvesting, analysis and sale of the many types of data that users produce when they use a platform. With Google Search, for example, the data captured includes the number of searches about a particular topic, the pattern in which the queries are phrased, the spelling of the query, the punctuation of the query, the dwell times of users on web pages, the click patterns, the location, and countless other forms of data (Zuboff 2019). Once the data is analysed or translated into predictions about which users are most likely to click on which types of advertisement, those predictions are sold to advertisers and business developers in order that they might target their ads to the most suitable users. As more data becomes available, the accuracy of these predictions increases and so does their value. Other examples of businesses with these models include Facebook and Deezer.

#### **Access to a service/content (subscription-based)**

These platforms generate revenue by offering users access to a service or content in return for a subscription fee. A large and eclectic mix of platforms use this model. They may provide a video-streaming service such as Amazon Prime, a cloud computing service such as Google Play, they may give access to musical content like Spotify, or they may provide e-payment services such as Paypal. Often, the service has been transformed from a traditionally physical product such as a DVD or a CD album, and gives continued access in return for subscription fees. Additionally, it may be the case that the platform vertically integrates the supply side of the market within the business model. Netflix, for example, now produce their own supply of Netflix Originals to go alongside pre-produced content. They still rely heavily on the analysis of user-generated data for the improvement of their own services.

#### **Access to a multi-sided marketplace (commission-based)**

This platform model operates in much the same way as the others - connecting suppliers with users. However, it does this in exchange for a one-off fee. The fee or the commission often varies greatly depending on the size of demand. This model heavily relies on user-generated data to improve the accuracy of its matching, thereby heightening consumption and revenue. Sometimes it facilitates the supply of a service, such as transport in the case of Uber, as opposed to products, which is the case with Amazon Marketplace.

#### **E-commerce**

Revenues from this model are generated from the sale of goods. An e-commerce platform, such as Asos.com for example, will sell goods on their website and subsequently deliver them to the buyer (European Commission 2017).

## **2.4 CASE STUDIES**

This proposal is concerned with digital platforms whose global revenue is greater than £650 million. It's therefore important to look more closely at those platforms and the effects they are having on society and the economy more generally. The models outlined above demonstrate how, in each case, online platforms are generating revenues in radical ways. As has been previously stated, these categories outline business lines as opposed to

entire businesses, and so there is much cross-pollination between them. However, in some cases, companies' models represent a monoculture of singular and precarious processes. Two of the 'big five', Alphabet and Facebook, have an also almost complete reliance on the sale of user-generated data to advertisers. This raises economic, political and moral questions, as they are tacitly profiting from increased surveillance, systems of control, and violations of privacy.

### **Facebook and Alphabet**

The extent of this is demonstrated by the revenues themselves – by 2020, over half of all advertising spend will be allocated to digital companies (Advertising Association 2018), 84 per cent of which are controlled by Facebook and Alphabet (Garrahan 2017). These companies are hugely reliant on this revenue, with Facebook collecting 98 per cent of their overall revenue from advertising sales (Statista 2018) and Alphabet collecting 86 per cent (ibid). In 2017, Facebook's worldwide advertising revenue was £35.94 billion, an increase of 67.3 per cent on the previous year. In the UK, this was close to £1.27 billion (Oakes 2018), while Alphabet received £4.1 billion in advertising revenue in the UK alone. Most of this revenue comes from mobile devices (Statista 2018). To put this into perspective, the combined market capitalisation of these two companies is £1.18 trillion – they are the second and eighth largest in the world respectively, and, jointly, 91 per cent of their entire revenues are generated directly from the sale of the data their users provide. Combine this with the presence of network effects – how platforms become more valuable as more users use them – and it is clear that this viral growth, and the power this affords, is only set to exacerbate in the next few years. (PwC 2018).

### **Amazon**

The yields are equally fruitful for those acting as an intermediary in a multi-sided digital market. Amazon's 2018 market value was £594 billion and global revenues of the year before were £133.59 billion, 6 per cent (over £8 billion) of which was generated from a UK consumer base (Statista 2018; Neate 2018a). 85 per cent of these revenues are generated from retail, made possible through the increasingly accurate recommendation functions borne out of the analysis of user-generated data. A secondary effect of this data capture is illustrated by the number of new markets Amazon continually enters (Lawrence and Laybourn-Langton 2018), deepening its hold on the general retail market by lowering barriers to consumption through quick delivery options and subscription models. Indeed, Amazon's cloud services provide the digital infrastructure required for a number of other processes, granting them further access to user-generated data as well as increasing control over competitors. An example comes in the form of Amazon's 'virtual assistant', Alexa, which not only serves as a means to capture increasing amounts of data, but also to direct consumers towards its own products and services and potentially limiting access to competitor services. In October 2015, for example, Amazon declared they would stop selling Apple TV and Google Chromecast (Evans and Gawer 2016). This tendency towards monopoly is demonstrated by the fact that Amazon is responsible for 90 per cent of all e-book sales in the UK and 80 per cent of all physical book sales (ibid).

## **2.5 WHAT ARE THE IMPACTS OF THIS GROWTH?**

The revenues outlined above testify to how valuable our digital lives have become. If it were monetised appropriately, the total mass of user-generated data in the UK would constitute this country's sixth largest export – the product of billions of hours of unremunerated labour. This is not reflected in our public finances as we essentially give it away for nothing in exchange for platforms remaining free at the point of use.

Similarly, it's the corporate tax framework that allows the value of our data to remain attributable to territories outside the UK; today's regulation assumes value can only be made in areas where a business has a significant physical presence. Before digitalisation, this was broadly true, but the implementation of this principle is outdated in the economic climate previously outlined, where it is now possible for huge value to be created digitally without businesses needing a significant physical presence in a particular territory. It is still the case that only profits attributed to the permanent establishment can be taxed.

In other words, users within the UK do not see any return on the value that their labour creates – labour that facilitates the great wealth of the major platform giants. This proposal's central question is to ask how this value might be reincorporated back into the economy and help bring about greater economic equanimity, since, at present, the digital giants pay little to no tax as many of them escape the national jurisdictions of the UK. An illustration of this is that two of the market hegemony, Alphabet and Facebook, had a combined UK tax bill of £65.15 million in 2017 on a reported £9 billion worth of UK sales (Neate 2018b). These scant tax bills, combined with those of technology companies Microsoft, Cisco and Apple, are said to deprive the exchequer of £1 billion a year in avoided tax (Tax Watch 2018).

The underlying discrepancy between where value is created and where it's taxed has several knock-on effects.

1. Digital companies have an advantage over non-digital companies insofar as they can access the same markets remotely. Given that the corporate tax framework is premised on 'physical presence' this can fairly be said to remove the level playing field between businesses, privileging digital companies over those with physical presences in UK territory. The competition between traditional and digital businesses is therefore not an equal one. In the EU28, for example, the effective average tax rate for digital companies is 8.9 per cent (European Commission 2017) compared to 23.2 per cent for traditional business models. This is mainly due to the characteristics of digitalised business models, which rely heavily on intangible assets and benefit from tax incentives. Aggressive cross-border tax planning can bring down the tax burden to effectively zero (ibid).
2. A significantly lower tax burden enables larger digitalised companies to drive out market competitors or hinder potential entrants. Equally, the sizeable cash reserves that platform giants have been able to accrue allow them to buy up an increasing number of smaller firms, gaining access to larger stores of data in the process. This is a significant hindrance to innovation. The tendency towards monopoly also has problems for consumers, as higher prices can be charged in the absence of competitive rates. In line with the problems outlined in section one, monopolies exacerbate the problem of a lower revenue share going to labour. The result is that income inequality continues to rise – a fact demonstrated by a recent poll suggesting the majority of tech workers currently consider themselves to be underpaid (Kim 2019).
3. The fact that there is less revenue for the UK budget than there should be has negative impacts on popular conceptions of social and economic justice, or a lack thereof. It contributes to the general awareness that digital companies, particularly the platform giants, operate above and beyond national jurisdictions. Materially, UK taxpayers shoulder a disproportionate burden – but perhaps more significant is the deleterious effects on popular perceptions of the efficacy of our economic, social and cultural systems. According to recent research, the UK loses over 20 per cent of its expected tax revenues from multinationals to tax havens (Tørsløv et al 2017). This figure is even higher if one takes into account smaller

companies. As Gabriel Zucman noted amid the Paradise Papers scandal in 2017, “in Britain alone, annual revenue losses are €6 billion, to which must be added almost €12.7 billion dodged by multinationals” (Zucman 2017). Zucman also noted that, of these MNEs, Google was the “most spectacular” (ibid), reporting profits of \$15.5 billion in Bermuda, a tax haven, in 2015.

Like traditional business, digital businesses with a significant economic presence in the UK also benefit from our public infrastructure. Not only is the physical internet infrastructure, but our governing laws and judiciary structures, the education of future employees and the digital skills of potential users that contribute to innovation. A sustainable, fair and proportionate tax system contributes to a sense of collective responsibility and social cohesion, political categories it is important to maintain. These trends and the problems they cause are only set to continue and grow, meaning a relevant solution is increasingly necessary.

## 2.6 AN INTERIM SOLUTION

It is clearly necessary to enable a fairer market system in which digital companies face the same treatment as traditional ones, taking into account considerations about how their value is produced and to whom it should be allocated. With this in mind, this proposal recommends the introduction of a new levy on revenues generated from the provision of digital services or advertising activity; this would be applied to all transactions concluded with customers where a business has a significant economic or digital presence in the UK, without necessarily having a physical presence. The new generalised tax would ensure that online businesses contribute to public finances at the same level as traditional companies. A digital company would be deemed to have a taxable status if it either exceeds a threshold of £25 million in annual revenues in the UK, if it has more than 100,000 UK users in a taxable year, or if it has global consolidated turnover of £650 million or more. In practical terms, revenue from online advertising would be classified as taxable when the revenue is generated from adverts displayed at UK users. With other forms of revenue generation, for example a subscription or a commission, a taxable revenue would be one where the payment comes from a UK user, or relates to a transaction involving a UK user.

A tax rate of 5 per cent would return, it is estimated, £1.64 billion in 2019. With annual growth rates predicted to rise between 6 and 17 per cent, the figure could be expected to exceed £20 billion over 10 years. The expected gross tax revenue is about £2.02 billion, but with deductibility of the revenue tax at UK 18 per cent, these estimates would reduce to a net figure of £1.64 billion.<sup>7</sup>

This suggestion ultimately seeks to realign the tax system with where value is made in the digital age. The recommended levy takes the lead from a proposed (and subsequently scrapped) reform to digital taxation in the EU by the European Commission, but it adapts it to operate within the UK economy, increasing the rate of taxation from the proposed 3 per cent to 5 per cent (the highest rate of tax covered in the proposal) of gross revenues. This is considered to be a fairer rate of taxation – one that would be enriching for a society existing outside of the EU. The licences of companies with a taxable digital presence would be conditional on the fulfilment of this new levy.

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<sup>7</sup> Underlying these estimates are forecasts from the European Commission’s impact assessment on ‘Fair Taxation of the Digital Economy’. The European Commission give top-down revenue estimates for a digital tax on gross revenues across the single market. The revenue from the UK constitutes 30 per cent of the estimate. This means that, if a tax rate of 5 per cent generates revenues of €7.8 billion in 2020, in the UK it generates €2.34 billion or £2.02 billion.

The tax differs sharply from the European Commission's proposal, in that we recommend earmarking the revenue generated for two redistributive processes.

1. To facilitate the transition from a 40-hour or more working week to a 30-hour working week, where the latter becomes the standard that is generally expected by government institutions, employers, trade unions and society more generally. The revenue would be hypothecated for firms to invest in labour-saving automation and other processes aimed at boosting productivity.
2. To provide an interim period to facilitate the 'democratisation' of data – bringing privately-owned enclosed data into public ownership. The levy would allow time for the provision of a public service that stores and curates collective data, to regulate platform giants as public utilities, and to introduce local digital commonwealth strategies (Lawrence and Laybourn-Langton 2018).

The interim levy would be scheduled to last for as long as data remains under the private ownership of the digital platforms. This proposal would recommend a period of 10 years, which would provide approximately £20 billion to stimulate investment-led growth in a policy mix that would ensure a fairer proportion of efficiency increases are distributed to employees over shareholders.

The UK has been too slow to adopt many of these productivity-boosting measures. Our economy therefore has great growth potential, if given a thorough programme of investment. Emerging technologies have already been shown to provide a significant number of performance and productivity benefits to businesses; improved accessibility and quality of data use alone can improve labour productivity by 14 per cent on average (Barua et al 2013). The purpose of the fund is not just to incentivise businesses to adopt otherwise costly technologies and workplace measures, but also to generate more competition within sectors, in turn incentivising laggards to adopt labour-saving and productivity-boosting technologies much faster than they otherwise would, lest competitors gain an advantage with measures that have been proven to increase productivity.

Grants for investment would be conditional on firms also adopting a 30-hour working week without a reduction in pay for employees. This would allocate efficiency rewards for UK firms with time rewards for every UK employee attached to those firms. This would represent a just way to distribute the fruits of technology improvements, which are the invention of no single institution or enterprise, and thus represent a collective good. As will be discussed further in section three, this proposal contends that the conceptual benefits of a data tax would be as important as the revenue it generates; as the value from our digital labour begins to contribute to public finances, an opportunity arises to restructure the economy to reward all individuals and households. In simple terms, the working week is not being reduced, merely altered to account for unrecognised digital labour to the benefit of millions of UK citizens.

### 3.

## THE BENEFITS OF A REDUCED WORKING WEEK

In recent months, the idea of a four-day-week in the UK has had an unexpected resurgence. A significant number of studies, reports, white papers and proposals have been either written, commissioned or published on this subject in the last six months alone (Booth 2019a). It signals a collective recognition that the time we spend working is not an absolute category. Indeed, the upsurge in support for a four-day-week is demonstrated by a recent survey which indicates that 63 per cent of Britons support a move to a four-day working week, with 71 per cent thinking it will make them happier (YouGov 2019). In addition, it's recently been reported that several British firms have started trialling a four-day week (Booth and Holmes 2019) without reducing pay for their employees.

The working time discussion, as it might be referred to, was reignited late last year when the Trades Union Congress (TUC) argued that the benefits of technology were being hoarded by bosses and shareholders in the form of greater efficiency, rather than being passed on to workers in the form of less time spent at work (TUC 2018).

The appetite for change might also be explained by a recent UK study of nearly 1,989 UK full-time office workers. Respondents were asked if they considered themselves to “be productive throughout the entire working day?”; 79 per cent said they were not. Indeed, when asked specifically for how much of the day they were productive, the stated average among respondents was two hours and 53 minutes (Voucher Cloud 2018). Given that this average is so low, we might ask ourselves why the enthusiasm for a four-day week has not come along sooner. If one were to take this study seriously, a corollary would be that a reduction in the week's working hours could still easily accommodate enough time for a firm to remain just as productive. There are some case studies to confirm this.

#### CASE STUDIES

##### Perpetual guardian

On 5 March 2018, New Zealand's largest corporate trustee company, Perpetual Guardian, began trialling a four-day week without reducing the pay of their 240 employees. All of the employment conditions remained the same, except for staff hours which were reduced from 37.5 to 30 per week. The company's founder decided to implement the trial after reading that, like the UK, New Zealand is one of the lowest-ranked OECD countries for productivity.

The results from the eight-week trial were surprisingly positive; they discovered no fall in output over the four days, meaning job performance was completely maintained. Furthermore, 78 per cent of staff now said they enjoyed a good work-life balance – a 24 per cent increase – and staff stress levels lowered from 45 per cent to 38 per cent. The fact that there were no quantitative downsides to the trial was a significantly positive result. Initiatives like cutting meetings down from an hour to 30 minutes were cited as important and simple measures to improve productivity.

The qualitative impacts were equally positive. Many employees spoke of increased levels of intellectual stimulation and creativity during the trial, better social relations between one another, and a generally improved quality of life as they were able to spend more time with families, friends and communities, reconnecting with old hobbies or taking better care of themselves. The overwhelming feedback was that employees were experiencing a fuller existence. The trial was implemented on a long-term opt-in basis (Perpetual Guardian 2019).

### **Gothenburg trial**

A recent guide to the implementation of reduced working time notes that “most discussion on working time reductions has turned on on particular experiment: the six-hour working day in the Swedish retirement home Svartedalen” (Pentinel 2017).

Indeed, this particular trial, undertaken from 2014–2016 in the city of Gothenburg, is notable for its commensurate research and careful analysis of its results. Svartedalen was a Swedish retirement home in which, for 23 months, all nurses were required to work 30-hour weeks with no reduction in pay. The trial, which was fully paid for by the municipality of Gothenburg, was an attempt to analyse the long-term effects of a 30-hour working week which came in the form of five six-hour shifts. The reduction in shift-time was compensated for by the hiring of 15 extra staff, meaning the total hours worked at the nursing home remained the same. The researchers even set up a ‘control’ group of nurses in a similar nursing home. The results of the study were measured with “a special health survey with a minor physiological study” which took place before and after the change in shift patterns (Lorentzon 2017).

The results concluded that the level of satisfactory energy left when nurses came home improved by 143 per cent, while stress levels had improved by 105 per cent. Results also indicated improvements in fatigue, levels of physical activity and general health. Overall sick leave also improved by 4.7 per cent. These improvements stood in contrast to the control group whose overall wellbeing, stress levels, fatigue levels and general health all saw declines. The report concluded that the 30-hour week had significant and marked health benefits for the nurses in the Svartedalen home. In discussions with trial’s main researcher, Pintelon et al (2017) notes that “not only did the health of nurses improve, the quality of service did, too”. This had positive effects on the residents of the care home as staff were reported to have done “more activities with the residents, such as walking in the open air, singing or dancing” (Pintelon 2017). Ultimately, the trial cost the City of Gothenburg SEK 12.5 million, which translates to just over £1 million. However, the employment of 15 new nurses meant the state reduced its costs for unemployment insurance by SEK 6 million, translating to an overall cost of just under £550,000. The trial’s main report concluded that “the need for elderly care is increasing while the supply of nurses is inadequate in Sweden” (Lorentzon 2017). Much like in the UK, therefore, an increasing need for care has to be met with measures to improve the working conditions of care workers. Furthermore, less tangible benefits from the trial such as reduction in public healthcare costs, a general boosting of the local leisure economy, qualitative improvements to wellbeing, social cohesion, and happiness for service users and providers alike mean the experiment should be perceived as a highly successful public investment (Savage 2017).

### **Royal Mail**

Another example can be found in the case of the Royal Mail postal workers. At Royal Mail, a new £20 million parcel-sorting system introduced in 2015 automated a large number of parcel-sorting jobs (Harper 2017). Rather than reducing the working times for postal workers, the effect of the ‘labour-saving’ machinery was to reallocate postal workers’ time in delivery rounds. Thus, improvements in technology actually increased the amount of physical expenditure required for postal workers to do their jobs (ibid).

The Communications Workers Union (CWU) directly responded to the changes with a demand for a shorter working week. It was a demand for the benefits of automation should be shared more evenly across the company. They were eventually successful in their dispute and the working weeks of 120,000 postal workers are set to be reduced from 39 to 35 hours a week by 2022 (CWU 2018).

### **Toyota service centres in Gothenburg**

Gothenburg has been home to several shorter working week trials and many of them have been inspired by a Toyota factory in the city, who successfully switched to a six-hour day week back in 2002. The reduction was a proposed solution to employee stress and complaints about long waiting times from customers (Alderman 2016).

The switch facilitated improvements in productivity, where employees were said to “at the very least [be] doing the same amount in the six-hour workday, often more than they did in the eight-hour day” (ibid). Much of this is down to the physical nature of the work, allowing for employee recovery and greater stamina, which equally translates to greater employee wellbeing. Allowing employees to spend more time with family, as well as taking on a greater share of the domestic and care work at home (ibid).

### **Health of Munitions Workers Committee**

A study of munitions workers during the first world war carried out by the Health of Munitions Workers Committee (HMWC) found that, for most workers, weekly output rises with weekly hours of work, although after a point the increase in output declines as more hours are worked (Pencavel 2014). The results led the HMWC to conclude that there should be caps on weekly working hours; they endorsed the value of regular holidays and the benefits of rests, and they were particularly resistant to the idea of working on Sundays.

This tells us that the relationship between a worker’s output and their working hours is nonlinear: below a certain threshold, output is proportional to hours; above that threshold, output rises at a decreasing rate as hours increase (ibid). In a day, for example, workers are significantly more productive in the first hours and become less productive as the day goes on. The HMWC study concluded that workers were most productive in the first five hours of their shift.

The radical implication is that profit-maximising employers should be indifferent to the length of their working hours over a day or week beyond a certain threshold. Of course, the point where the marginal product starts to decline varies with the workers and with the work done; although, like in the case of the Royal Mail and the CWU, this is precisely the point that should be able to come down as efficiency potentials increase.

All of the above trials reported increases in productivity after the reduction in staff hours. This isn't all that surprising; Dominguez et al (2011) show that a reduction in working hours may induce changes in labour productivity and employment: "In the course of a working day, workers' productivity decreases as a result of tiredness; thus, substituting less productive working hours for new workers could trigger an overall increase in the productivity of a working day."

It might also be explained by Parkinson's Law, which tells us that work is generally completed in the allocated timeframe. In a long working week, therefore, the work expands so as to fill the time available for its completion. This works at the level of management as well as at an individual level. A manager forced to accommodate a shorter week would be forced to reduce the inefficiency that accompanies longer timeframes. This was noted in the results of the Perpetual Guardian trial, in which productivity increases were found in simple reductions of meeting times. Beyond the quantitative results, each of these examples provide us, in their own way, with the foundations to elaborate on the various qualitative benefits of a shorter working week.

### 3.1 A WORKING-TIME HEALTH CRISIS

As a society, we are currently suffering from a crisis of wellbeing. There are many reasons for this. The total number of antidepressant drug prescriptions has risen from just over 31 million in 2006 to a total of 70.9 million in 2019. This represents a 129 per cent increase in all prescribed items to treat depressive illnesses, generalised anxiety disorders (GAD), obsessive-compulsive disorder, and panic attacks (NHS Digital 2017). Of all prescription drugs, antidepressants have shown by far the greatest numeric rise in the past decade.

This could either be explained by a decrease in funding for alternative treatments, more awareness of mental health problems, or a readier willingness to come forward with perceived mental health problems. But clearly such a large rate of increase in a treatment, which is only recommended in moderate to severe cases (National Institute for Clinical Excellence 2009), has a number of deeper implications for our society as a whole.

One might look also at the high number of sick days related to mental health problems in recent years. In 2017/2018 there were 15.4 million working days lost due to work-related stress, depression or anxiety in 2017/18 (HSE 2018). This is especially concerning when considering that in the same year, stress, depression or anxiety were the cause of 44 per cent of all work-related illness and 57 per cent of all working days lost due to illness (ibid). One-quarter of all absenteeism is down to overwork. The fact that overwork can be a root cause of depression later in life also means that many of our current work practices will engender future social problems – a study of Whitehall British civil servants found that those who worked 11 hours a day were more than twice as likely to have major depression five years later than those working regular days of seven hours (Stronge and Harper 2019).

As far back as 2008, Mark Fisher noted that depression was the most treated condition by the NHS (Fisher 2008). The growing crisis, he wrote, was part of a wider cultural problem that shouldn't be regarded as 'private' – down to one's innate chemical make-up, neurology, family background or personhood. Rather, it was a pathology that was socially and systemically caused. It was a collective problem that needed a collective, generalised solution – one that went further than individual prescriptions. If one were to look at how the mental health crisis has exacerbated in the 11 years since 2008 this seems like an increasingly valuable suggestion.

For one thing, the costs of this crisis are extensive. In a report on mental health and employers, Deloitte estimate that poor mental health costs UK employers £33–£42 billion each year. This is made up of absence costs of circa £8 billion, presenteeism<sup>8</sup> costs ranging from £17– £26 billion, and turnover costs of circa £8 billion. They also estimate around £1 billion in costs related to self-employed absence. Deloitte note that this cost is disproportionately borne by the public sector, which makes up roughly one-fifth of the UK labour force (Deloitte 2017).

The notion that costs associated with overwork reach nearly 2 per cent of UK GDP demonstrates the economic importance of a working time policy that works for everyone; both as a means to increase productivity, and to engender greater levels of social wellbeing.

As was demonstrated by the results of a 30-hour week in the Gothenburg care home, absenteeism fell dramatically. This was also the case when a three-day week was imposed in the UK in 1974 (Worthington 2014), suggesting that a shorter working week would have a significant impact on the huge costs of overwork and mental health difficulties. Indeed, while many employers offer reactive support, providing support at earlier, preventative stages of the employee journey is a far better way to deliver a better return on investment (Deloitte 2017). What the Deloitte report fails to note is that not only does this garner a better return for employees, preventative measures also have an advantage over reactive measures insofar as many employees will not have to suffer at all – a better solution which in turn will reduce the social costs that fall on government services and the NHS. In other words, a shorter working week, as a preventative measure, offers a solution to a number public, private and social costs.

The risk posed by presenteeism in society is doubled when healthcare workers themselves suffer from work in conditions of illness and exhaustion which can result in fatal errors. Researchers found that, for example, hospital interns make five times as many diagnostic errors when working excessively long weeks compared to normal working hours (Landrigan et al 2004).

But how exactly can this be when, as we've seen, the average office worker in the UK works productively for just under three hours a day? How can it be that alongside the immense costs of stress, overwork, presenteeism and sickness, the average UK office worker is not even technically working for the majority of the time they spend at work?

This is an important point, and one that's often overlooked. If one can complete the tasks required of them in three hours every day, any time where one is forced to stay at work beyond those three hours is a form of overwork. It is a surplus that, while lacking in the intensity we usually associate with overwork, still has serious impacts for the wellbeing of employees, firms and society more generally. The strangeness of this proposition is elaborated upon by David Graeber, who asks: "Why does being paid – often very good money – to do nothing cause people to be so miserable?" The reason this results so often in feelings of worthlessness and depression is down to what he calls a moral confusion.

***“The obvious place to look is economic theory which has turned this kind of thought into a science. According to classical economic theory, homo economicus, or ‘economic man’ – that is, the model human being that lies behind every prediction made by the discipline is assumed to be motivated above all by a calculus of minimising costs and***

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<sup>8</sup> Presenteeism is the practice of being present at one's place of work for more hours one should be, for example working while sick, and it is often a manifestation of insecurity about one's job.

***maximising benefits... almost every bit of available evidence indicates this is not the case."***

Graeber 2018

Graeber goes on to outline that people's motivations have more to do with feeling useful, or more specifically, with "being the cause". Psychologically rooted in childhood, children come to know they 'exist' largely by coming to understand that they are the thing which just caused something to happen. This understanding is associated with intense joy. Graeber argues that being paid well in a situation where one has little to do is not the apotheosis of human motivation and ambition, but rather it is an assault on the very foundations of the sense that one even is a self, that one even exists.

### 3.2 LET'S GET PHYSICAL

Of course, the impacts of over-long working hours go beyond mental health alone. A recent medical report on sedentary behaviour in the UK measured the costs that sitting for over six hours a day had on the NHS in 2016/2017. They found that the total NHS costs attributable to prolonged sedentary behaviour in the UK was £700 million. They concluded that, if prolonged sedentary behaviour was eliminated, 69,276 UK deaths might have been avoided in 2016 alone. Heron et al classify this as a conservative estimate of direct healthcare costs, concluding that prolonged sedentary behaviour causes a considerable burden to the NHS in the UK, with the hope of influencing policymakers to invest in preventative public health programmes. A shorter working week could reduce thousands of cases of cardiovascular disease, colon cancer, type 2 diabetes, endometrial cancer and lung cancer (Heron et al 2019).

Other physical health benefits proliferate with greater leisure time. A similar study on the effects of a 30-hour working week on childcare and health workers in Sweden in 2001 found that sleep quality, fatigue, heart and respiratory problems all significantly improve (Stronge and Harper 2019). But, like in the Perpetual Guardian trial, an increase in time for social interaction with friends and family was highlighted by workers as the most significant positive change. Often these benefits escape economic measurements. Indeed, their measurable positive economic effects – for example, on productivity through improvements in morale and reduced absenteeism/presenteeism – are only emaciated depictions of the real value they have in people's lives. And it is primarily for this reason that shorter working weeks are might still be seen in some corners to have a net negative effect on the wellbeing of society.

### 3.3 AN ENVIRONMENTAL SOLUTION

The environmental problems outlined in the opening section of this paper are indeed of paramount importance, and any economic proposal should have at its heart an awareness of those problems. One of the most pronounced advantages of a shorter working week is its far-reaching environmental benefits (Rosnick and Weisbrot 2006). In the past, compulsory measures to reduce the working week have been taken as the quickest and most efficient responses to energy crises; in the first three months of 1974, a three-day week was introduced by Edward Heath to save energy in response to industrial action from the miners (Coote, Franklin and Simms 2010).

Indeed, a number of recent studies have suggested that working hours are positively associated with nations' ecological footprints. One compared working hours and energy consumption in the US and Western Europe. The study found a correlation between lower working hours and reduced emissions. Specifically, they noted that the energy consumption of the US would decrease by one-fifth if

they were to lower their working hours to the levels of Western Europe. Likewise, Western European energy consumption would increase by 25 per cent if they matched the working hours of the US (Rosnick and Weisbrot 2006).

Fitzgerald et al (2018) analysed the relationship between carbon emissions and working hours at state level in the US. Their findings suggest that, over the 2007–2013 period, state-level carbon emissions and average working hours have a relatively strong, positive relationship of 0.464, meaning that those states whose working hours increased over that time period tended to see their carbon footprints also increase (Fitzgerald et al 2018).

The average carbon footprint of an adult in the UK is 11 tonnes per year (Coote, Franklin and Simms 2010). This must drop to less than four tonnes to meet essential targets (ibid). Shorter hours in paid employment, as the studies suggest could reduce our carbon footprint significantly, some suggest up to 16 per cent (Nässén and Larsson 2015). Equally, there will be a concurrent effect on consumption and consumer behaviour. Less spending power for higher earners, more time to live sustainably and to develop more environmental patterns of behaviour such as walking or cycling to work, will help to not just to reduce carbon emissions but to detoxify the heavily polluted air we breathe in our cities, and to safeguard natural resources (Coote, Franklin and Simms 2010).

The existential threat of climate change is serious and must be addressed with wholesale reform to systems of production and consumption. These cannot just be dealt with through economic policy, however. They also require a more significant shift in cultural attitudes towards materialism and consumption, so that our wellbeing is not seen as dependent on our material possessions, and we actively want to consume less. This attitudinal shift is not just for the sake of our immediate wellbeing, but is also a shift that needs to happen in order to guarantee a prosperous economy and a healthy society for future generations.

### 3.4 GENDER, CARE AND AN AGEING SOCIETY

The UK has an ageing society (Lawrence 2016); our population is set to grow rapidly in the 2020s, becoming the fastest growing major country in Europe by 2030 and the biggest European country by population by 2050. Accompanying the population change will be a demographic one; we're on course to age dramatically, with the over-65 population surging by one-third from 11.6 million today to 15.4 million by 2030 and the unfortunately titled 'oldest olds' (over-85s) nearly doubling in the same time (see figure 3.1). By contrast, the working-age population (16–64) will only increase by only 3 per cent. The demographic change will bring about many care challenges for our society and economy more generally, some of which are already being felt.

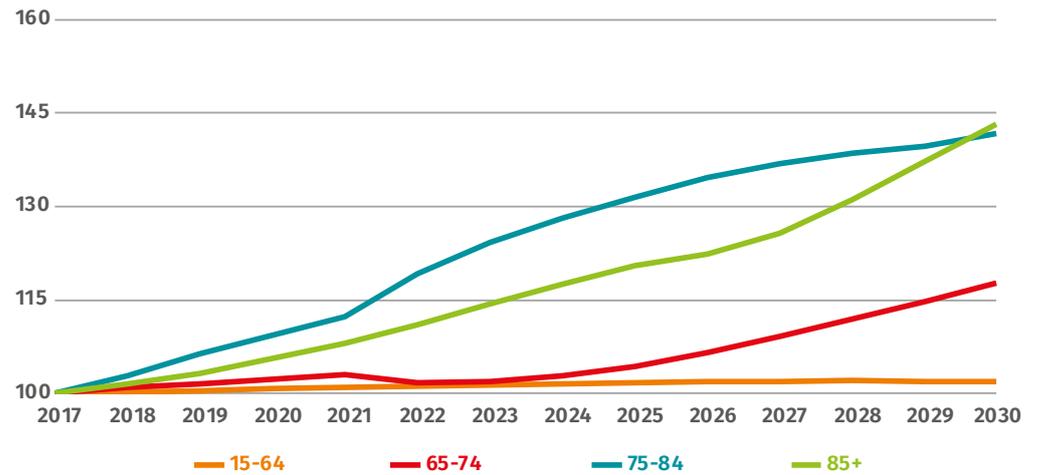
A shorter working week would free up time to care for the increasing number of people requiring care. Currently, nearly 6 million people work as unpaid carers, saving £87 billion a year in public finances by doing the care work that would otherwise need to be carried out by paid workers (Coote, Franklin and Simms 2010). Of these unpaid carers, 58 per cent are women (ibid). Half of them are also in work, and one in five is forced by the demands of caring to give up paid work altogether (ibid).

Figure 3.2 shows the hours of unpaid adult care received from 2005 to 2016. Total informal adult care provided in 2016 amounted to 7.9 billion hours. This would equate to just over 4 million adult social care workers working every week of the year at their median weekly hours, if they were to provide individual-level care (ONS 2018b). This is only set to increase alongside an ageing population, meaning our policy programmes at the moment must have some awareness of

the increasing care burdens we will face as a society; those requiring round-the-clock full-time care accounted for 86.9 per cent of total adult care hours in 2005, and 89.7 per cent of adult care hours in 2016. Enabling more people to co-produce their own wellbeing will help to ease the burden on the NHS, as well as easing the increasing burden on informal carers allowing many of them to return to paid work (ibid).

**FIGURE 3.1**

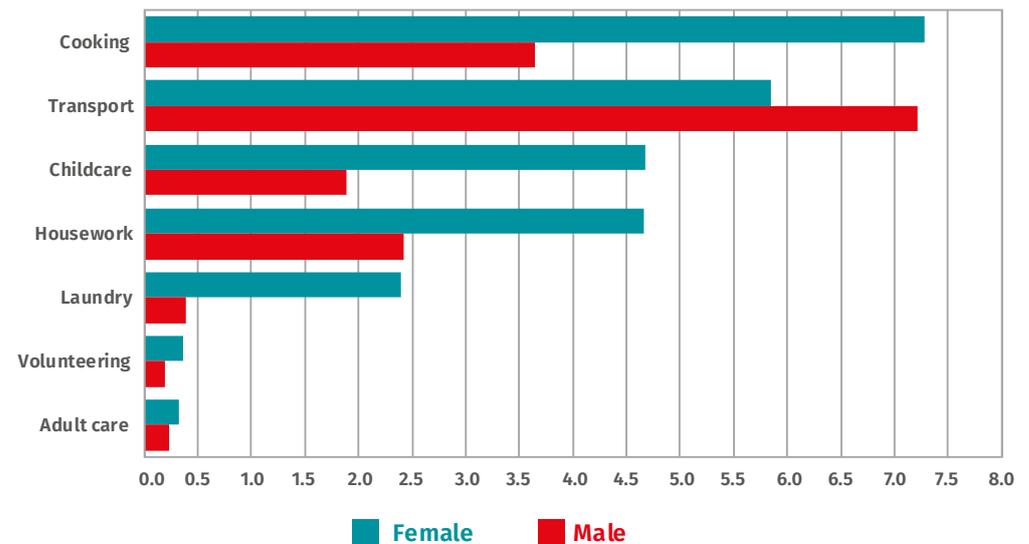
**Population change in the UK, 2017–2030, index 2017=100**



Source: Author's analysis of ONS 2017

**FIGURE 3.2**

**Average hours of unpaid work done per week in each category for men and women, UK, 2015**



Source: ONS 2016

The same imbalance is true of childcare, 74 per cent of which is performed by women in the UK (ONS 2016). Of the 26 per cent carried out by men, a far higher

proportion is a more enjoyable form of care with a higher status, such as talk-based educational and recreational activities, and less likely to be considered burdensome. Most of this country's unpaid domestic work is also done by women. In 2016, the value of the UK's unpaid household service work was estimated at £1.24 trillion – equivalent to 63.1 per cent of gross domestic product (GDP), 62 per cent of which was carried out by women (ibid).

The unequal distribution of unpaid work has the effect of placing women at a disadvantage in the workplace. Women who are in full-time employment alongside childcare and unpaid domestic labour are often at a disadvantage to their male counterparts due to this increased workload. This is without considering the burden of emotional labour that falls upon women in the workplace and throughout daily life. It is less surprising, then, that the same Health and Safety Executive report notes that: “in the three year period 2015/16–2017/18 the average prevalence rate for work-related stress, depression or anxiety for males was 1,370 cases and 1,950 cases for females per 100,000 workers. Females had a statistically significantly higher rate than males in this period” (HSE 2018).

The economic cost of the gender divide is significant. As a recent report on parity in work notes, “bridging the UK gender gap in work has the potential to create an extra £150 billion on top of business-as-usual GDP forecasts in 2025, and could translate into 840,000 additional female employees” (Hunt et al 2016).

Of course, the problems of a patriarchal society extend far beyond economic inefficiency – until gender imbalances have been erased there can be no equality, fairness or justice and human potential will forever be stifled. A shorter working week would not be the sole solution to the problem of gender imbalance, just as it would not solve the problem of climate change. However, there is a belief that it could provide a platform to facilitate many of the changes that we who seek social and economic justice would like to see more generally.

Overall, the existing research and example case studies suggest that a working time reduction potentially offers a triple dividend to society: reduced levels of unemployment or underemployment, increased quality of life (which includes an improvement in physical and mental health), and reduced environmental pressures (Fitzgerald 2018). However, it's unclear whether a shorter working week really would stimulate growth on its own, which has traditionally meant a perceived trade-off between this triple dividend and a slowing down of the rate of GDP growth.

### 3.5 CHANGING THE METRIC

One response to the above trade-off is to consider what kind of metric it is that we privilege if the cost of environmental degradation, of deep psychic scars, of inequality and exploitation, of a stifling of human potential, of mutual competition and hierarchical contempt, of waste, of inefficiency, of vast disparities in consumption and production power, of unpaid work, and of so much else escapes its grasp.

We should surely prioritise a metric or set of metrics that are able to better grasp the lived conditions of every member of society, and those of our future society. A report on alternative metrics elaborates that GDP is “useful for measuring just one limited aspect of the economy – marketed economic activity – but GDP has been mistakenly used as a broader measure of welfare... it was never designed to measure social or economic welfare, and yet, today, it is the most commonly used indicator of a country's overall performance” (Kubiszewski et al 2013).

Given that GDP has decoupled from earnings in recent years, it seems even more pressing that we find new ways to measure both individual and collective prosperity, as well as ways to account for how that prosperity might impact on quality of life and on the environment.

The changing digital economy poses questions of its own; as reductions in the time spent on households' non-market production may be increasing welfare in ways not measured by consumption or GDP (IMF 2018). The report continues: "therefore, the old debate about measuring household non-market production is now even more pertinent. International and national institutions need to accelerate efforts to develop indicators of welfare growth from non-market production beyond the boundary of GDP" (ibid).

In the past, alternative metrics have been proposed, such as the Genuine Progress Indicator (GPI), which is designed to measure the economic welfare generated by economic activity – essentially counting the depreciation of community capital as an economic cost. As is argued by many economists, GDP growth is no longer an appropriate national policy goal: "GPI, while certainly not perfect, is a far better approximation of economic welfare than GDP" (Kubiszewski et al 2013).

As an extension of this, Stronge and Harper (2019), in their report on a reduced working week, write that although any working time policy must have an understanding of how will it affect GDP and "should attempt to minimise instability within the broader aspects of the UK economy, it should also not be unduly influenced or frustrated by it" (ibid), due to the fact that qualitative effects will be lost to the measure.

The above is an attempt to try to give meaningful space to valid alternative solutions that might warrant increased attention in the future but, equally, it is the aim of this proposal to suggest ways to improve economic growth under the current economic conditions, and to identify ways in which its implementation will effect conventional economic measurements.

### 3.6 PRODUCTIVITY, THE FOUR-DAY WEEK AND AUTOMATION

As is noted in an IPPR report, the negative impacts of a reduced working week on public finances may be being slightly overstated:

***"If all full-time contracts were reduced in hours by 20 per cent... and part time contracts were topped up by six hours (or raised to 28 hours, whichever is lower) then around 16 per cent of hours would be lost from the labour market – with the corresponding loss in pay and tax receipts. However, if this were accompanied by a rise in the minimum wage by around one-fifth, the effect on government finances would be broadly neutral, if not slightly positive"***

*Stirling and Lawrence 2017*

A corollary would be to engender a form of growth which is more balanced. It would force an increase in public and private investment – currently 4 per cent below the developed country average – which would lessen the UK economy's reliance on household consumption and debt. The benefits would be found particularly in lower-paid jobs, where investment is desperately needed. It would also significantly reduce inequality. A four-day week that rebalanced working time, as set out above, would mean the poorest 50 per cent of households would have incomes that were between 7 and 21 per cent higher than they would otherwise be, while incomes for the richest 10 per cent would be 11 per cent lower (Stirling and Lawrence 2017). Thus a more even redistribution of earning time combined with higher hourly rates for the lower paid could help to narrow social and economic inequalities, which in turn

would strengthen our economy making it more resistant to any future shocks (Stiglitz 2012).

The four-day week is more readily achievable with an increase in nationwide investment in emerging automated technologies. Although there is a recognition that automation will have to play a large part in any movements towards a reduced working week, exactly how they would interlink in practical terms is unclear—the policy suggestions outlined here attempt to clarify that link.

They aim to provide a route through which to protect and promote the UK's long-term economic growth in a wholesale programme of incentivised and accelerated investment in efficiency-boosting technology. Long-term solutions like this are essential (OECD 2016; Elliot 2019) at a time when economic growth is currently maintained through the build-up of debt and low-quality corporate bonds which risk financial stability. The IMF's growth forecast warns that central banks are making us increasingly vulnerable to crises with policies aimed at promoting short-term growth: "If financial conditions remain easy for too long, vulnerabilities will continue to build, and the odds of a sharp drop in economic growth [will build]" (IMF 2019).

### 3.7 GROWTH POTENTIALS

To understand the long-term potential of automation, it's worth revisiting the UK's economic prospects. In their economic outlook, PwC denote the reasons for the UK's low productivity growth since the financial crash. For them, the most convincing explanation seems to be a lack of business investment which has not picked up to the extent seen in previous recovery cycles.

***"Many businesses have been reluctant to invest in new labour-saving automation technologies that are relatively risky when compared to the alternative of using more low-cost labour, including migrant workers from the EU... Looking 10–20 years ahead, emerging technologies like robotics and artificial intelligence could hold the potential for faster productivity growth, with a net impact on UK employment that we think could be broadly neutral in the long run."***

PwC 2019

There is plenty of research to suggest that this assessment is true. One study on the business impacts of effective data in a study of over 150 Fortune 1,000 firms found that even the most incremental investments made towards improving only two data attributes – data accessibility and intelligence – can deliver dramatic impacts on the following key business innovation and growth metrics (Barua et al 2013).

- **Percentage of revenue from new customers** increases by 0.7 per cent, with a 10 per cent increase in both data accessibility and intelligence.
- **Percentage of revenue from new products and services** increases by 0.8 per cent, with a 10 per cent increase in both data accessibility and intelligence.
- **Long tail products and services** – products and services that allow businesses to realise significant profit from selling low volumes – saw a 1.51 per cent share rise by increasing data intelligence by 10 per cent.
- **Return on assets** – a measure of a business's ability to efficiently use the resources at its disposal to drive income – saw a 0.7 per cent increase with a 10 per cent increase in intelligence and accessibility, translating to a squeeze of \$2.87 million of additional income out of the average Fortune 1,000 business's assets.

The same study also reports that three more attributes of data (quality, usability, and sales mobility) have a dramatically positive effect on key financial measures where relatively small improvements can pay off with big financial returns.

- **Productivity of employees** can be dramatically affected by increasing the usability<sup>9</sup> of data within an organisation. The median Fortune 1,000 business in the sample (36,000 employees and \$388,000 in sales per employee) increasing their usability by just 10 per cent would translate to an increase in \$2.01 billion in total revenue every year, or a 14.4 per cent increase in sales per employee annually.
- **Return on equity** – net income divided by shareholder equity, and an important indicator of a business’s ability to grow – had an average rise of 16 per cent in the sample by increasing both the quality of data and the ability of sales people to access it by just 10 per cent.
- **Return on invested capital (ROIC)** – a measure of a business’s efficiency of allocating capital to profitable investments – also increases noticeably with greater mobility of data. If the average Fortune 1,000 business were to increase the mobility of its sales organisation’s data by just 10 per cent, ROIC would increase by 1.4 per cent as a result of net income increasing by \$5.4 million.

Equally, a recent OECD report on the next production revolution (NPR) demonstrates that there are sizeable potential productivity impacts arising from investment in technology and automation, noting that, in the US, output and productivity in firms that adopt data-driven decision-making are 5 per cent to 6 per cent higher than expected (OECD 2016).

Within the UK, it has been estimated that investment in AI technology could generate a 10.3 per cent increase in the national GDP by 2030 (PwC 2017). And the government’s Made Smarter Review argued that, should enterprises adopt industrial digitalisation technologies faster, industrial productivity could improve by as much as – or even more than – 25 per cent by 2025 (HMG 2017). This is echoed by the CBI, who estimate that adopting good practices more widely across the economy could be worth £110 billion to UK gross value added, which equals the UK’s entire construction industry (CBI 2019).

The relevant increases could be a boom to public services also; with investment in an extensive programme of automation, the NHS could save up to £12.5 billion a year – almost 10 per cent of its annual running cost (Kibasi and Quilter-Pinner 2018). A £6 billion productivity gain could be realised within social care alone, with up to one-third of current tasks being carried out by automated technology (ibid).

Any efforts to improve growth in the UK should, therefore, focus on increasing investment, and particularly investment in emerging technologies, which is something of a soft target in terms of potential revenues for firms. This proposal seeks to demonstrate how those returns could improve the quality of growth, insofar as how improvements could be distributed fairly among individuals of all income brackets. Lawrence et al (2017) argue that, if managed poorly, “automation could create a ‘paradox of plenty’: society would be far richer in aggregate, but, for many individuals and communities, technological change could reinforce inequalities of power and reward.” Disparities that currently revolve around class, gender, ethnicity and geography. Allocating the efficiency increases of automation in the fairer sharing of time would be crucial to preventing the ‘paradox of plenty’, and to building a fairer economy.

This is echoed by Stronge and Harper (2019): “The UK is lagging behind the international community in terms of its investment in robots, new ICT and labour

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<sup>9</sup> Usability is the quality of presenting data more concisely and consistently across platforms such as corporate laptops and mobile devices, and allowing it to be more easily manipulated.

technologies. A concerted effort to both update the UK economy and make sure that the time-benefits accrued from automation technologies are distributed to the workforce is drastically needed”.

The answer therefore is not to wait for market forces to bring about innovation, but rather to undertake a broad policy approach that that will enable widespread adoption of technologies beyond a minority of ‘frontier firms’ (Lawrence et al 2017) and to enshrine such adoption in a shorter working week.

This is not just to allocate the benefits more evenly, but also to protect the labour market from any initial shocks caused by the uptake of new technology. It is very possible that automation could bring about short-term reductions in employment, but any reduction would be resolved in the long-term, with employment levels estimated to eventually regain the levels they were on previously after a short time (OECD 2016). Having said this, there is an ongoing risk of mass unemployment if ‘labour-displacement’ affects a major sector or multiple sectors. As the OECD note: “research suggests that policymakers need to monitor and actively manage the labour market with adjustments” (ibid). A shorter working week would limit the scope of any potential shock if not absorb it entirely.

The case of the Royal Mail workers is a valuable example of the problems and possibilities posed by automation. It shows us that the benefits will not simply fall evenly - without a structured and considered effort our time will continue to be beholden to the standard working week irrespective of developments in labour-saving machinery. This proposal believes that technology improvements are the product of hundreds of years of research belonging to no single enterprise and therefore are a collective good. The example is important for a few other reasons: it demonstrates the importance of collective bargaining power;<sup>10</sup> it demonstrates the power of automation to improve efficiency, it gives us an insight into the ease with which management will reallocate (or try to reallocate) labour time in the face of efficiency improvements, and it illustrates the potential of a policy mix of technology investment and working time reduction to improve the lives of workers. Unfortunately, as was noted in the TUC report, the trends are currently going in the opposite direction (TUC 2018).

Reversing the trend is difficult but possible: “Achieving such an automated and time-rich society overall will require concerted institutional and organisational effort” (Stronge et al 2019). However, this proposal is convinced that an easier transition to “an automated and time rich society” – and the attending benefits – is available if the broad investment plan is linked to a hypothecated data tax generated by users’ engagement with digital platforms. This would allow for a collectivisation of the entire process, in which our working weeks are not reduced but merely rebalanced to account for our digital labour – a digital labour whose product comes in the form of investment in efficiency increases in both public and private sectors.

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10 A lack of strong union representation tends to beget lower wages. It’s estimated today that less than 20 per cent of workers are unionized, in comparison to coverage of above 70 per cent in the 1960s and 1970s (Bogg et al 2016). The decline in collective bargaining has come hand-in-hand with falling real wages.

## 4. PRACTICAL CHALLENGES TO THE TRANSITION

In their recent report on the digital economy, the IMF states that ‘policy mixes’ are needed “to encourage investments in data that have positive spillovers across industries alongside the removal of obstacles to the reuse and sharing of data” (IMF 2018).

This could come, they suggest, in the form of the development of a coherent data governance framework. Along similar lines, IPPR have proposed the establishment of a nationwide body whose purpose is to encourage SMEs to improve their productivity through – among other things – the adoption of new technologies, as well as by directing grants and loans to businesses to enable them to invest under appropriate conditions (Lawrence et al 2017). Such a service would be appropriate to manage the revenue from the hypothecated digital tax, encouraging the aggressive adoption of new technologies in order to minimise the shock of a reduced four-day working week, which would operate in close cooperation with trade unions. Grants would be afforded to enterprises that adopt the reduced working week to minimise any reduction in their output. The productivity incentives would be doubly important for SMEs if there is a commensurate increase in the minimum wage. This would accelerate the process by which the 30-hour working week would become the standard for government institutions, employers, trade unions and society more generally.

Implementation will of course be difficult, and many firms would be likely to resist. This was highlighted most recently by the Wellcome Trust, who announced they’d be running a trial of a four-day week for their 800 employees, only to then renege on their commitment three months later citing irreducible complexities and potential increases in workloads for some employees (Booth 2019b).

The implication of this about-turn is that barriers like complexity and risk will have significant power to hinder progress in our current conceptual conditions. Sure enough, this was predicted by Stronge and Harper (2019), who wrote a few months ago that: “critics of reducing the working week have tended to base their arguments on the impact and disruption that would be caused to the economy at both the macro level (expected losses in economic output) and the micro (increased workloads per worker)”. In other words, this is a serious concern and legitimate barrier to implementation, they continue:

***“If this narrative is to be believed reducing the working week could in fact have negative consequences for workers’ wellbeing, resulting in falls to living standards and the supposed benefits of reduced working hours being undermined by increased workloads. In order to be implemented successfully it’s important to recognise that any reduction in the working week must be accompanied with regulation that’s geared towards improving both the macro level of performance of the economy and the micro level experience of work itself”***

Stronge and Harper 2019

Any negative effects on a micro level would be anticipated and minimised prior to any grants for investment with the cooperation of trade union representation. Of course, this proposal recommends significant regulation geared towards improving the macro level of performance of the economy. But even beyond these conditions it is the belief of this proposal that the largest barriers to such a drastic redistribution of power from owners to workers are primarily conceptual. Resistance from employers, employees, political resistance, retirees and others represent a significant barrier to the proposed change.

Capital allocated for productivity-boosting investment will be a significant incentive for firms to adopt the changes. But for barriers such as risk and complexity to become stumbling blocks on the way to shorter working weeks as opposed to deterrents also requires a dramatic attitude shift. Individuals must not just be interested in or supportive of a four-day week, but convinced of its legitimacy and necessity – convinced that it is justified, that it has already been earned, and that it should not be dependent on the discretion of a sometimes-benevolent owner, shareholder or manager.

A relevant contemporary example comes in the form of living wage employers. The Living Wage Foundation's calculated living wage has no legal status, but there is a widespread understanding and acceptance that the national minimum wage does not protect the lowest paid from exploitation and poverty. It has led to the foundation's pay rate being adopted by more than 4,700 employers, which stands at £10.55 an hour in London (Partington 2018). Although there are other employers who pay above the statutory rate without seeking accreditation from the foundation (Living Wage Foundation 2019). This is a small example of how attitudinal shifts can alter the structure of businesses. In the case of the suggestions proposed here, the speed of the change would be accelerated by the notable productivity improvements and market advantages on the part of those vanguard employers who adopt the change, compelling the rest of the market to follow suit.

However, the only way, we argue, to generate a belief that a shorter working week is both inevitable and important is through the implementation of a digital platform tax. There are several reasons for this.

Creating revenue from the digital tax for employers is part of a process of conceptualising data-creation as labour. This provides the foundation to reduce the number of hours in a standard working week to 30. The structural rebalancing of digital labour against material labour is the only way to allow for such a significant transition across most society. In simple terms, the working week would not be reduced, merely altered to account for unrecognised labour, which would be rewarded and remunerated to the benefit of millions of UK citizens.

This should be viewed in light of evidence that the average person in the UK spends more than a day a week online (Ofcom 2018). People are on average online for 24 hours a week – twice as long as 10 years ago – with one in five adults spending as much as 40 hours a week online (ibid).

If we consider this time spent online to be a potential replacement for work carried out in traditional employment, it gives us as a society the green light towards reducing the amount of time spent in said employment. The role of the tax is therefore to operate as a quantifiable source of revenue generated in return for the time we spend generating data online. Digital labour has the advantage over other types of unremunerated labour, for example domestic labour, in that the vast majority of citizens in the UK, irrespective of gender, ethnicity, geographical location, or income, spend time online.

This is especially pertinent if we consider that the link between digital labour and working time runs deeper than previously thought. We spend time unproductively in offices and workplaces all over the country, and that time is often filled with time spent online and on social media. These are forms of media that lend themselves to being produced and consumed while doing something else, or at least pretending to (Graeber 2018). In the same analysis of contemporary work, Graeber states he is convinced this is the primary reason for the rise of social media. A culture of jobs where employees are under-occupied “lends itself to a culture of computer games, YouTube rants, memes, Twitter controversies... what we are witnessing is the rise of those forms of popular culture that office workers can produce and consume during the scattered, furtive shards of time they have at their disposal in workplaces where there’s nothing for them to do” (ibid). If this is to be believed, our overlong working hours and the rise of the digital platform giants are inextricably linked. Any attempt to resolve one issue must include the other.

Reconceptualising our digital lives as laborious has a social benefit, too. It is possible that the change could generate a widespread understanding of the business models of the platform giants, and a wider debate about how, for many, our digital lives are becoming unmanageable. The 24 hours per week already spent online by the average person is more than three times the material labour it would serve to replace under the proposal. Rather than encouraging the average UK citizen to spend more time online, the policy would encourage individuals to curb their internet use, aiming to reduce it towards between seven and 17 hours a week, so that, under the new conception of work, they would still work a ‘normal’ amount of hours in a week. This was an idea first expropriated by the women’s rights group Wages for Housework, who argued that labelling their domestic unpaid labour as work was the first step in refusing to do it (Mac and Smith 2018).

A transitional data tax would thus necessitate that the entire UK population, or at least those who generate data, would all have a stake in the fiscal basis of a reduced working week. Elsewhere, this has been described as a major advantage for economic policy (Lansley, McCann and Schifferes 2018). Businesses would be supported by a collective digital labour that would serve to generate a sense of collective responsibility, in turn allowing the eventual democratisation of data to be widely recognised as a force for the collective good. The effects of both stimulating investment-led growth and reducing the working week would be an improvement in the quality and quantity of growth in the UK. And the data tax could be used to engender the political and economic viability of such changes.

In the history of labour movements, the struggle for free time has always been a central concern. The eight-hour day movement in the late 19th century Britain, for example, sought to reduce working patterns from 10, 12 and sometimes up to 16 hours a day down to eight. After the Third Reform Act of 1884, when suffrage was granted to 60 per cent of working men, it was regarded as crucial that workers would have the free time and the freedom to become active democratic participants. Still, today a central tenet of a flourishing democracy is free time. Movements like these have been central in generating the level of desire required for change. At the time, an eight-hour day was considered a luxury, but many of us still work the same hours today, 130 years on. If another change is to take place, we must be convinced of the possibility for a further reduction to improve our society. Desire is elastic, and the public tide can shift suddenly. This proposal believes reconceptualising digital labour as work could go some way to shifting that tide.

## 5.

# BEYOND A SHORTER WORKING WEEK: THE COLLECTIVE GOOD

Convincing cases have been made for the efficacy of private data becoming public (Lawrence and Laybourn-Langton 2018). The potential for data to unlock a vast number of economic, social and political benefits is clear to see, but such a transition would take a significant amount of organisation and planning. The levy proposed here could provide the basis for the organisation and regulatory planning the transition would need.

As we move towards an increased level of automation, there are crucial decisions to be made about how to prevent an exacerbation of existing inequalities of wealth and power. Policies that distribute time more fairly and encourage higher rates of productivity and wages in low-paid jobs is one important step to preventing negative consequences of automation. If this is carried out alongside the nationalisation of data, the UK will be in an incredibly powerful and hopeful position to stimulate growth in the coming decade after Brexit. Crises as broad and inexorable as climate change and an ageing population will only be resolved with wholesale restructurings of economic policy, and of our collective time and resources.

A 30-hour week gives people more than just a few extra hours of rest; it can generate a sense of possibility; a sense that our society is changeable; that it really is us who can decide how our society and our economy is run. The intense joy children feel at “being the cause” is one that we might perhaps share in too.

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