NEW ECONOMICS FOUNDATION

TIME FOR DEMAND

BOOSTING PRODUCTIVITY WITH PUBLIC INVESTMENT, MINIMUM WAGES AND PAID HOLIDAY

ALFIE STIRLING

CONTENTS

EXECUTIVE SUMMARY

The UK has a productivity problem. Annual improvements in labour productivity – the value of goods produced and services delivered per hour worked – have stalled in dramatic fashion. Over more than four decades up to 2008, labour productivity grew at a remarkably stable rate averaging more than 2% per year. Since the end of the 2009 recession, however, the annual increase has fallen to around 0.7%, representing a sustained collapse of around two thirds. More than 10 years on from the financial crisis, there remains precious little sign of a recovery in this post-crisis trend and the UK has been left with one of the lowest levels of productivity among international advanced economies.

High levels of productivity are an important ingredient for an economy that works for people, society and planet. When combined with good labour market regulation and the presence of trade union power, rising labour productivity is the enabler of higher earnings for workers. Across time, productivity increases are closely associated with rising pay and leisure time for workers. And across countries, there are also strong correlations between higher productivity and a myriad of social benefits, including improved health, higher life expectancy and reduced child mortality. In view of a suite of environmental challenges, from climate change, species extinction and resource scarcity, being able to do more (or at least the same) with less also represents an important tool in the project to embed advanced economies within sustainable planetary limits.

Slow productivity growth in the UK cannot be explained by the supply-side of the economy – the ways in which we produce and deliver goods and services – alone. The misallocation of finance, weak technological innovation and adoption of automated processes, weak business management, movements in oil price, poor skills development, shifting industrial composition, short-term financial intermediation and corporate governance, and even measurement error, all have some supporting evidence to suggest they are part of the problem. It is likely that most have played some part in the slow down. But individually each explanation remains incomplete, and even collectively they are now thought insufficient to account for the full divergence in productivity growth with the historical trend.

Policy makers must now look to the demand-side – the nature and level of spending across the economy. When firms are not confident in the future they are more likely to meet output by taking on labour costs that are easily reversed, such as short-term or zero-hour contracts, or outsourcing services. The consequences of this, however, are that productivity is likely to stay lower for longer. If this were happening in the UK, we would expect to see a lack of firm investment contributing to the collapse in productivity growth. We would also expect to see shifts in the labour market that imply firms are externalising their risks by shifting their labour forces towards less secure means of work. This is precisely what the evidence shows. New Office for National Statistics (ONS) estimates show that a lack of investment has grown to account for 25% of the UK's gap in productivity with the historical trend. At the same time, the proportion (relative to all workers) of zero-hour contract employees, self-employed workers and one-person micro-companies has grown by two fifths since 2008.

From austerity to Brexit there is also no shortage of candidates for the possible causes of weak demand in the UK. The Bank of England estimates that uncertainty since the 2016 referendum reduced demand by around 2% of GDP in 2018/19. NEF analysis, based on modelling at the Office for Budget Responsibility (OBR), also shows that the economy was up to 4.7% smaller in 2018/19 as a result of nine years of austerity.

The case that more demand is needed is hard to ignore. Furthermore, the balance of risks also points to action sooner rather than later. While failing to increase demand risks permanently lower wages and living standards, the inflationary risks of excess demand can be offset and reversed by an increase in interest rates at the Bank of England. If interest rates were already high this might be problematic. But in fact they are currently near historically unprecedented low levels, with the Bank of

England actively seeking a path to higher rates. In short, while the costs of insufficient action on demand are significant and long term, the effects of excess demand are trivial and reversible, if not even helpful in the current environment.

This briefing paper argues that alongside continued supply-side interventions such as reform in corporate governance, industrial strategy and finance, demand needs to be increased significantly over the short-to-medium-term. To this end, we set out two packages for government intervention within two key areas:

- Fiscal policy: government spending and taxation
- Minimum wage and holiday policy: spending by workers and their families

Boosting demand through fiscal policy
Fiscal policy – changes in the level of government spending and taxation – can increase demand in the economy, either by directly raising government consumption, or indirectly increasing consumption by individuals and firms. We propose a package of broad-based measures to raise demand across three areas where the fiscal multipliers – the ratio of a change in overall demand to any change in spending by government – are particularly high:

- Frontload public investment for a 'green transformation'. The government's official advisor on climate policy (Committee on Climate Change) estimates that transitioning industry to net zero carbon will require public and private investment worth 1-2% of GDP by 2050 (£20 billion to £40 billion in 2019/20 prices). We propose that a significant portion of the required public investment should now be front-loaded over the next five years.
- Increase public spending on services. NEF analysis has shown that between 0.5% to 1.5% of GDP – around £15 billion to £32 billion in 2019/20 prices – would be needed to meaningfully improve services and reverse austerity across education, health and care by the mid-2020s. We propose government uses the next multi-year Spending Review to increase investment in public services to meet social need and address inequalities.
- Increase the generosity of social security. We propose government creates a new 'weekly national allowance' (WNA) – worth £2,500 per year for almost all adults, plus an increase in child benefit – by abolishing the personal allowance of income tax. The proposal redistributes £8 billion a year from the richest 35% of families to the remaining 65%, with most of the gains concentrated on the poorest 10% who are most likely to spend rather save any increase to their incomes.

Boosting demand through holiday and wages
Minimum wage policy can increase demand through higher spending power for workers. Giving employees time off to spend their salaries without reducing pay will amplify these effects. Increasing minimum wages are a particularly efficient way of boosting demand because workers on minimum wage are far more likely to spend rather than save any increases, compared with higher income individuals:

- Introduce faster increases in the minimum wage. From 2020, we propose that the Low Pay Commission is given a new mandate to recommend increasing the national living wage so that it reaches the level of an average between the actual living wage for London and the rest of the country (respectively) by 2025; or increase all minimum wages as fast as possible subject to not having adverse unemployment affects; whichever proves to be higher.
- Increase statutory paid holiday. We propose the creation of a new body, for example a 'Working Time Commission', to make independent recommendations to government on regular increases to annual statutory leave entitlement, and on a similar basis to the work currently done by the Low Pay Commission on minimum wages.

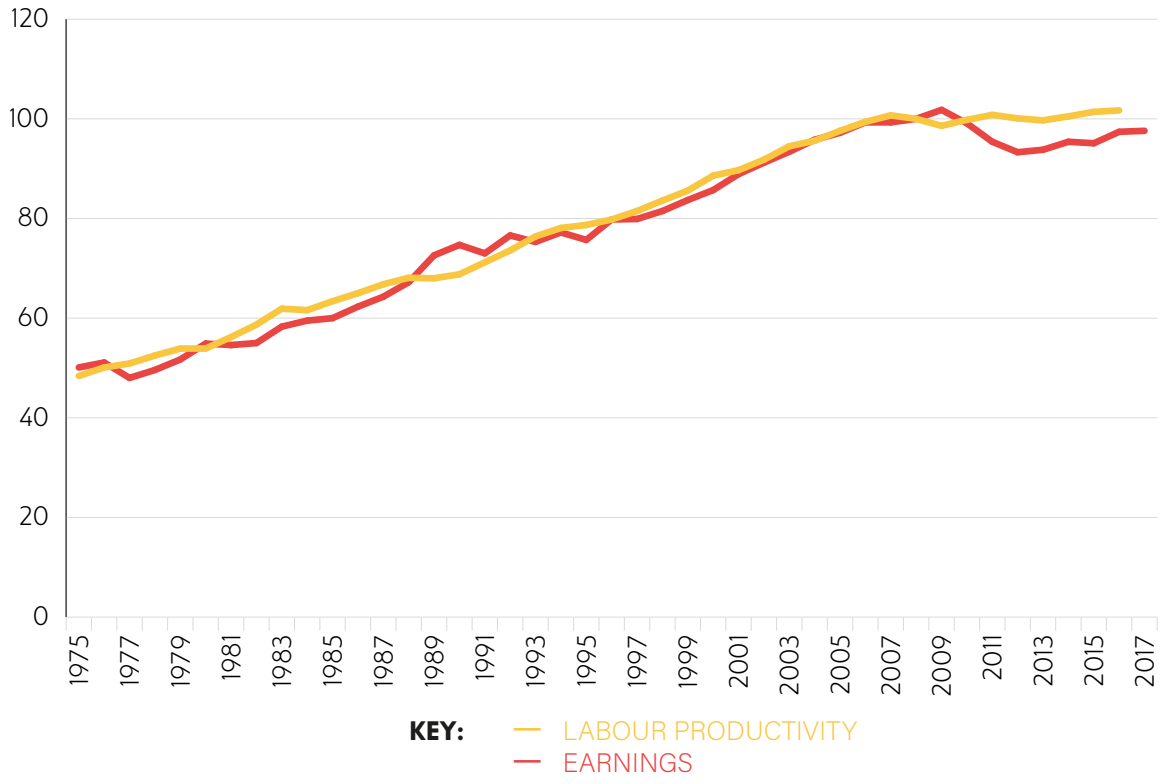
1. THE UK'S PRODUCTIVITY CRISIS

1.1 WHY THE PUZZLE MATTERS

As economist Paul Krugman once put it, "productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker".[1] When combined with good labour market regulation, environmental regulation and the presence of trade union power, rising productivity –the amount of output generated per hour worked – is the enabler of higher earnings for lower paid workers within a sustainable economy. Across time, the data shows that productivity increases are closely associated with rising pay (see Figure 1.1 below), as well as increased leisure time during working life.[2] Across countries, there are strong correlations between higher productivity and improved health, higher life expectancy and reduced child mortality.[3] In view of a suite of environmental challenges – from climate change, species extinction and resource scarcity – being able to do more (or at least the same) with less also represents an important tool to embed advanced economies within sustainable planetary limits.

In the UK, the present decade of real earnings growth has been the worst seen for more than

FIGURE 1.1
THE RATE OF GROWTH IN LABOUR PRODUCTIVITY AND REAL EARNINGS ARE CLOSELY CORRELATED ACROSS TIME
INDEX FOR ANNUAL LABOUR MARKET PRODUCTIVITY (OUTPUT PER HOUR) AND REAL HOURLY EARNINGS, 1975 TO 2018, 2008 = 100

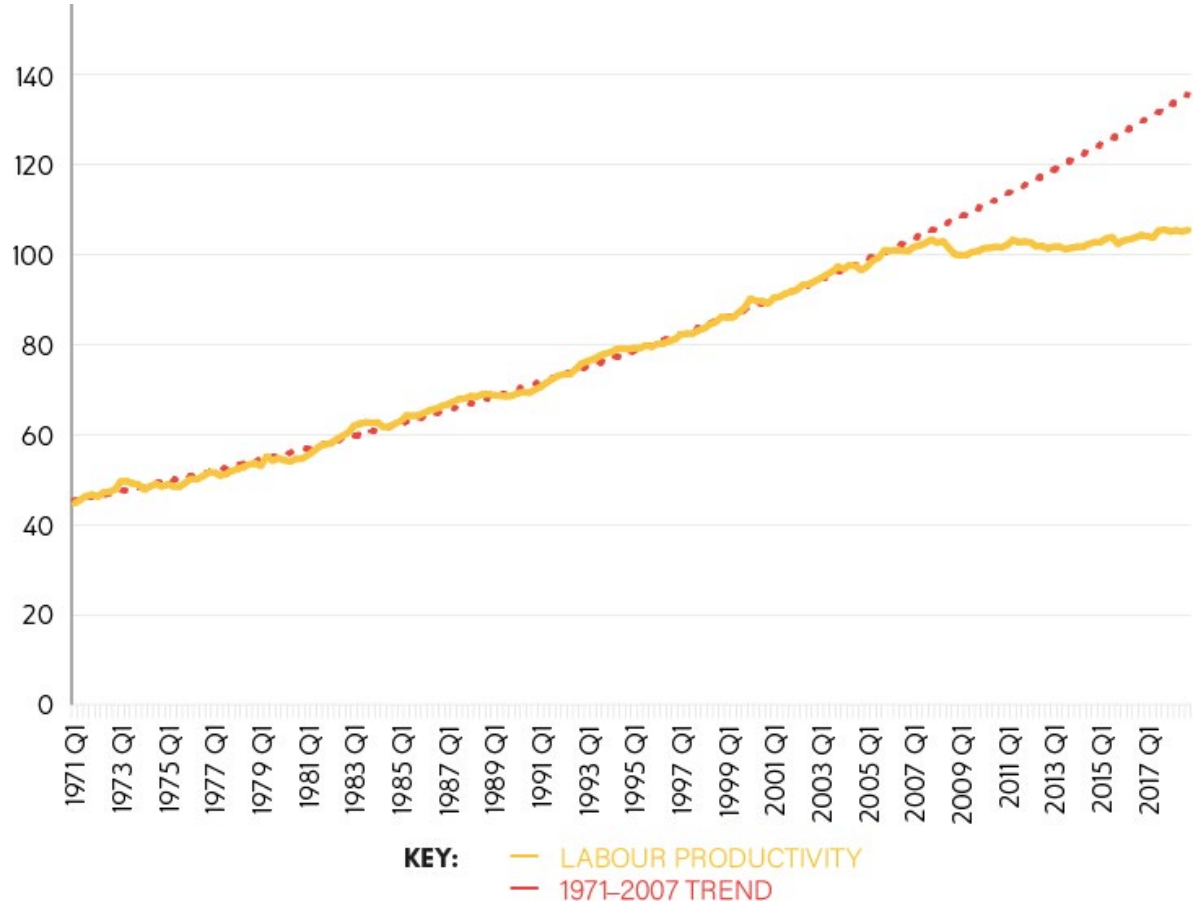


Source: NEF calculations using ONS (2018) Output per hour and real median hourly earnings (excluding overtime), 1975 to 2017, UK, indexed 2015 = 100 https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/dhocs/008109outputperhourandrealmedianhourlyearningsexcludingovertime1975to2017ukindexed2015100

two centuries. Stalled productivity growth – along with labour market deregulation and the effects of currency depreciation eroding the real terms value of wages[4] – is among the most important explanations[i].[5] Today, and despite far higher GDP compared with 2007 – whether in aggregate, per capita or person in work – workers still earn £25 less per week on average than their equivalents did in 2008 (Q1 2019 prices)[ii].

This coincides with the UK's worst decade of productivity growth in a generation – what has come to be known as the UK's 'productivity puzzle'.[6] A slowdown in productivity growth was common to most advanced economies following the global financial crisis, but in the UK the inflection point was especially stark.[7] Over the course of more than four decades up to 2008, labour productivity grew at a remarkably stable rate averaging more than 2% per year. Since the end of the 2009 recession, however, the annual increase has fallen to around 0.7%, representing a collapse of around two thirds (see Figure 1.2 below). More

FIGURE 1.2
THE RATE OF INCREASE IN UK PRODUCTIVITY HAS BECOME UNCOUPLED FROM ITS LONG RUN HISTORICAL TREND
INDEX FOR QUARTERLY LABOUR MARKET PRODUCTIVITY (OUTPUT PER HOUR) AND HISTORICAL TREND LINE (Q2 1959 TO Q4 2007), Q2 1959 TO Q4 2018, Q4 2008 = 100



Source: NEF calculations using ONS (2019) UK Whole Economy: Output per hour worked SA: Index 2016 = 100, Series ID: LZVB https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/timeseries/lzvb/prdy

i Alternative ideas that have been put forward to explain stagnant wage growth include rising wage inequality and a shift in strategy among firms towards protecting short-term profit margins over longer term market share (Blanchflower D and Machin S (2014) Falling real wages in the UK https://voxeu.org/article/falling-real-wages-uk?mc_cid=531d904217&mc_eid=0c7769acf9). Each in theory could lead to a fall in the aggregate wage share since 2008, but neither hypotheses are in fact borne out by the data (Bell T, 2018).

ii NEF calculations comparing Q1 2019 with Q1 2008, based on ONS estimates for average weekly earnings (Series ID: L522, https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/timeseries/kab9/emp) and CPIH inflation (Series ID: L522, https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/l522/mm23).

than 10 years on from the financial crisis, there remains precious little sign of a recovery in the post-crisis trend.

1.2 EXPLAINING THE PUZZLE: SUPPLY-SIDE – IMPORTANT BUT NOT SUFFICIENT

Although the importance of the UK's productivity crisis for everyday lives is clear, its causes are far less well understood. For much of the past 10 years, economists have sought explanations on the supply-side of the economy – the conditions under which goods and services are created and delivered[iii]. Traditionally, technology is seen as the key factor behind long-run productivity. But even to the extent that technological innovation may be in secular decline (and there are also numerous reasons to believe it is not),[8] or else more recently led to value creation not captured in GDP (such as in the form of free digital services like Facebook and Twitter)[9] neither of these factors can explain why the trend in productivity growth should pivot so sharply in just a single year following the financial crisis.

The inefficient allocation of capital across industry, comparing the pre-crisis economy with that since 2008, is perhaps the most often cited supply-side theory that takes into account macroeconomic events since 2007. The suspected cause of low productivity growth is low interest rates. Historically low rates at the onset of the 2008 recession, and record low rates since, are said to have reduced the pressure on low productivity firms which would have otherwise been unable to access loans to keep themselves afloat.[10] The continued survival of these so-called 'zombie' firms is thought to have held down average productivity growth ever since.[11]

There is some circumstantial evidence to support the 'zombie' firm hypothesis. Possible frictions in the allocation of finance are observable in the post-recession data,[12] as are lower rates of firm bankruptcies and liquidations than might otherwise have been expected.[13] But more recent findings have also undermined this theory. Analysis last year showed that much of the decline in productivity growth has taken place in our most – not least – productive firms (see Figure 1.3 below).[14] This is the direct opposite of what the 'zombie' firm theory would predict. Meanwhile, modelling at the Bank of England has suggested that even to the extent the theory holds, it would still fail to explain the majority of stalled productivity growth relative to the historical trend.[15]

More recent work at the Bank of England has highlighted the importance of supply-side factors within particular sectors. It was found that finance and manufacturing alone account for around three quarters (74%) of the post-crisis slowdown in productivity growth.[16] Within finance, it is argued that increased risky lending before the crisis exaggerated the sector's economic contribution overall – both real and superficial. In the years since, improved measurement techniques and tighter regulation have contributed to a collapse in measured productivity growth within finance, relative to pre-crisis estimates. Within manufacturing, meanwhile, it is suggested that greater 'offshoring' may have led to collapsed productivity growth after 2007. An increase in cheaper imports in UK supply chains led to a rise in productivity before the recession that could not be maintained post-2007 due to rising costs of production in countries such as China after the financial crisis.

But the Bank of England's analysis also showed that the explanatory power of such sector-specific explanations was only partial at best. Lower firm level investment in capital – equipment and machinery used in the production process – was also an important part of the story: accounting for more than half of the aggregate gap in productivity with the pre-crisis trend. Crucially, this slowdown in investment was shown to be broadly shared right across the economy – both within manufacturing and finance but also across 13 other sectors as well – and could not be explained by a few industries alone (we return to the evidence and importance of low investment below).[17]

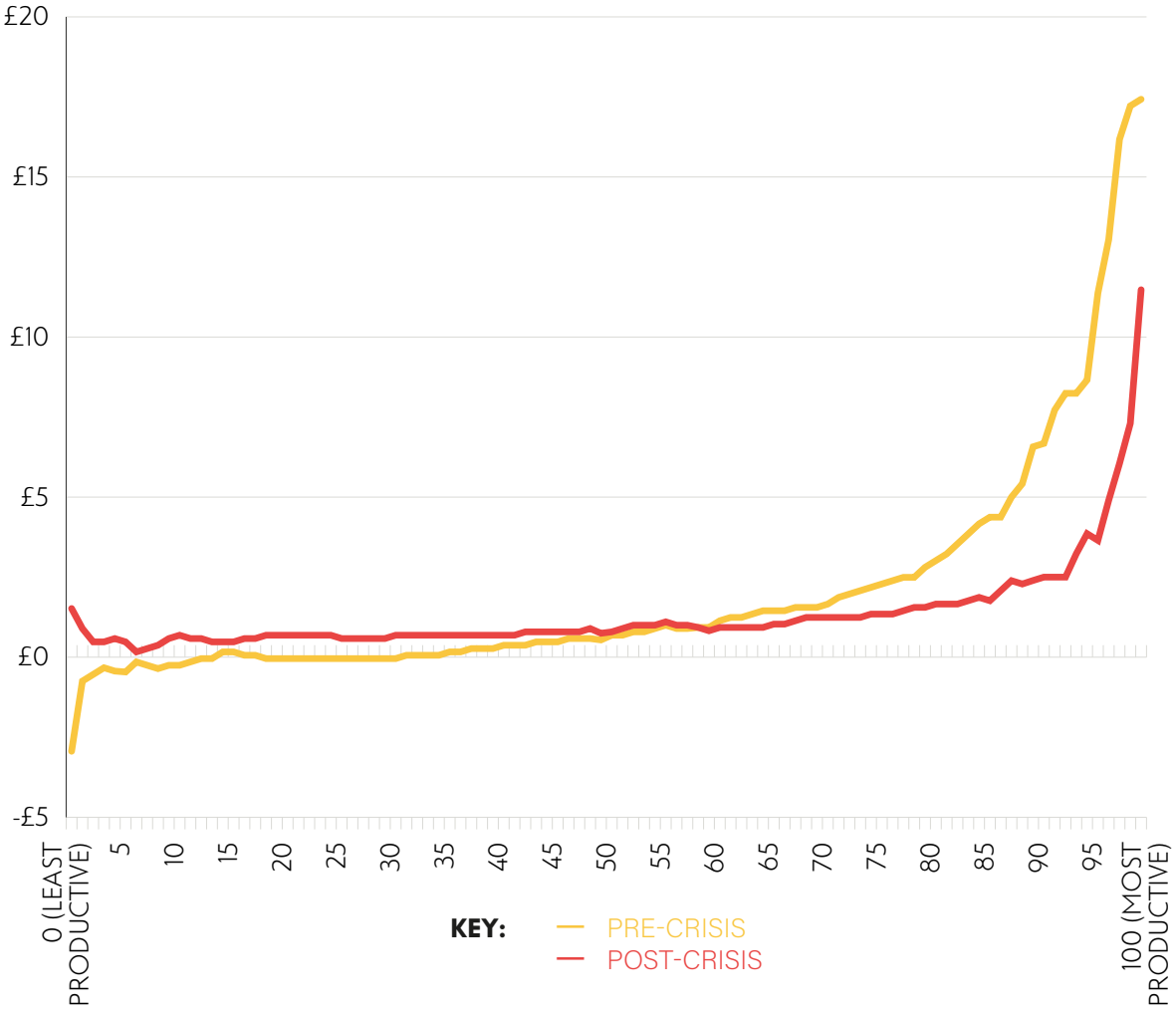
Similar inconsistencies plague most, if not all, attempts to explain the UK's productivity puzzle from the supply-side alone. Weak business management practices, movements in oil price, poor skills development, reduced public

iii Since aggregate supply will always equal aggregate demand in the economy, the symptoms of low productivity will often be detectable in both 'supply-side' and 'demand-side' data. The uncertainty this presents, and in particularly the risk of misdiagnosing reverse causality as causality is one of a number of reasons why the underlying forces behind the UK's productivity problem can be hard to identify empirically.

FIGURE 1.3

SINCE 2010, THE PRODUCTIVITY SLOWDOWN IS LOCATED IN THE UK'S MOST PRODUCTIVE FIRMS

AVERAGE ANNUAL CHANGE IN PRODUCTIVITY (GROSS VALUE ADDED PER WORKER), BY CENTILE OF THE PRODUCTIVITY LEVEL DISTRIBUTION OF ALL FIRMS COMPARING PRE-CRISIS (2004-2007) WITH POST-CRISIS (2010-2015)



Source: Schneider P (2018) The UK's productivity puzzle is in the top tail of the distribution, Bank Underground https://bankunderground.co.uk/2018/03/29/the-uks-productivity-puzzle-is-in-the-top-tail-of-the-distribution/

investment, shifting industrial composition and shifting cultures in financial intermediation and corporate governance all have some supporting evidence.[18] It is possible, even likely, that each may have played some part in the slow down. But individually each theory remains incomplete, and even collectively they are increasingly thought to have insufficient explanatory power to account for the full divergence in productivity growth.[19]

1.3 EXPLAINING THE PUZZLE: DEMAND-SIDE – NEW FOUND IMPORTANCE

Most economists agree that demand-side factors – the conditions that influence the level and nature of consumption – were important for productivity during the recession immediately following the 2007 financial crisis. One consequence of demand-side dynamics was that firms did not shed as many workers as might otherwise have been expected. This was partly because the unexpected nature of the financial crisis – compared with previous recessions where firms arguably had more forewarning – gave companies less time to react by adjusting their labour costs.[20] It was also partly because the fall in the comparative value of sterling meant domestic wages became cheaper in relation to international markets, making it cheaper to hold on to workers during the recession. But it was also due to the fact that firms believed, as with previous recessions, demand would return within one or two years and therefore wanted to protect market share for the medium term and reduce re-hiring costs. However, since the recession itself, fewer attempts have been made to understand continued slow productivity growth from the demand-side.

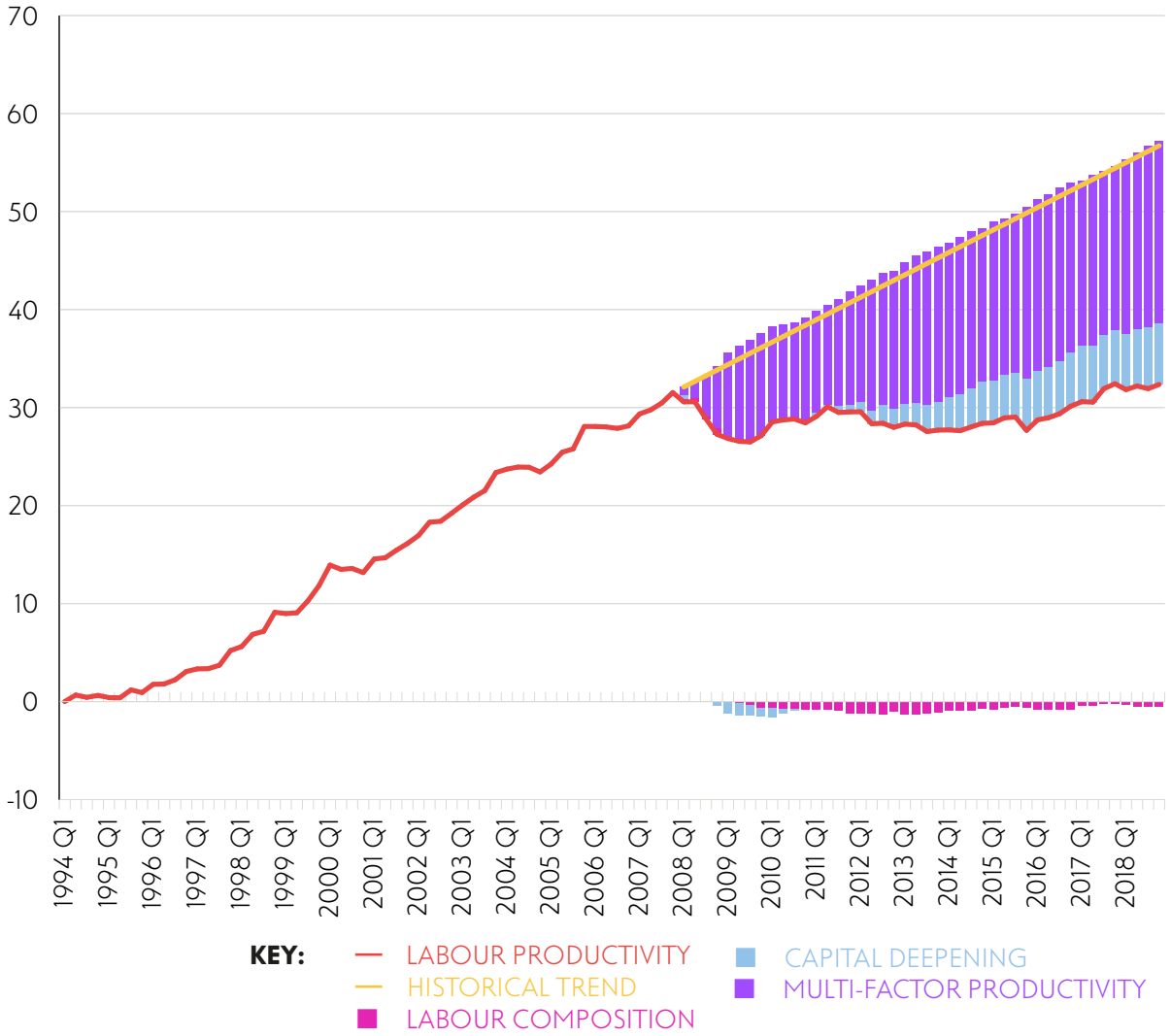
The theoretical explanations for why continued weak demand might be important are reasonably straightforward. When firms are confident in future demand growth they are also more likely to invest in the purchase of machinery, equipment and employee training. Such strategies are likely to increase output in a more cost effective way – and therefore productivity – but the costs are less recoverable if growth fails to materialise. On the flip side, firms that believe future demand is likely to be weak, or else are otherwise uncertain, can be expected to meet their output needs with higher numbers of lower paid, less secure (or possibly outsourced) workers. This gives employers flexibility to reduce or reverse their future costs quickly if and when growth fails to materialise.[21] The consequences are that productivity – output per hour worked – is likely to stay lower for longer.

The empirical evidence for the importance of such demand-side dynamics is becoming increasingly compelling. New analysis from the Office for National Statistics (ONS), published for the first time in April 2019, helps us to understand why. In concurrence with the Bank of England's recent sector-based analysis cited in section 1.2, the ONS analysis also shows that capital deepening – the value of equipment and machinery to the production process per hour worked – has become an increasingly important explanatory factor for the gap between current levels of labour productivity and the level otherwise consistent with the pre-2008 historical trend (see Figure 1.4 below). First appearing as an important part of the mix in 2012, by 2018, capital deepening accounted for 25% of the entire productivity gap compared with the counterfactual level implied by the historical trend[iv]. Following recent data revisions by the ONS, we also now know that weak investment is unlikely to be caused by a shift in corporate governance behaviour towards short-term profit rather than longer-term value. If it was, we would expect to see growth in the aggregate profit share of the economy relative to the pre-crisis period. In fact – as is typical during recessions – the labour share grew during the immediate aftermath of the crisis but has since returned to pre-recession levels.[22]

The rest of the 'gap' is largely accounted for by a concept known as multi-factor productivity (MFP). On its own, MFP tells us relatively little. It is a residual term that captures everything influencing changes in labour productivity outside of improvements in the quality of either labour or capital. In the real world, this might include things like management techniques and economies of scale. But MFP will also include any measurement error in it as well. The empirical importance of MFP is therefore compatible with most explanations of the productivity puzzle, whether on the demand-side or the supply-side. More than anything else,

iv NEF calculations based on ONS (2019) Productivity economic commentary: October to December 2018 https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/ukproductivityintroduction/octobertodecember2018

FIGURE 1.4
A LACK OF INVESTMENT IN CAPITAL (RELATIVE TO LABOUR) HAS BECOME AN INCREASINGLY IMPORTANT FACTOR BEHIND SLOW PRODUCTIVITY GROWTH
DECOMPOSITION OF FACTORS CONTRIBUTING (PERCENTAGE POINTS) TO THE GAP BETWEEN POST-2008 PRODUCTIVITY GROWTH AND THE PRE-2008 TREND



Source: ONS (2019) Productivity economic commentary: October to December 2018 https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/ukproductivityintroduction/octobertodecember2018

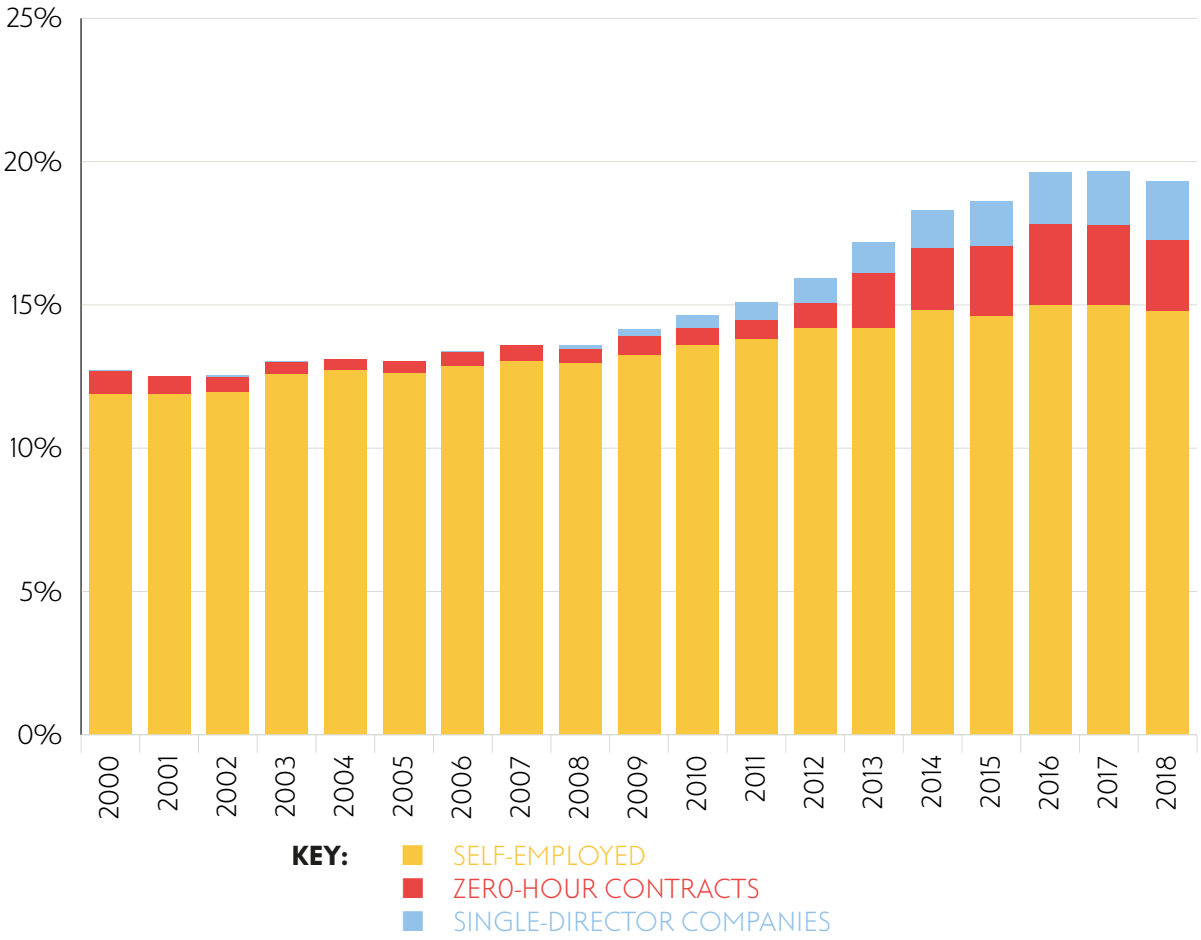
DECOMPOSING PRODUCTIVITY

The factors contributing to labour market productivity – output per hour worked – can be decomposed into three constituent parts: 'labour composition', 'capital deepening' and 'multi-factor productivity' (MFP. See Figure 1.4 above). In the ONS analysis presented in Figure 1.4, labour composition represents the supposed quality of labour in terms of skills and experience. For example, this might depend on the age and qualification of a workforce. Capital deepening represents the value of equipment and machinery to the production process (this can most intuitively be thought of as the equivalent rental cost of hiring a given piece of equipment) per hour worked. Multi-factor productivity represents a residual that accounts for everything left over. In simple terms, MFP accounts for things that contribute to labour productivity outside of improvements in the quality of either labour or capital. Examples from the real world include factors that affect the efficiency with which capital and labour are deployed – like management techniques, workforce structure and economies of scale. But since MFP is just a residual term, it will also include any measurement error in it as well.

the significance of MFP reflects uncertainty among economists and statisticians alike: described by economist Charles Hulten as a"measure of our ignorance".[23]

In addition to the role of reduced capital deepening, there is also further evidence for a shift in business practice compatible with firms opting for low cost and flexible workforces in view of uncertain demand growth. If firms were externalising the risks of slow demand growth to an extent that was impacting economy wide productivity, we would also expect to see a meaningful increase in the growth of insecure working such as in the form of zero hour contracts and self-employment (or, to the extent that tax incentives favour limited companies over self-employment, through increased rates of micro-company incorporation)[v]. As Figure 1.5 below shows, this is exactly what has happened. The share of self-employed workers, zero-hour contract employees and single director companies as a proportion of all employees rose from just

FIGURE 1.5
LESS SECURE FORMS OF WORKING INCREASED SIGNIFICANTLY FROM 2011 ONWARDS
NUMBER OF ZERO HOUR CONTRACT EMPLOYEES, SELF-EMPLOYED WORKERS AND SINGLE DIRECTOR INCORPORATED COMPANIES AS A PROPORTION OF TOTAL EMPLOYMENT



Source: NEF calculations based on ONS (2019) A01: Summary of labour market statistics https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/summaryoflabourmarketstatistics, ONS (2019) EMP17: People in employment on zero hours contracts https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/emp17peopleinemploymentonzerohourscontracts and OBR (2016) Economic and fiscal outlook charts and tables: Fiscal - November 2016 https://obr.uk/efo/economic-and-fiscal-outlook-november-2016/
NB: figures for single director companies from 2014 onwards are forecast estimates from the OBR

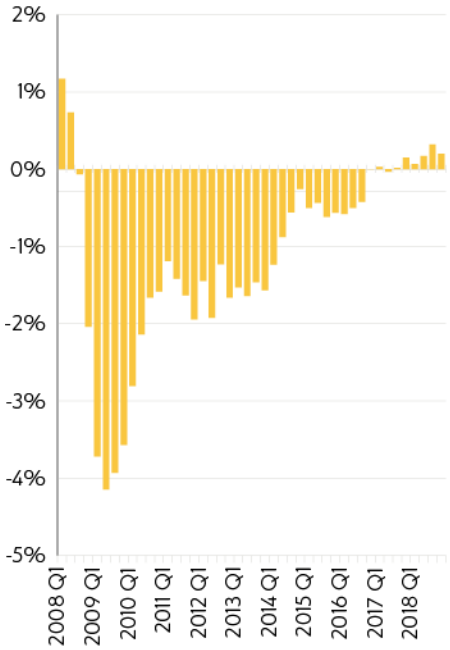
v The 2006 Companies Act abolished the legal requirement for companies to have at least two directors. Since then, self-employed workers have increasingly switched legal status to become incorporated companies to take advantage of lower effective tax rates on dividends and capital gains (dividend income tax and capital gains tax) relative to the taxation of wages from labour (through income tax and national insurance contributions).

over 13% in 2008 to just under 20% by 2018, and with the rate of increase accelerating after 2011 – precisely the same time that low company investment started to contribute to the productivity gap (Figure 1.4 above).

1.4 MACROECONOMIC INDICATORS OF DEMAND DEFICIENCY

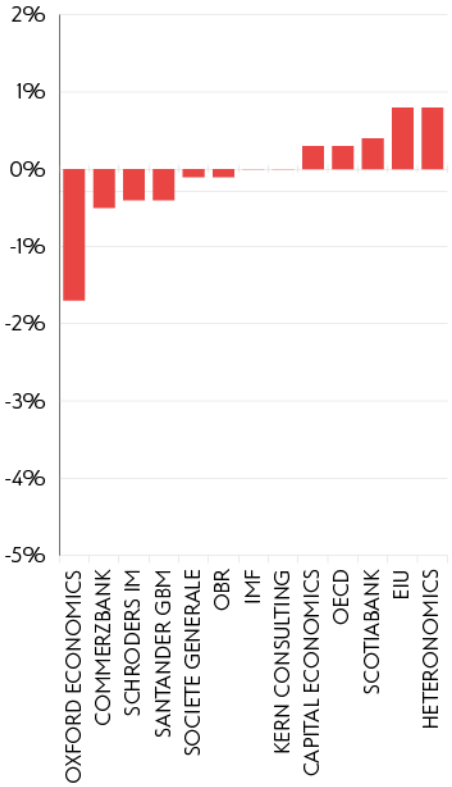
To counter demand-side explanations of the productivity slowdown, some economists point to estimates of the UK 'output gap' – the difference between what the economy is producing and its supposed potential given available technology and people's willingness to work (see Figure 1.6 below). Output gaps that are positive or only slightly negative – such as those estimated by the OBR since 2014 – tend to suggest that an economy is running at or close to full potential. This would imply that any further increases in demand are more likely to leak into higher inflation than real economic value and higher productivity. However, output gaps cannot be measured directly and are necessarily the product of modelling assumptions and incomplete data.[24] As a result, estimates vary considerably. For example, a sample of the most reputable macroeconomic models in the country estimated a series of output gaps for 2019 (see Figure 1.7 below) that ranged from suggesting the economy was clearly demand deficient (Oxford Economics) to an economy that was already

FIGURE 1.6
THE OBR HAS ESTIMATED A POSITIVE OUTPUT GAP FOR THE UK ECONOMY SINCE 2017
OBR CORE ESTIMATE FOR THE UK OUTPUT GAP (% GDP), Q1 2008 TO Q3 2018



Source: OBR (2019) March 2019 Economic and fiscal outlook – charts and tables: economy https://obr.uk/efo/economic-fiscal-outlook-march-2019/

FIGURE 1.7
THERE IS A BROAD RANGE OF ESTIMATES FOR THE CURRENT UK OUTPUT GAP DEPENDING ON ASSUMPTIONS AND METHODOLOGY
SELECTED ESTIMATES OF THE UK OUTPUT GAP (% GDP), 2019



Source: OBR (2019) March 2019 Economic and fiscal outlook – charts and tables: economy https://obr.uk/efo/economic-fiscal-outlook-march-2019/

apparently overheating (Heteronomics and Economist Intelligence Unit).

However, using a positive output gap as evidence that demand deficiency is not the cause of the UK's productivity puzzle risks becoming a circular argument. This is because both the unemployment rate and the rate of productivity are used as key indicators of spare capacity in the economy. Assumptions about the future are also largely dependent on long-run historical averages. If there are reasons to believe that historical trends have become less good as predictors of future economic potential (for example, as seen in the UK with historically unprecedented high employment and low productivity growth), or that the relative importance between employment and productivity has changed (for example, such as through changes to multifactor productivity) then estimating output gaps through current methods may be problematic, if not invalid.

Outside of technical modelling methodologies and output gaps, many economists point to the UK's high employment rate in particular as standalone evidence that the economy is near maximum potential.[25] But a historically high employment rate is also one of the possible flipsides to historically slow productivity growth. And to the extent that the two may be cancelling each other out reduces or at least changes the usefulness of employment as a key indicator for spare capacity compared with previous economic cycles. Furthermore, for the present UK economy, a series of other indicators would suggest we are operating below potential, including low nominal wage growth and core inflation that has been below target for much of the period since 2012 and is forecast to fall below target again from 2019 onwards.[26] In addition, many economists are increasingly coming to argue that the assumed closing of the output gap since 2014 by the OBR, if real, could be the product of a demand-side problem 'morphing' into a supply-side one.[27] Weak investment and shifting business structures may have limited structural output potential on the supply-side and therefore closed the output gap by reducing potential output, rather than increasing actual activity. Increasing demand in the right way could help to reverse that.

There are no shortage of candidates for the possible causes of weak demand. As some economists have pointed out, the two strongest periods of productivity growth during the post-crisis period ended shortly after the implementation of austerity in 2010 and the vote to leave the EU in 2016 (respectively) – and each will have reduced consumer spending and business confidence.[28] The Bank of England estimates that uncertainty since the 2016 referendum reduced demand by around 2% of GDP in 2018/19. Meanwhile, the Office for Budget Responsibility (OBR) estimate that the isolated effect of government tax and spending policy has reduced GDP by an average of around 0.5% each year since 2010.[29] NEF analysis has shown that this would imply a combined effect on the level of GDP of around 4.7% – or £100 billion – in 2018/19 alone.[30] Some of this impact will have decayed and eroded over time, with monetary policy at the Bank of England normally used to help the economy bounce back. But for much of the period since 2009 interest rates have been stuck at their so called 'effective lower bound' – a point beyond which further reductions have little or no positive effect on spending in the economy. Meanwhile 'quantitative easing', is thought to have been a less than perfect substitute for rate cuts.[31] For this reason, the extent to which the economy has been able to bounce back from austerity is highly uncertain, but it is likely to be far more limited than might otherwise normally be expected.

There are also reasons to believe that at least some of the causes of weak demand growth could be long term and structural as well. Across the G7 group of countries, average productivity growth has been in decline since the 1980s.[32] The UK has therefore been an outlier for much of this time. Over the same period, structural demand growth is also thought to have fallen too, described by the collection of theories that make up the 'secular stagnation' thesis.[33] Among the supposed drivers of this phenomenon are growing levels of inequality: richer families are more likely to save rather than spend disposable income than poorer families, what economists call the 'marginal propensity to consume'. But longer life expectancy is also thought to play a part, since people that anticipate a lengthier retirement are more likely to spend less and save more while of working age.[34] Both of these features – rising inequality and an ageing population – have been present in the UK over the past few decades, and the proportion of people aged over 65 is expected to accelerate further

during the 2020s.

In an international context, long-term and structural demand-side explanations for the productivity slowdown have grown increasingly mainstream.[35] But outside of a few notable exceptions, such perspectives remain more peripheral to the UK conversation.[36] Perhaps one reason for this is that, unlike for other advanced economies, the timings in the UK look wrong. The observable slowdown in labour productivity seems to start too late. UK productivity growth slowed from the mid-2000s onwards (at the earliest), whereas inequality and demography both started to shift decades earlier. But we also know from comparative industry analysis that profits in finance probably masked what would otherwise have been a much earlier slowdown in UK productivity growth overall, and more in line with other advanced economies.[37]

But whether or not the causes are long term and structural, or short term and cyclical, the evidence that at least some portion of the underlying causes of the UK's productivity puzzle sits on the demand-side is fast becoming at least as compelling as the supply-side case. The policy response should therefore adjust accordingly to reflect the same balance displayed in the evidence.

2. TACKLING PRODUCTIVITY FROM THE DEMAND-SIDE

For any given policy action, including the absence of action, there are associated risks. The job of policy makers is to assess two things: the probability that a given intervention is the right one; and the relative magnitude of harm or lost benefits implied by being wrong. Such an approach crystallises the case for a demand-side policy response to the productivity puzzle. The evidence compiled in the previous chapter speaks to the probability that a greater demand-side response is needed. It demonstrates that the current balance between demand and supply-side policy measures does not fit the current balance of evidence: indeed, the net effect of demand-side policy to date – whether fiscal policy or re-negotiating a relationship with the European Union – has been to reduce demand, let alone boost it. The probability that more demand is needed is therefore high.

Furthermore, the potential costs of inaction – not bringing in demand-side measures – are far greater than those of overstimulating demand. If the UK economy is demand deficient (negative output gap, see section 1.3) and policy fails to correct this, then productivity will remain low, and wages and livelihoods will suffer. But if the analysis presented in this paper is wrong, and the UK economy already has sufficient demand (a zero or positive output gap) then nominal livelihoods won't be harmed but inflation would be expected to rise. However, these inflationary effects can be offset and reversed by an increase in interest rates at the Bank of England. If interest rates were already high this might be problematic. But in fact they are currently near historically unprecedented low levels (which has its own associated risks) and the Bank of England is currently actively seeking a sustainable path to higher rates.[38] In short, while the costs of insufficient action on demand are significant and long term, the effects of excess demand are trivial and reversible, if not potentially helpful.

Policy makers should continue to seek effective supply-side interventions to raise productivity and living standards. NEF research and policy development elsewhere will look to further this agenda with analysis and recommendations in the areas of industrial strategy, corporate governance and ownership and financial intermediation, in particular. The focus for the remainder of this paper, however, is to set out policy options on the demand side. In developing these options – and in addition to their effectiveness in raising demand – we also required that any intervention on demand had to satisfy at least one of three further criteria drawn from NEF's core mission of reshaping the economy so that it works for people and planet.

1. Increase the environmental sustainability of the economy
2. Increase incomes or standards of living most for the poorest households
3. Increase leisure time for workers

The proposals summarised below are not intended to represent an exhaustive list. But they do represent a shortlist of some of the most effective options for reform – both in terms of raising demand and satisfying at least one of the criteria above – across two key policy domains, respectively:

- Fiscal policy: government spending and taxation
- Minimum wage and holiday policy: spending by workers and their families

2.1 INCREASING DEMAND THROUGH GOVERNMENT SPENDING

Fiscal policy – changes in the level of government spending and taxation – can increase demand in the economy, either by directly raising government consumption, or indirectly increasing consumption by individuals and firms. The extent to which such interventions increase demand depends in large part on what economists call the spending 'multiplier' – the ratio of a change in national income to any change in spending by government, firms or households. A key consideration, with

respect to raising demand, is whether the multiplier for an increase in economy-wide spending (for example, brought about by a tax cut or increased public investment) is larger than the multiplier on any decrease in spending (tax increases or government spending cuts) used to fund it.

Fiscal policy can also boost demand through tax cuts, whether consumption taxes, personal taxation or business taxes. However, given that the UK already has among the lowest share of tax in GDP for any European country, reducing taxes further would present additional difficulties in the long run since policy makers will likely need to strengthen the tax base, rather than weaken it, to meet the needs of an ageing population.

Given the above, we propose a package of measures to raise demand across three areas where the fiscal multipliers are particularly high.

Frontloading public investment for a 'green transformation'

Perhaps for the first time in the UK, recognition of the sheer scale of change required to make the economy sustainable has begun to go mainstream. In May 2019, the government's official advisors on emissions policy, the Committee on Climate Change (CCC), called on government to achieve 'net zero' emissions by 2050.[39] The CCC acknowledge this would require transformation in every resource and energy intensive sector of the economy, from power generation to heat, construction, manufacturing industry and agriculture. But perhaps even more significant was the CCC's recognition that this could no longer be done sequentially, sector-by-sector.[40] In their view, the only remaining option for the UK is simultaneous, economy-wide transformation requiring the largest peacetime mobilisation of resources in the country's history.

Commercial finance and investment will be fundamental to a successful transition, but it will not be sufficient on its own.[41] Nothing on this industrial scale and speed has ever been achieved before without direct state financial support. As research at the Breakthrough Institute has shown, the five most successful deliberate reductions in carbon globally – although modest by comparison to what needs to now be achieved – all came off the back of public sector-led governance and investment.[42] In the UK, the CCC has also acknowledged explicitly that public subsidy and price signalling alone will not be enough,[43] while the Treasury have reportedly acknowledged that the CCC's new targets would not be credible without plans for "increased government spending".[44]

The overall level of public investment required to fund a transformation in industry capable of reaching net zero emissions by 2050, or far sooner, is impossible to forecast accurately. This is partly because it is a function of technological and economic uncertainty. But also because it is (rightly) dependent on democratic and political processes over time. Nonetheless, the size of required public stimulus in the short to medium term is likely to be significant. The CCC estimates a total resource cost to transition of between 1-2% of GDP per year on average by 2050 – between around £20 billion and £40 billion in 2019/20 terms (although the Department for Business, Energy and Industrial Strategy (BEIS) estimates are reportedly higher)[45] – and which could come from a mixture of public and private finance.

We propose that a portion of the required public investment – such as for research and development, new charging infrastructure for electric cars and new heating and insulation systems for homes – be brought forward as much as possible. In this way, both demand and supply-side strategies for increasing productivity could be coordinated, in part, through a green industrial strategy. The CCC's estimates account for capital costs by averaging their initial cost across the full time period. But public investments in capital should now be frontloaded: both to increase demand over the short to medium term and improve productivity growth; and to accelerate transition and reduce carbon emissions faster.

Public investment is thought to have among the highest multipliers in the economy.[46] If paid for out of tax increases, the net effect on demand could be maximised by ensuring that the burden of higher taxation is borne disproportionately by better off households. Richer households are less likely to spend and more likely to save disposable income compared with poorer households – what economists call the 'marginal propensity to consume'. Increased taxation for these households is therefore less likely to reduce demand overall.

However, the best means of funding public

investment of this kind would be increased government borrowing. When a country builds a school or a hospital, public borrowing is invariably used by governments to ensure that all future pupils and patients who stand to benefit also contribute a fair share to the original investment, by helping to pay down future debt and interest payments out of their future taxes. The green transition should be considered along similar lines. Transition needs to happen now, but just as it would be unjust to allow future generations to suffer the climate consequences of today's unsustainable economy, so too is it unfair that those who happen to be paying their taxes today are asked to finance all of the investment. Borrowing for investment is also likely to maximise the overall multiplier on demand. Taxes will not need to rise immediately to pay for this government spending and to the extent increased productivity gains also sufficiently increase government tax receipts in the future these investments may pay for themselves in the long run. Market interest rates on long-term borrowing may rise slightly as a result, but given that the UK corporate sector at aggregate has a large cash surplus, small increases in borrowing costs would be likely to have only a marginal effect on private consumption and investment, if any.[47]

Increasing spending on public services

The past decade of austerity has left UK public services desperately ill-equipped to meet either the challenges of today, or those of the future. Local government funding halved between 2010/11 and 2017/18. Schools funding will have fallen by 6.5% per pupil between 2015/16 and 2019/20.[48] Across the public sector as a whole, pay caps and freezes have ensured that earnings for otherwise similar jobs are 5% lower on average today than they were in 2010/11.[49] Even the NHS, which has been relatively protected, saw its growth in funding constrained to just 1.1% per year between 2009/10 and 2014/15 – the slowest period of growth since the 1950s – and coinciding with the slowest increase in life expectancy since the 1970s.[50]

Not only has the overall pot of resources diminished, but the relative balance of support between services has also shifted dramatically. The NHS is increasingly expected to pick up the pieces of cuts elsewhere, while also tackling the myriad social challenges brought about by an ageing population. By 2020, the NHS will account for 40% of all day-to-day spending on services, compared with 29% in 2010. But this has almost come about by accident, without any clear or deliberate strategy from the government to oversee such a significant transformation. Across the piece, public services are in dire need of a fresh strategic settlement and a boost in resources to achieve it.

Recent work at NEF has shown how government could take a first step to rejuvenating existing services and meeting future need. Our proposals include: a modernising of the NHS (with additional funding to improve mental health outcomes, increase staff pay bills and reduce health inequalities); extending the model of free personal care in Scotland for over-65s to England; and restoring per pupil funding in England to 2010/11 levels with additional funding on top worth 5% of the overall budget to address geographic inequalities.[51] Our modelling showed that the required new resources to achieve this would be worth around 0.5% to 1.5% of GDP per year during the next spending review period, or around £15 billion to £32 billion in today's prices. The majority of this additional spending would go on salaries of public sector workers, which has a reasonably high associated spending multiplier for aggregate demand. So long as this additional spending was funded from taxes on households with higher average incomes than those in the public sector, the overall multiplier on demand would be expected to be large. Such a programme could also be seen as the first step towards more ambitious service provision as part of a new social settlement: extending free entitlement and universal coverage of new services such as local transport, adult education and childcare.

Increasing the generosity of social security

The UK's existing welfare system has been systematically under resourced for more than a decade of austerity. But over the longer term, the UK's present social security system is unlikely to be fit for the future challenges of the 21st century. Evolving family structures, gender norms and patterns of work have already started to leave the classical, full-time, male-breadwinner model of employment far behind.[52] Meanwhile, disruptions in industry – whether as a result of the move to low carbon business models, technological innovation or further globalisation – will require patient and focused support for people wishing to re-enter the

labour market on their own terms. At the same time, growing demand for better-integrated family-based care as a result of shifting demographics will increasingly require a reimagining of the distinctions between work and leisure time. All this has formed the changing context within which the UK social security system must set its long-term objectives.

The latest manifestation of Universal Credit (UC) is unlikely to prove the answer to these challenges. The new system, currently rolled out to around 10% of claimants, is currently failing on its own terms of increasing simplicity, reducing costs and improving work incentives. The 2018 progress report from the independent National Audit Office (NAO) was damning.[53] The programme is already five years behind schedule and failing to demonstrate any improved employment effects.[54] But perhaps more importantly, the underlying objectives and design of UC are inappropriate for the challenges of the 21st century. The sanctions regime is exacerbating rather than correcting the existing imbalance between the quantity and quality of work: by forcing people into low paid, often temporary employment with little or no opportunities for progression. Meanwhile the system of work allowances is predicated on the increasingly outdated idea that families have a single (often male) breadwinner.

Increasing generosity, and reducing conditionality in social security not only starts to address some of the underlying weaknesses of the system. It is also a **highly efficient way to increase aggregate demand in the economy** as part of a strategy for tackling the UK's productivity puzzle. Increasing disposable incomes for those out of work or on the lowest pay means putting more pounds in the pockets of those with what economists call the highest marginal propensities to consume in the economy. Multipliers on social security for aggregate demand are therefore particularly high. We propose that government looks to invest in social security immediately, with initial resources raised through higher taxation on the very richest to ensure that the overall multiplier on demand is as high as possible.

In March 2019, NEF set out one possible first step in this direction with a detailed proposal to create a new 'weekly national allowance' (WNA) paid for by abolishing the personal allowance of income tax.[55] The new WNA would be paid in cash to most adults and would be equal to the annual value of tax that would otherwise be charged on the first £12,500 of income. The WNA would also include a restoration of child benefit to its 2010-11 real-terms value. Micro-simulation modelling conducted by NEF has shown that the overall effect of the policy, while cost neutral at aggregate, would shift around £8 billion a year from the richest 35% of families to the remaining 65%, but with most of the gains concentrated to the poorest 10%.

2.2 INCREASING DEMAND THROUGH HOLIDAY AND WAGES

Wage policy can increase demand through higher spending power and consumption for workers. These higher wages have to be paid for elsewhere in the economy. In the private sector the cost must ultimately fall on either shareholders (in the form of lower profits), consumers (in the form of higher prices) or workers (in the form lower employment). However, the evidence and theory suggests that so long as there is scope for demand to rise sustainably, inflation and unemployment are unlikely to rise, as firms at aggregate will be more likely to invest in productivity and profit-raising measures for the future – such as improving their website or digital services, changing their business structure or investing in equipment and machinery.[56] We propose a package of interventions aimed at simultaneously raising wages for the least well-off and giving workers more paid time off to spend on things that increase their quality of life.

Introduce faster increases to the national minimum wage

The UK's minimum wage rates remains too low. First, they are still not sufficient to meet the minimum costs of living. Set at £8.21 per hour from April 2019 for adults over 25, the highest minimum wage rate (the 'national living wage') remains 9% (79p) lower than the accredited hourly living wage outside London and 22% (£2.34) lower than the rate within the capital itself[vi].

More importantly for this paper perhaps, a catalogue of detailed empirical studies have shown

vi NEF calculations based on https://www.gov.uk/government/publications/20-years-of-the-national-minimum-wage and https://www.lboro.ac.uk/research/crsp/mis/thelivingwage/

vii NEF calculations based on https://www.gov.uk/government/publications/20-years-of-the-national-minimum-wage

that the period of fastest increases in minimum wages between 1999 and 2009 (where the main rate rose by 33% in real terms)[vii] did not result in higher unemployment and in fact saw firms respond at aggregate by raising their productivity.[57] Over the most recent 10 years up to 2019, minimum wages have risen at less than half the rate seen over the previous decade (a 15% real terms increase) despite the scope for productivity and demand to rise in the economy being significantly higher. Had minimum wage rates continued to rise at the same rate, the national living wage would today be worth £9.52 per hour, roughly equal to the weighted average of the accredited living wage rates for London and the rest of the UK.

Raising minimum wages would be expected to increase demand due to the increased spending power of the lowest paid workers, and these effects are amplified by higher marginal propensities to consume for this group. Three secondary effects may also be expected to increase demand. First, employers wishing to protect some or all of their pay differentials may also increase hourly rates for workers above the minimum wage as well. Second, higher wage rates may incentivise those currently economically inactive to seek employment. Third, the cost of in-work social security payments – such as tax credits, housing benefit and their corresponding elements within UC – may be expected to fall. This would release additional cash for government to either recycle back into social security for the very poorest or other areas of public investment.

The current mandate for the Low Pay Commission – the body that makes formal recommendations to government on annual increases to the minimum wage rates – is to recommend increases in the national living wage such that it equals 60% of median earnings by 2020,"subject to sustained economic growth".[58] For minimum wage rates that apply to younger people, the Low Pay Commission has also been asked to increase minimum hourly pay"as high as possible"without harming employment prospects.[59] From 2020, we propose that the Low Pay Commission increases all minimum wages at the same rate. The new rate of increases would also have to satisfy a new mandate: either the national living wage would need to rise at a rate consistent with it reaching the level of the average accredited living wage for the whole country by 2025; or all minimum wages should be increased as fast as possible subject to not having adverse unemployment affects; whichever proves to be higher.

Increasing statutory paid holiday

Wages can also rise for a given unit of time through increases to paid statutory leave. Reducing the overall amount of time spent working has a myriad of economic and social benefits: from improved physical and mental health for workers, to catalysing a redistribution of work within the labour market to those currently unemployed or underemployed in terms of hours. But despite these benefits, significantly less progress has been made in the UK towards giving workers more paid time off in recent decades compared to both the country's own historical trend and the current levels of paid time off in many other advanced economies.

Since the 1980s, and despite the number of clear social and individual benefits to reducing the average amount of time spent working, the natural decline in average hours has stalled to its slowest rate since before World War 1. Under the post-war consensus governments of the 1950s, 1960s and 1970s, labour market reform and collective bargaining helped ensure that the rapid increase in productive capital and productivity growth was passed through to workers in the form of reduced average work time. But the shift in policy agenda since the 1980s, which included labour market deregulation and the erosion of union power, appears to have coincided with fewer gains to workers in the form of reduced average hours.

Today, after taking into account statutory minimum leave and paid public holidays, UK employees have among the fewest paid days off from work in Europe. The minimum amount of leave in the UK is 28 days, and employers can decide whether this is inclusive of public holidays. For most other European countries, minimum annual leave (including public holidays) tends to range from 30 to 40 days paid holiday.[60] Not only are public holidays *included* in statutory minimum leave entitlements (rather than being additive), the UK also has the among the fewest number of public holidays in the world, with the eight days in England and Wales being the joint lowest in Europe alongside Spain.[61]

Gradually reducing time spent working without reducing gross pay overall would be expected to raise demand through two mechanisms. First,

more economy-wide leisure time that does not come at the expense of lower pay overall, is (all else being equal) expected to increase aggregate demand. This is because, on average, recreational activities tend to involve higher spending than being at work – although this effect can vary depending on factors like commuting and the level of convenience spending on things like food that may be more likely during the working week.[62] Unlike standard marginal propensities to consume, we would also expect this effect to strengthen for higher income households since these households are less likely to be credit constrained. To this extent, such a strategy to raise demand would by an effective complement to increases in the minimum wage – ensuring that demand growth is more broadly based. Overall, the boost to the demand from each additional day of statutory leave is likely to be in the region of low, single digit billions of pounds[viii].

Second, lower standard working hours can be expected to lead to a redistribution of paid time from those in full-time employment to those otherwise underemployed. This is because as long as demand overall is rising at aggregate, firms will likely recover some portion of the lost hours by increasing hours elsewhere (with the remaining difference made up by productivity raising measures). This reallocation of hours would be expected to raise pay and disposable incomes for those currently out of work or on low incomes, thereby also increasing economy-wide demand.

Like higher minimum wages, increasing paid holiday can also lead to supply-side incentives for employers to raise productivity. The cost of labour for a given unit of time worked would rise relative to the costs of capital and other investments with every increase in paid holiday. This would incentivise employers to raise output by raising productivity, rather than by taking on more workers. But productivity benefits can also be accrued directly from a happier, better-rested workforce as well.

We propose the creation of a new independent body, for example a 'Working Time Commission', to make annual recommendations to government on regular increases to annual statutory leave entitlement. This body would need to collaborate closely with the Low Pay Commission, or it could sit within the Commission itself. To reflect the fact that reducing working hours can create a virtuous circle between increasing productivity (on the one hand) and helping to ensure that productivity gains themselves lead to social, economic and health benefits for workers (on the other hand), we propose the new body or Commission be given two phases to its mandate.

For the first phase, the Commission would be asked to recommend annual increases in paid statutory leave that are as large as possible, subject to not increasing unemployment. The first mandate would remain in place until government believed that the scope for a demand-side response to the UK's productivity puzzle had been exhausted. Once this phase was complete, the new Commission could be given a new 'normal times' mandate to recommend a more steady increase in statutory leave to remunerating workers in the form of paid time off consistent with sustainable, long-term increases in productivity. During both phases of mandate, government could also use the opportunity afforded by higher paid leave to announce new bank holidays spread evenly throughout the year, helping to bring the UK more closely in line with the rest of Europe.

viii After controlling for the effects of the football European Championships, Government analysis of the immediate effects of an additional UK bank holiday in 2012 to celebrate the Jubilee gave a range between a £2 billion boost and a £2.8 billion loss to GDP (see DCMS (2019) 2012 Diamond Jubilee Extra Bank Holiday Impact Assessment https://www.gov.uk/government/publications/2012-diamond-jubilee-extra-bank-holiday-impact-assessment). Government research suggested that spending in areas such as retail, tourism, leisure and hospitality would be expected to rise during a bank holiday as a result of more leisure time, with retail sales expected to rise by up to 80% depending on the type of retail. Offset against this extra spending was the cost of lost output due to people not working. However, government analysis notes that some or all of one-off lost output may actually be reversed by higher 'catch-up' production later in the year. Government analysis also did not take into account the effect of increasing statutory leave (for a normal one off extra bank holiday, firms are not obliged to increase contractual paid leave). This would be expected to increase 'catch-up' production still further (assuming demand remains strong) since firms would now have a greater incentive to make up for the internalised costs of paying people for an extra day off. Increasing statutory leave may also be expected to increase consumption further than a standard bank holiday, since spending power is also protected. Furthermore, the costs in terms of lost output would be expected to be far lower for a standard one-day increase in statutory leave compared with a bank holiday, since employees would be unlikely to all take leave at the same time, which in turn means fewer temporary firm closures..

3. CONCLUSION

When combined with good labour market regulation and the presence of trade union power, rising labour productivity – output per hour worked – is the enabler of higher earnings for workers. Across time, the productivity increases are closely associated with rising pay and leisure time for workers. Across countries, there are also strong correlations between higher productivity and a myriad of social benefits, including improved health, higher life expectancy and reduced child mortality. In view of a suite of environmental challenges – from climate change, species extinction and resource scarcity – being able to do more (or at least the same) with less also represents an important tool in the project to embed advanced economies within sustainable planetary limits.

The UK, however, has a productivity problem. Annual improvements in productivity have stalled relative to their long-term trend, and in particularly dramatic fashion by international standards. Over more than four decades up to 2008, labour productivity grew at a remarkably stable rate averaging more than 2% per year. Since the end of the 2009 recession, however, the annual increase has fallen to around 0.7%, representing a collapse of around two thirds. More than ten years on from the financial crisis, there remains precious little sign of a recovery in the post-crisis trend and the UK has been left with one of the lowest levels of productivity among advanced economies.

This briefing paper argues that alongside continued supply-side interventions such as in corporate governance, industrial strategy and finance, demand needs to be increased significantly over the short-to-medium-term as part of a macroeconomic strategy for boosting productivity. To this end, we set out two packages for government intervention within two key areas:

- Fiscal policy: government spending and taxation
- Minimum wages and holiday: spending by workers and their families

The potential costs of inaction – not bringing in demand-side measures – are potentially far greater than those of over stimulating demand. If the UK economy is demand deficient (negative output gap, see section 1.3) and policy fails to correct this, then productivity will remain low, and wages and livelihoods will suffer. But if the analysis presented in this paper is wrong, and the UK economy already has sufficient demand (a zero or positive output gap) then nominal livelihoods won't be harmed but inflation would be expected to rise. However, these inflationary effects can be offset and reversed by an increase in interest rates at the Bank of England. If interest rates were already high this might be problematic. But in fact they are currently near historically unprecedented low levels (which has its own associated risks) and the Bank of England is currently actively seeking a sustainable path to higher rates. In short, while the costs of insufficient action on demand are significant and long term, the effects of excess demand are trivial and reversible, if not potentially helpful.

Alongside a strategy for boosting productivity by raising demand policy makers should continue to seek effective supply-side interventions to raise productivity and living standards. NEF research and policy development elsewhere will look to further this agenda with analysis and recommendations in the areas of industrial strategy, corporate governance and ownership and financial intermediation, in particular.

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